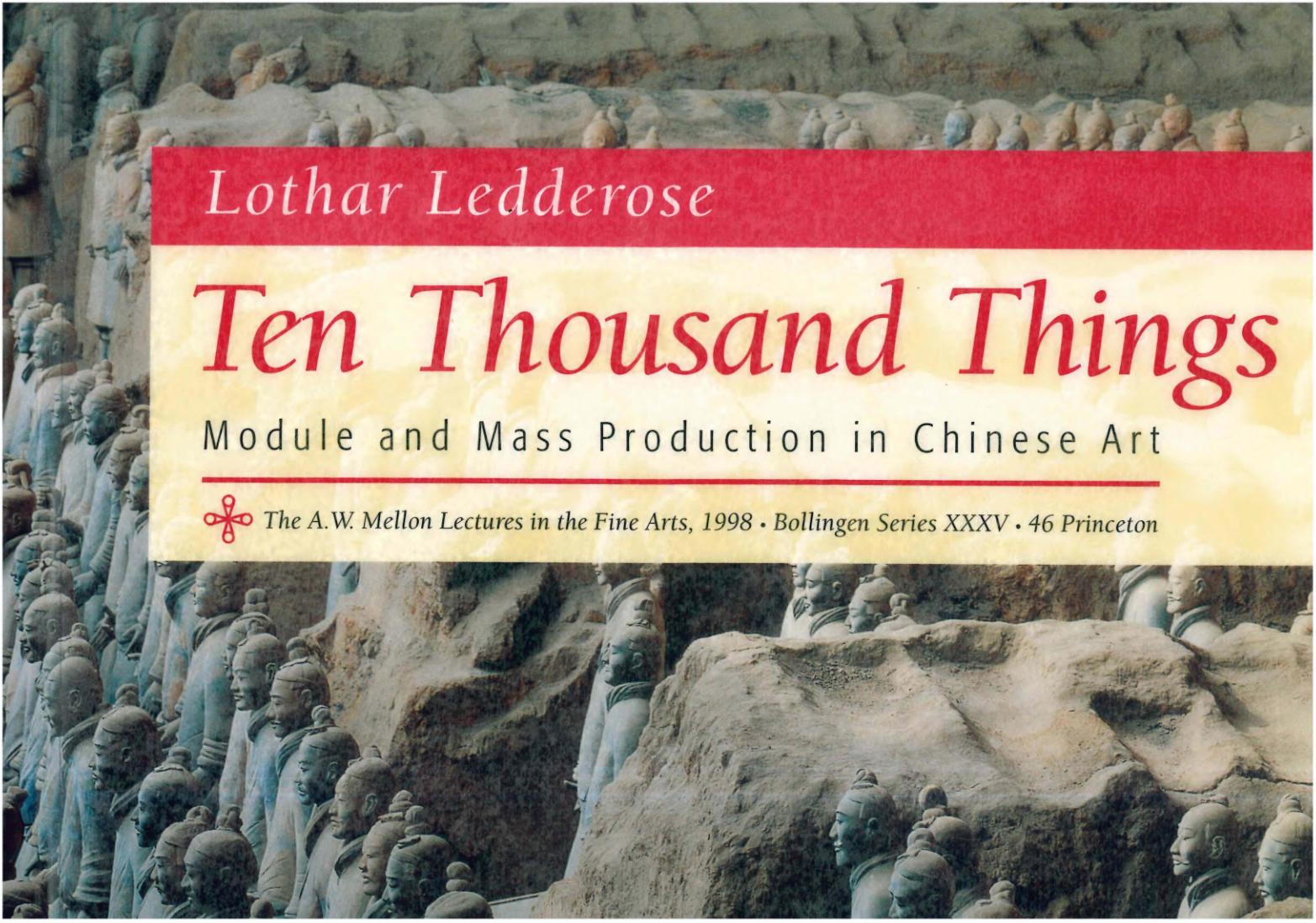


Lothar Ledderose

Ten Thousand Things

Module and Mass Production in Chinese Art

The A.W. Mellon Lectures in the Fine Arts, 1998 • Bollingen Series XXXV • 46 Princeton

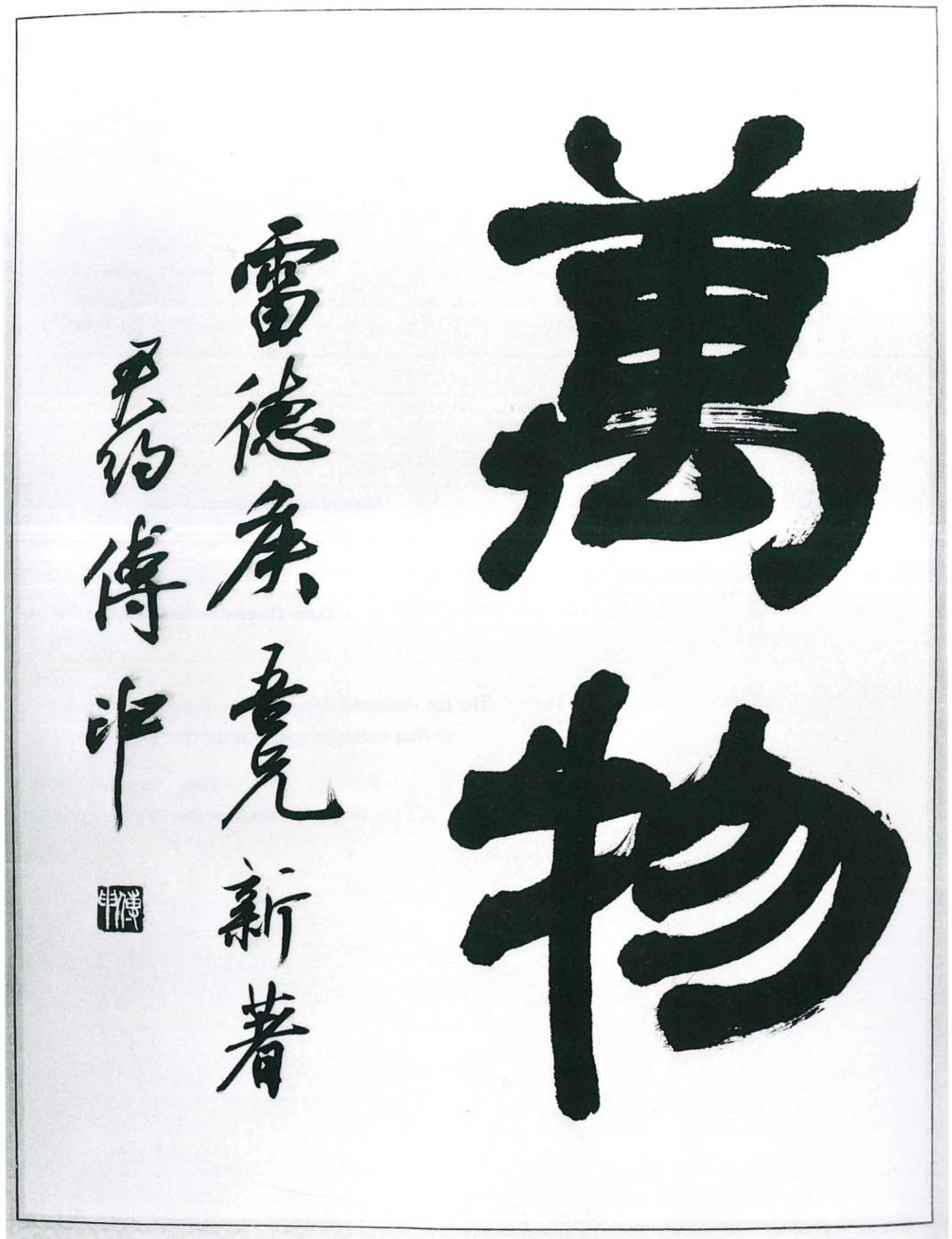
萬物

Mutual combinations of the eight trigrams
result in the production of the ten thousand things.

—Shao Yong (1011–1077)
Outer Chapter on Observation of Things

The ten thousand things are produced and reproduced,
so that variation and transformation have no end.

—Zhou Dunyi (1017–1073)
Diagram of the Supreme Ultimate Explained



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Frontispiece Fu Shen (born 1937), *Wanwu* (*Ten Thousand Things*), March 1997. Calligraphy.

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Contents

Acknowledgments

AS A BOY, I FIRST CAME ACROSS MODULES IN THE GUISE of a jigsaw puzzle. At one particular Christmas I was given a puzzle different from all others I had had so far. A chain of mountain peaks at the left flattened out toward the right into a wide plain dotted with a tower, houses, trees, carriages, and a rider. But the pieces did not have curved edges or interlocking shapes. Rather they were all simple rectangles, tall and thin, arranged in a horizontal sequence. Altogether there were only about a dozen of them. This is easy, I thought, actually, pretty boring.

Only when I took the pieces out of the box and rearranged them on the table did it occur to me that, unlike with other puzzles, there was no fixed position for each piece. The mountains could go into the middle of the landscape or to the right; the tower would as easily fit between the peaks as on the plain, and the rider could be placed heading toward the hills or returning. A coherent panorama invariably emerged.

The trick to completing this puzzle was that, on every single piece, the horizon crossed the left and right edges exactly at midpoint. The pieces could thus be put together in ever new combinations, thousands of them, yet the continuous horizon always guaranteed an intelligible composition.

This jigsaw puzzle had been made in China.

I remembered that puzzle when I studied with Vadime Elisseeff in Paris, in the 1960s. He attempted to isolate and define hundreds of distinct motifs in the endlessly varied decor of ancient Chinese bronzes. His ultimate aim was to devise a computer program that would allow him to arrange all known bronzes in one chronological sequence. We now know that this could not have worked, because the corpus of bronzes is just too complex. Nevertheless, I was fascinated by Elisseeff's premise, which he often repeated—namely that the Chinese create works of art by first defining elements, and then by playing with them.

In the 1970s I joined the research group of Suzuki Kei in Japan to work on their survey of paintings of the ten kings of hell. Minato Nobuyuki, then one of Professor Suzuki's students, analyzed the ways in which the painters of these scrolls assembled their compositions from set parts. In an article on a king of hell painting in Berlin, I suggested that comparable modes of production might be detected in yet other areas of Chinese art.

I first systematically pursued these lines of investigation when, in the Lent Term of 1992, Cambridge University offered me the opportunity to give the Slade Lectures. At that time Jessica Rawson generously helped me sharpen my arguments and to make my English more understandable. When Ernest Gombrich once came to Cambridge, I mentioned to him that I was working on the issue of *Versatzstücke* in Chinese art. Typically, *Versatzstücke* refers to pieces of furniture and other set decor that can be used in a variety of ways and rearranged in many plays to create different stage sets in a theater. Gombrich told me that he knew what I had in mind, but that here existed no precise equivalent for *Versatzstücke* in the English language. Thus, with his blessings, I settled on *module,* a term that is both more understandable and more versatile.

Many institutions and individuals contributed to my further research. Unforgettable is the day when Yuan Zhongyi in Lintong descended with me into the pit of the terra-cotta army. Standing among those soldiers, I finally saw close up the extraordinary variety of faces, gestures, and armor that Chinese artisans had achieved more than two thousand years ago in an ingeniously devised system of modular production.

The Deutsche Forschungsgemeinschaft made possible a sabbatical term that I spent at the Freer and Sackler galleries' marvelous research library in Washington, D.C. The unflagging support of the library staff under Lily Kecskes was invaluable, as were the many conversations with gallery staff members. Jan Stuart read several chapters as I wrote them and offered expert criticism.

A new version of my text was presented in 1998 as the Mellon Lectures at the National Gallery of Art in Washington. Henry Millon, Dean of the Center for Advanced Study in the Visual Arts, and his staff could not have made my stay more enjoyable.

The preparation of the final manuscript would have been impossible without the professional assistance of Patricia Fidler of Princeton University Press, and Brian Hotchkiss and Peter Blaiwas of Vernon Press. Judith Whitbeck graciously agreed to help with the proofreading. At the Institute of Art History of Heidelberg University, Ingeborg Klinger produced excellent photographs and Tsai Suey-ling ably compiled the glossary with the Chinese characters.

Still many other friends and colleagues helped toward completion of the work. To all of them, named and unnamed, I offer ten thousand thanks.

L.L.
Heidelberg, 1999

Introduction

THROUGHOUT HISTORY THE CHINESE HAVE produced works of art in huge quantities: a tomb of the fifth century B.C. yields bronze artifacts that total ten metric tons in weight; the terra-cotta army in the third-century B.C. necropolis of the First Emperor boasts more than seven thousand soldiers; lacquer dishes manufactured in the first century A.D. have serial numbers ranging in the thousands; a timber pagoda of the eleventh century A.D. is constructed of some thirty thousand separately carved wooden members; and in the seventeenth and eighteenth centuries China exported several hundred million pieces of porcelain to the West.

All this was feasible because the Chinese devised production systems to assemble objects from standardized parts. These parts were prefabricated in great quantity and could be put together quickly in different combinations, creating an extensive variety of units from a limited repertoire of components. These components are called modules in the present book.

Ten Thousand Things investigates module systems in the production of ancient Chinese bronzes, terra-cotta figures, lacquer, porcelain, architecture, printing, and painting. It also explores technical and historical evolution in all these fields as well as the implications of module systems for particular makers and for society at large. Along the way, readers will discover that the West learned about modular production from China, and ultimately the definition of art in China will be addressed.

The following eight chapters present case studies that focus on particular module systems and ask similar sets of questions. The description and analysis of a given system is the main subject of each chapter. The achievement of the module system is then assessed by reconstructing the tasks that the makers were assigned or that they set for themselves. Regardless of the situation, two basic, somewhat contradictory objectives are always evident: they produce objects both in large quantities and of great variety. Taken into consideration are the demands of notorious customers who expected high quality for a low price and thrived on setting difficult deadlines. Module systems were best suited to reach all these conflicting goals.

In roughly chronological sequence, the chapters cover a wide time span. The first case study deals with ritual bronze vessels of antiquity, particularly of the twelfth century B.C. Chapters 6 and 8, respectively, concern an encyclopedia of over one hundred million characters printed with movable type, and a series of bamboo paintings, both dating to the eighteenth century A.D.

To pursue the same issue over a period spanning three millennia, without resorting to the Hegelian concept of China as a country of eternal stasis, begs for explanation. A fundamental justification is to be found in the ubiquity of Chinese script that was in existence from at least the thirteenth century B.C. and is still in use today. Chinese script, which is arguably the most complex system of forms that humans devised in premodern times, is a module system par excellence. Its fifty thousand characters are all composed by choosing and combining a few modules taken from a relatively small repertoire of some two hundred parts.[1]

Script profoundly affected the patterns of thought in China. Almost everyone had at least a rudimentary understanding of the system, as total illiteracy was rare. Most people knew a few characters, if only those used in their own names, or some numbers, and who would not recognize the characters representing happiness (*fu*) and long life (*shou*)? For the educated elite, writing was the core of culture. The decision makers spent the greater part of their formative years learning how to read and write, and then used script every day of their lives. In the course of history, knowledge

of characters became ever more widespread in society. Thus, through their script, the Chinese of all periods were familiar with a pervasive module system. This system is the topic of the first chapter and a paradigm for all later discussions.

All Chinese knew about still other module systems. Probably the most popular one is the binary code expounded in the celebrated opus of divination and wisdom from antiquity, the *Book of Changes* (*Yijing*), which has been called "perhaps the single most important work in China's long intellectual history."[2] It teaches how to build units through combinations of only two elements, a broken line and an unbroken line. There are eight different ways to arrange three lines in one group; those are the eight trigrams. By doubling the strokes into groups of six, the hexagrams, sixty-four different combinations can be formed. Further limitless transformations and changes are said to bring forth the "ten thousand things," the myriad categories of phenomena in the universe.

The binary pattern of thought in the *Book of Changes* has fascinated intellectuals in the West from the time they first encountered it. In the seventeenth century it confirmed the expectation of the mathematician and philosopher Gottfried Wilhelm Leibniz that China would become a major player in a global scientific academy.[3]

Linguists may find modular structures in the Chinese language. There is a repertoire of some 440 syllables, most of which can be pronounced in four different tones. Almost every syllable can assume various meanings. The correct meaning in a particular case derives from its combination with other syllables. Words are formed by combining syllables, not by modifying them.

Many other modular patterns can be identified in the Chinese cultural fabric. To mention but one example, a certain Buddhist rock cave, hollowed out in A.D. 616 not far from Beijing, contains four pillars with a total of 1,056 small Buddha figures carved in relief. Engraved next to each Buddha is his name, consisting of three or four characters. The same characters occur again and again, but through combination over a thousand different names are formed.[4]

Module systems do not occur in China alone; comparable phenomena exist in other cultures. However, the Chinese started working with module systems early in their history and developed them to a remarkably advanced level. They used modules in their language, literature, philosophy, and social organizations, as well as in their arts. Indeed, the devising of module systems seems to conform to a distinctly Chinese pattern of thought.

The Advancement of Modular Systems

Emphasizing the pervasiveness of modular patterns in Chinese history does not mean to deny that there have been developments and changes. Increasing standardization, mechanization, and ever more precise reproduction constitute a unifying trend. A preliminary overview reveals that advances are especially noteworthy during a few crucial periods.

The first such period came after culture in China emerged from its Neolithic beginnings into the light of recorded history. At that point, the thirteenth to twelfth centuries B.C., module systems can be identified in script, bronze casting, and architecture, although none of these systems had yet reached maturity. In script, stroke types were not yet standardized, nor were the shapes of characters, yet more than two thirds of them contain modular parts. Bronze casters deployed a module system to decorate vessels, and a technical modular system to cast them, but they did not yet make use of mechanical duplication. In architecture, a bay and a courtyard system evolved before bracketing came into use.

By the late centuries B.C., bronze casters had begun to reproduce identical parts, and they mass-produced weapons and complicated components for chariots. Makers engraved their names on their products for the sake of quality control. Builders assembled bracket clusters from standardized wooden blocks, and for the first time, script was reproduced on a flat surface. By the third century B.C., Chinese artisans had become so used to modular production that, with no precedent to which to refer, they could devise a system for a monumental task: the terra-cotta army of the First Emperor. In the same years, this emperor's chancellor designed a standardized, geometrical type of script, in which almost all idiosyncrasies were eliminated.

Another seminal period was the fourth to seventh centuries A.D. Buddhist painters and sculptors produced great quantities of figures and scenes through repetitive use of readily identifiable motifs. Printing with wooden blocks, a technique that allows virtually identical reproductions in limitless numbers, was simultaneously developed. A pervasive module system of timber frame architecture was firmly established. Its crowning achievement was the design of a metropolis laid out on a modular grid, which provided a unified living space for over a million people. Script types were codified and have remained in place for over a millennium and a half. But this was also the time when systematic exploration of the aesthetic dimension of art began. Certain calligraphic pieces were the first objects brought into art collections because of their perceived aesthetic qualities, and a theoretical literature arose that espoused aesthetic values, such as spontaneity and uniqueness, in diametrical opposition to modular production.

During the eleventh to thirteenth centuries, when the compass and gunpowder were invented, block-printing projects of enormous dimensions, such as the Buddhist canon, were realized. Printing with movable type was invented as well. The treatise *Building Standards* (*Yingzao fashi*) of A.D. 1103 prescribed a system for architecture in which all parts were completely and minutely standardized. Ceramic production was organized in large factories. Paintings whose compositions were built from movable parts depict Buddhist hells as bureaucratic agencies.

In the sixteenth and seventeenth centuries, industrial production became common for manufactured goods. In 1577, kilns in the city of Jingdezhen received an imperial order to deliver 174,700 pieces of porcelain. Textile factories and paper mills employed workforces of over a thousand people. An unprecedented upsurge in printing activity made books and illustrations available to a wide range of consumers. The definition of art expanded beyond calligraphy and painting to include manufactured items such as porcelains and lacquer dishes.

This was the very period when contacts between China and the West became direct and frequent, and interaction has not ceased since. During the Middle Ages, techniques of silk manufacture had already been passed from China to Europe, and when Europeans mastered the technique of printing in the fifteenth century, it helped to usher them into the modern age. Yet the great nineteenth-century sinologue Stanislas Julien still found reason to lament that the West did not learn about printing early enough. If there had been timely contacts with China, he says, many of the chef d'oeuvres of Greek and Roman literature, now irrevocably lost, would have been saved.[5]

When communications between East and West intensified, China revealed that it possessed far superior module systems. Europe learned eagerly from China and adopted standardization of production, division of labor, and factory management. By introducing machines, westerners carried mechanization and standardization even further than the Chinese, who continued to rely more on human labor, as they had traditionally done. Consequently, since the eighteenth century, Western production methods have tended to surpass those of China in efficiency.

The story has not yet ended. Perhaps the most pressing problem on the globe now is population growth. In coping with this situation, the capabilities and social virtues that the Chinese have developed over the centuries while working with module systems may, in the future, come into their own yet again: to satisfy the needs of great numbers of people who are accustomed to living in tight social structures and to minimize the use of natural resources by maximizing the input of human intelligence and labor.

Voltaire once remarked that the peoples of the East had formerly been superior, but that the West made up for the lost time to become preeminent on earth.[6] Voltaire wrote more than two centuries ago. Perhaps he was not right. Two centuries from now we will know.

Shaping Society

Modular production shaped the fabric of Chinese society in various ways. If one were to name the single most important factor in China's social history, it would be the country's achievement in supporting great numbers of people since the Neolithic age. And if one were to name the single most important driving force in Chinese social history, it might be the aim to keep these people within one unified political and cultural system. Much was done and much was sacrificed to achieve this goal.

Module systems contributed toward the task. Again, script is the paradigm. Chapter 1 argues that script was the most powerful instrument to foster cultural coherence in China, because it records the meanings of words rather than their ever-changing pronunciation. This required the creation of thousands of distinct characters, which was only possible with a module system.

Preparation of food is another paradigmatic, almost archetypal kind of production. It is the plight of humans that they have to produce food continuously. A society that has to nourish large groups of people is likely to develop elaborate and efficient methods of food production. The Chinese have excelled at this. Although it is not appropriate here to extol Chinese cuisine, there are similarities between preparing meals and making works of art: aesthetic judgment is called for on the part of the producer and taste on the part of the consumer.

Further comparison between the production of food and art was once brought home to me and my students in Jingdezhen. This city in Jiangxi Province, which was one of the greatest industrial centers in the premodern world, now produces more than one million pieces of porcelain per day. One memorable afternoon, we admiringly observed the extraordinary speed and dexterity of the ceramic workers, who kneaded the clay, brought it into cylindrical shape, cut off disks, formed them into cups, embellished them with various colors, fired them, and, after having taken them out of the kiln, added more paint over the glaze. The next morning we had breakfast in a large noodle shop. The cooks skillfully kneaded the dough, which had almost the same consistency as clay, brought it into a cylindrical shape, cut off flat slices, formed them into dumplings, enriched them with various vegetables, cooked them, took them out of the oven, and finally garnished them with a few colorful spices.

Those who frequent Chinese restaurants may have wondered how it is possible to have a menu of over one hundred different dishes, each of which usually arrives within a few minutes after having been ordered. The secret is that many menus are modular. Most dishes are combinations of ready-made parts: pork with mushrooms and bamboo sprouts, pork with mushrooms and soya sprouts, chicken with mushrooms and bamboo sprouts, chicken with mushrooms and soya sprouts, duck with mushrooms and bamboo sprouts, and so forth.

Much of what we call Chinese art today was produced in factories. This is true for artifacts in all the major materials such as bronze, silk, lacquer, ceramic, and wood. Factory production started very early in China. If a factory is defined by its systemic properties, such as organization of the workforce, division of labor, quality control, serial production, and standardization, then it is possible to speak of bronze, silk, and possibly jade factories as early as the Shang period (about 1650–about 1050 B.C.).

These factories already explored methods of mass production. When Henry Ford wrote the article on mass production for the 1947 edition of the *Encyclopaedia Britannica*, he defined it as "the focussing upon a manufacturing project of the principles of power, accuracy, economy, system, continuity, speed, and repetition."[7] Except for power, which refers to machine power, Ford's principles were probably applied in Shang factories. It might be argued that there was no large consumer market yet, and hence the early factories could not churn out large enough quantities of products to qualify as centers of true mass production. Yet it would be hard to dispute that mass production existed by the sixth or fifth centuries B.C. The most famous example is the foundry at Houma in Shanxi Province. More than thirty thousand ceramic fragments used for casting bronze vessels have been found there, and the casting process entailed mechanical reproduction of parts on a massive scale.

Because production in factories involves large numbers of participants, work tends to be compartmentalized and divided up into ever more separate steps. As a consequence, the performance of each worker becomes more regimented. Control of the workforce, of material resources, and of knowledge is a primary concern. Above the level of workers there has to be a level of managers who devise, organize, and control production. Modular production thus contributes its share toward forging and maintaining structures of an organized society, and it promotes a powerful bureaucracy.

On the consumer side, the availability of many sophisticated luxury goods, such as lacquer- and porcelain ware, pleased great numbers of people, improved the quality of their lives, and contributed to their feeling of privilege. When applied to architecture, the module system allowed timber frame buildings to be erected all over the empire, because they were adaptable to diverse climates and heterogeneous functions. Printing spread information and social values throughout the realm—quickly, cheaply, and in great quantities.

It is another asset of module systems that they allow production of objects in a hierarchy of grades. Individual ritual bronzes or sets of them can be larger or smaller, the differences can be subtle, and the grading fine-tuned. This permits the owners of these objects to define their respective social position and make it known to their peers, who will recognize the difference between ancestor halls five or seven bays wide and between dinner sets of forty-eight or eighty-four pieces.

Graded products extend the circle of participants in the system. A petty Shang aristocrat owning a few small bronzes could take pride in the fact that his vessels displayed the same kind of decor and were cast in the same technique as the gorgeous bronze sets of the mightiest ruler. A minor Qing-dynasty official serving food to his guests on porcelain plates made in Jingdezhen could relish the thought that the emperor in his palace also used dinner sets from Jingdezhen, even if those differed in decoration and quality. Modular production thus contributes to the fostering of social homogeneity and cultural and political coherence.

The system of grades has advantages for producers, too. It helps them to organize their production process and allows them to attract customers of different economic means. A workshop specializing in paintings of kings of hell that can offer a choice of sets in different sizes and with more (or fewer) figures and motifs will be able to appeal to a wide range of clients.

Yet implementing module systems also required enormous sacrifices. To mention only a few examples, for the sake of political stability the Chinese forfeited the easy way to become literate, the richness of separate national literatures, the metaphysical quality of their hells, some freedom of the painter's brush, and also some aspects of what the West considers human rights. Indeed, module systems are bound to curtail the personal freedom of the makers of objects, and the owners and users. Modular systems engender unbending restraints on society.

The post and beam buildings analyzed in chapter 5 supply a metaphor of a modular society: all blocks and brackets are individually shaped, but the differences between them are small. Each block is made to fit into only one particular position in the building. The joints between the members have to be tight, because the shocks of an earthquake and the gusts of a typhoon must be absorbed and distributed throughout the entire

structure. If one member does not fit perfectly, the adverse effect will multiply. If, however, every part fits well, the precarious construction will enjoy an astonishing resilience. Life is tight in module systems.

The Issue of Creativity

Permeating the concerns of this book is the issue of creativity. One basic definition of humans is that they create objects. They make pots and crossbows, timber pagodas, and mainframe computers. They make objects by certain techniques and give them certain—often very sophisticated—shapes. Manufactured objects can be measured against creations in nature. Nature is prodigious in inventing shapes, in using materials, and in devising systems of forms. Humans are hard-pressed to approach this creativity, let alone to surpass it.

When people develop systems of modular production they adopt principles that nature uses as well in creating objects and shapes: large quantities of units, building units with interchangeable modules, division of labor, a fair degree of standardization, growth through adding new modules, proportional rather than absolute scale, and production by reproduction.[8] The first three of these seven principles are here considered to be fairly self-explanatory and therefore not given further comment, whereas the latter four principles may merit some explanation.

Standardization of units that stops short of perfect duplication is pervasive in modular production: the same decoration on the front and back of a ritual bronze vessel, upon close inspection, is bound to reveal minor discrepancies; eyebrows and beards of the terra-cotta warriors may have the same basic shape because they are formed from molds, but reworking the clay by hand has individualized them all; the prefabricated wooden blocks in the bracketing of a pagoda look totally exchangeable, but exact measuring uncovers differences of a few millimeters between each of them. The following chapters will take up these phenomena, and analyze how, in specific cases, intentional imperfections are exploited creatively. For now, suffice it to recall that this principle is well known in nature: the ten thousand leaves of a mighty oak all look similar, but exact comparison will reveal that no two of them are completely identical.

Growth in manufactured modular units happens in two ways. For a while, all modules grow proportionally, but at a certain point proportional growth stops and new modules are added instead: the animals in the decorative field of a bronze vessel will be a bit larger on a slightly larger vessel, but not exceptionally large on an exceptionally large vessel; rather, a new decorative zone will have been added. A three-bay hall may be built wider by 10 to 20 percent, but a hall that is wider still will need five bays. Zheng Xie painted clusters of bamboo leaves, say, ten centimeters in diameter in a small album. On a tall hanging scroll the clusters may average twelve or fifteen centimeters, but the painter will need many more of them to fill the composition. This is the principle of a cell growing to a certain size and then splitting into two, or of a tree pushing out a second branch instead of doubling the diameter of the first.

Reckoning with proportional rather than absolute measurements is a principle that has been applied widely and with much sophistication, especially in the field of architecture. As a rule, measurements of brackets and beams are not given in absolute terms, such as inches, but in "sections." The length of one section varies according to the overall size of a building. The chapter on architecture presents evidence that the Chinese explored the principle of relative proportions in their anatomical studies. One particular text divided the total length of the body into seventy-five sections, which were then used to measure body parts. Obviously, the length of the sections varied, depending on the size of the person. The system allowed one to locate exactly the points for acupuncture on the human body, that most familiar and enigmatic creation of nature.

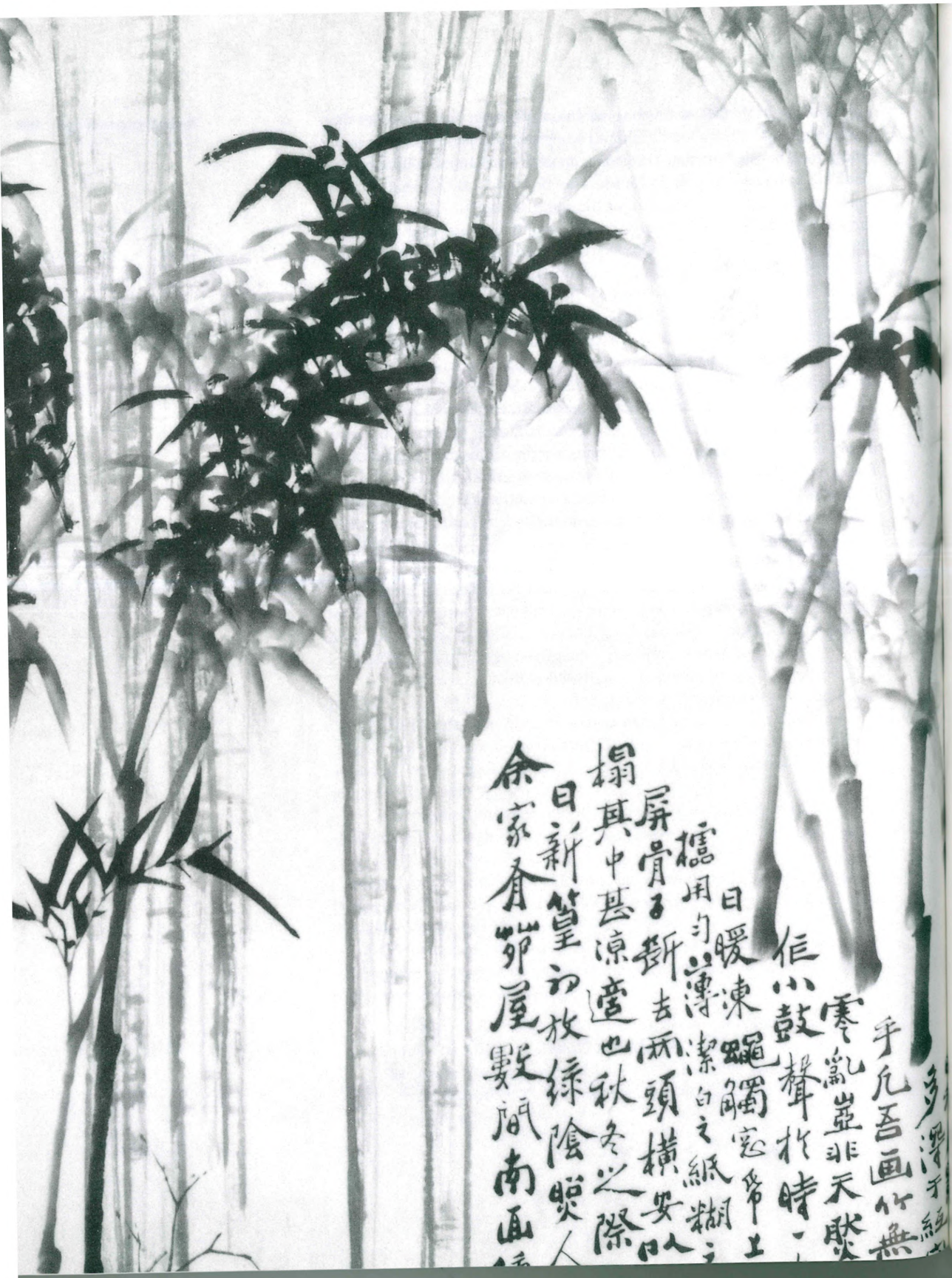
Reproduction is the method by which nature produces organisms. None is created without precedent. Every unit is firmly anchored in an endless row of prototypes and successors. The Chinese, professing to take nature as their master, were never coy about producing through reproduction. They did not see the contrast between original and reproduction in such categorical terms as did westerners. Such an attitude may be annoying when it comes to cloning software, but it also led to one of the greatest inventions of humankind: the technique of printing. In the Western value system, reproduction in the arts has traditionally had a pejorative connotation. Indicative, and influential in our century, has been the view of Walter Benjamin, who declared that a work of art loses its aura when reproduced by technical means.[9] However, recent research has uncovered that in the arts of the European Middle Ages, for instance, reproduction could indeed be used as a means to define an artistic tradition, and even to reinforce the impact of specific works.[10]

A rich and profuse body of theoretical writings in China deals with the issue of creativity, especially in the visual arts. Invariably, the creativity of humans is described in relation to the creativity of nature, which is upheld as the ultimate model. We are told that a sage of antiquity invented script when gazing at the footprints of birds. Early treatises describe the qualities of calligraphy in terms of nature imagery such as a gentle breeze through a bamboo grove, or a phoenix soaring to the clouds. Praising an artist for his "spontaneity" (*ziran*) and "heavenly naturalness" (*tianran*), or saying that he captured life as nature does, are the highest acclaim a Chinese critic can bestow.

Artists in the Western tradition consider the emulation of nature a primary task, too, but they have been pursuing it on a different course. Beginning with the competition between two Greek painters to determine which of their paintings a viewer would more readily mistake as real, questions of realism, verisimilitude, and mimesis have stimulated and haunted Western artists down to today.[11]

To Chinese artists, mimesis was not of paramount importance. (Only in images of the dead did they strive for verisimilitude.) Rather than making things that *looked* like creations of nature, they tried to create along the *principles* of nature. These principles included prodigious creation of large numbers of organisms. Variations, mutations, changes here and there add up over time, eventually resulting in entirely new shapes.

There seems to be a well-established Western tradition of curiosity, to put the finger on those points where mutations and changes occur. The intention seems to be to learn how to abbreviate the process of creation and to accelerate it. In the arts, this ambition can result in a habitual demand for novelty from every artist and every work. Creativity is narrowed down to innovation. Chinese artists, on the other hand, never lose sight of the fact that producing works in large numbers exemplifies creativity, too. They trust that, as in nature, there always will be some among the ten thousand things from which change springs.



8 Freedom of the Brush?

Opposite:
Zheng Xie (1693–1765), *Bamboo* (detail of Fig. 8.1).
National Museum, Tokyo

The previous chapters have identified, described, and analyzed modular systems in various areas of Chinese art. This final chapter looks at artistic endeavors that go beyond the use of modules, namely calligraphy and painting, and it addresses the question of what the Chinese have considered to be art.

Westerners and Chinese differ in their traditional definitions of art, which have changed over time in both cultures. In ancient Rome, architecture was considered the "mother of the arts," whereas in China architecture belonged to the domain of the civil engineer. In the West, sculpture also held a high rank, another legacy of classical antiquity, but sculpture was the business of artisans in China. Calligraphy, however, enjoyed the highest artistic position in China, while in the West it was a peripheral specialty.

The European concept of art has been constantly expanding since the Renaissance. By the nineteenth century, westerners were admitting into their pantheon of the fine arts many of the applied or minor arts, including metal work, ceramics, and furniture, and this definition has also been applied by the West to other quarters of the world.[1] For instance, today such Chinese products as porcelains and lacquers are sold at European and American auctions, where they fetch high prices and are acquired by museums and collectors. These objects are included in books on Chinese art, and professors treat them in art history courses in accordance with the modern Western concept holding that aesthetic purposes are uppermost in defining art.

The Chinese concept of art has expanded in similar ways over the centuries. For a long time it only comprised calligraphy and certain kinds of painting, but today the Chinese have by and large adopted the modern Western definition of art. Ancient tomb figures, Buddhist sculpture, bronzes, ceramics, and lacquer dishes are collected and exhibited in the Shanghai Museum just as they are in the National Museum in Tokyo or the Metropolitan Museum of Art in New York.

Fig. 8.1 Zheng Xie (1693–1765), *Bamboo,* 1753. Four-fold screen, ink on paper, 119.3 × 235.4 cm. National Museum, Tokyo

Several methods may be employed to establish what was considered art in imperial China. One is a terminological investigation, which might start from the observation that no general term for art existed in traditional China. The current word *meishu* is a late-nineteenth-century translation of the Japanese word *bijutsu,* which, in turn, is a translation of the French *beaux-arts.* Another line of inquiry might look at the social status of the makers. Those who produced the objects examined in the previous chapters were not considered artists in their time. Instead they were simply workers—or, at the most, skilled artisans—who manufactured luxury goods. But two additional methods will be used here to define art in China: an encyclopedia and art collections.

Classification of the Arts in the Encyclopedia

In the preface to his classic text *The Order of Things* (1966), Michel Foucault recalls his shattering laughter about a wondrous taxonomy of animals in a "certain Chinese Encyclopedia." The seemingly meaningless categories led Foucault to a central theme for his book, the question of whether the human mind is able to come up with valid classification at all. Yet Foucault played on the stereotype of China as Europe's "other," and he quoted a passage that is likely fictitious.[2] In actuality, the classification system of a Chinese encyclopedia, used properly, can reveal much about the minds of its authors as well as about the things classified. (But then, if Foucault had been a better sinologist, he may not have written his book, which would have been a pity.)

The largest extant encyclopedia is the giant eighteenth-century *Synthesis of Books and Illustrations, Past and Present,* which, as discussed in chapter 6, entailed printing over one hundred million characters. As this comprehensive body of knowledge consists entirely of quotations, it is particularly worthwhile to inquire into what kind of information is quoted and how is it classified.

The ten thousand chapters of the *Encyclopedia* are divided into six major parts (*huibian*): Celestial Matters, Geography, Human Relationships, Science, Philosophy, and Polity.[3] These six parts comprise 32 sections (*dian*) with 6,109 headings (*bu*). No section or heading corresponds to art as it is understood today, and the topics of each of the previous seven chapters are found under various headings, with some topics treated more than once.

Script Almost everything the *Encyclopedia* records about the system of script and about calligraphy is found in its prestigious fifth part concerning philosophy (*lixue*), in the section about script (*zixue*). This section discusses the different script types, exemplary models of calligraphy, calligraphic treatises, writing materials, and it includes ample information on individual calligraphers.

Ritual bronzes Ritual bronzes are treated in three different places in the *Encyclopedia*, most extensively in the Production (*kaogong*) section, where these particular vessels are arranged by typology. The entries concerning bronzes appear after Boats and Oars and before Benches and Tables. The raw material bronze is listed between silver and lead in the section Food and Commerce (*shihuo*). The section that deals with branches of literature (*wenxue*) reviews inscriptions on bronzes as a particular literary genre, which is preceded by Admonitions and followed by Summons to Arms.

Tomb figures The *Encyclopedia* is, of course, completely void of information on the magic army of the First Emperor, which was discovered only in 1974, but no entries on other tomb figures are found either. The chapters on imperial tomb compounds in the section on Earth (*kunyu*) quote the famous passage from *Records of the Historian* that describes the interior of the First Emperor's tomb.[4] No further information about interred objects is found here or under the heading Sacrifices at Imperial Tombs and Ancestor Temples in the section concerning ritual (*liyi*). Sculpture, other than that made for tombs, is treated in the section about religion (*shenyi*), first under the heading Figures of God, and then, more specifically, under Buddhist Images, both sculptured and painted.

Factory art Lacquer, textiles, and porcelain are, like bronzes, dealt with extensively under Production. Food and Commerce contains an additional eleven chapters on textiles.

Architecture Production also informs at length about the system of architecture, in descending order from cities to palaces and halls on down to beams and pillars. Tombs are treated in the section Earth; and Religion

contains the headings Daoist Monasteries, Buddhist Monasteries, and Pagodas, which demonstrates that, in classifying architecture, function was more important than structure.

Printing Printing is not given a heading of its own, but scattered references are found in "Canonical and Other Literature" (*jingji*). Production has several chapters on seals.

Painting All kinds of stories about hell are recounted in Religion under the heading Dark Office. Buddhist Images records particular sculptures and paintings. The section Political Divisions has a detailed entry on the city of Ningbo. It even lists Cartbridge Ward, where Lu Xinzhong's workshop was located.[5] Yet the *Encyclopedia* does not mention Lu's workshop, which no longer functioned, its professional paintings having fallen into oblivion long before.

Painting by the so-called literati (*wenren*) is treated at length in the section Skills (*yishu*), which includes headings for, among others, Agriculture, Fishing, Archery, Charioteering, Medicine, Prognostication, Astronomy, Physiognomy, and Calculations. These categories derive from an elaboration of the six arts (*liuyi*) of antiquity—ritual, music, archery, charioteering, writing, and calculations—which are akin to the seven *artes liberales* of medieval Europe. Both denote certain occupations and professions that demand particular physical and mental skills and training.

Painting is the third-largest heading in the section, after Medicine and Calculations. Under Painting, one finds theoretical treatises, a wealth of biographical material on literati artists, and inscriptions recorded from particular scrolls. A separate heading, Painting and Calligraphy, is in the Script section, which, because of the high status accorded to writing, is more prestigious than Skills. Samples of handwriting by emperors, together with some of their paintings, are singled out in the section August Supreme (*huangji*).

In conclusion, the eighteenth-century *Encyclopedia* did not entertain the modern concept of art. What is called Chinese art today was at that time classified either as belonging to Production and Religion, that is, rather low in a hierarchy of values, or somewhat higher up, under Script and Skills. Calligraphy held the highest position because it was likened to literature; painting came next, because it was likened to calligraphy. These two media come closest to the modern definition of art. Manufactured objects qualified for a higher category only to the extent that they had "literary" value, which was best exemplified by inscribed bronzes.

Art Collections

The analysis of the classification system in the *Encyclopedia* can be corroborated by a look at the history and content of art collections in China. By definition, art collections include objects chosen primarily for their aesthetic quality rather than for their material, historical, political, or religious value. Hence art collections provide another possible definition of art: all objects in an art collection.

Long before they started to build art collections, Chinese rulers already had collections of precious things in their palaces, for example charts, registers, and holy objects such as the Nine Bronze Tripods, which were handed down from antiquity.[6] Ownership of these treasures guaranteed the legitimacy of the ruler and was taken as proof that he deserved the mandate of heaven and would lead a virtuous reign. Later imperial art collections inherited this legitimizing power of the early palace collections in secularized form. This is the reason why, when retreating from the mainland to Taiwan in the winter of 1948, Chiang Kai-shek took several hundred thousand objects from the former imperial collection with him. It was a unique venture in the history of art and the military.[7]

Rulers were not the only ones who collected precious ancient objects. In the tombs of many Han nobles one finds, apart from contemporaneous treasures, bronzes and jades that were hundreds, even thousands, of years old at the time of interment. Their beauty may have been one reason why owners wished to hold on to them for eternity, but it was not the primary reason. The ritual function of these objects, their significance as documents of antiquity, as tokens of a family tradition, or simply their sheer material value, were more important than their aesthetic quality.

Following is a brief overview of when the types of objects discussed in previous chapters entered art collections.

Script Specimens of script were the first items to be collected primarily for their aesthetic value. This began in the fourth century A.D. Prior to that, the major criterion for evaluating script had been its text or content. Now certain pieces, above all those by Wang Xizhi (303–361) and his son Wang Xianzhi (344–388), were collected for the quality and beauty of the handwriting itself. One prominent early example is Wang Xizhi's *Orchid Pavilion Preface* (see Fig. 1.5). Paintings followed suit, and many emperors and private individuals collected works of calligraphy and paintings during the Tang period (618–906).

Ritual bronzes These objects were made as tokens of political and religious power for elite families to use in rituals honoring their ancestors. Throughout all later epochs, ancient bronzes were highly esteemed, and, when they surfaced from under the earth, were sometimes presented to emperors as auspicious omens.

Systematic collecting of ancient bronzes began in the Northern Song dynasty (960–1127). The great patron of the arts, Emperor Huizong (r. 1101–25), owned several hundred objects, which he exhibited on special occasions in his palace halls. He commissioned a catalog of his bronzes that was comparable to those for his calligraphic pieces and paintings. This imperial catalog and other Song-period bronze catalogs compiled for private collectors contain woodblock illustrations and detailed information on the individual objects, including measurements, physical condition, and provenance. Yet the uppermost interest of collectors was captured by the inscriptions on these enigmatic vestiges from a remote past.[8]

During the Ming dynasty (1368–1644), scholar-officials, wealthy merchants, and other members of the cultured elite occasionally still put

ancient bronzes to use in their ancestral temples.[9] As a rule, however, bronzes were collected and treated as precious objects. In one listing, a late-fifteenth-century collector ranked his finest bronzes immediately below his works of calligraphy.[10] One or two owners took their beloved ancient bronzes with them to their graves. Such high regard was sometimes accorded to paintings and works of calligraphy as well.[11]

Bronzes from antiquity figured prominently in the collection of the Qianlong Emperor (r. 1736–95), the largest single art collection in Chinese history. Qianlong, like Huizong before him, ordered his bronzes to be recorded. In addition to his catalogs of calligraphy and painting, which total some 21,000 pages, four bronze catalogs appeared over a period of approximately forty-five years, describing a total of 3,688 items.[12] By this time, the aesthetic qualities of the objects received more attention. Some catalog albums boast exquisitely colored drawings, betraying a fascination with the beautiful form and surface of the metal.[13] Remarkably, Qianlong never had seals or inscriptions engraved on his bronzes, although he did so on jades and pieces of porcelain.[14] Size permitting, bronzes were included in the "boxes of many treasures" (*duobaoge*) that were constructed to contain a microcosm of the imperial collections, including tiny jades and minuscule bronzes of all ages, decorative objects in every medium, and miniature calligraphies and paintings.[15] Even if curiosity was dominant in the appeal of these cultural playthings (*wenwan*), a major criterion for selection was their aesthetic properties. Consequently the "many treasures" in these boxes come close to the modern definition of art.

Tomb figures Ceramic tomb figures entered Chinese art collections very late, possibly not before the twentieth century. Ancient specimens were little known before the period of archaeological excavations, as tomb robbers were mainly interested in objects made of jade and metal. The Chinese tend to shun things connected with death, and the idea of keeping in one's house objects made for a dead person did not appeal to them. Tomb figures finally began to enter art collections because westerners held the view that they, like Buddhist or Daoist statues, are sculpture.

Factory art Lacquer dishes, textiles, and porcelains were, above all, utilitarian items. If of exceptional quality, they could be considered luxury objects, but they still did not have a place in the Song imperial art collection. Song collectors may have been interested in certain contemporary manufactured products but hardly in ancient ones.

During the Ming dynasty, however, the cultured elite began to appreciate such goods, especially pieces of porcelain. Most were products of the time, but collectors also eagerly sought antique objects and valued them highly. Song-dynasty porcelains topped the list. The proud owners treasured them almost like pieces of calligraphy, paintings, and bronzes, often paying similar prices and including them in the catalogs of their collections. These catalogs and a body of literature on connoisseurship allow us to trace the gradual formation and the history of private collections through the peak period in the late Ming between about 1590 and 1630.[16] The art collections of these patrons were generally small, but the aesthetic quality of an object was the foremost criterion for its inclusion. By expanding the definition of art, Ming-dynasty collectors added to a fascinating aspect of China's cultural fabric: its aesthetic dimension.

In the eighteenth century, the Qianlong Emperor adopted the late-Ming concept of art and gave it authority. His palace halls overflowed with exquisite pieces of porcelain, lacquerware, and furniture, both old and new. However, Qianlong never commissioned a catalog of these factory-art treasures. Apparently in the imperial collection firm distinctions were still made between calligraphy, paintings, ancient bronzes, and all other manufactured goods.

Architecture For obvious reasons, buildings cannot be considered in this discussion of the evolution of art collections. Architectural models, such as ceramic watchtowers of the Han dynasty, only entered museum collections with tomb figures.

Printing Printed products were collected separately in libraries. Illustrated books, even if designed by renowned painters, did not enter traditional art collections and were stored only with other books.

Painting A long time passed before professional religious paintings were included in art collections. Religious scrolls with lengthy inscriptions, compositions executed in ink, and scrolls by known artists—in short, paintings with literary quality—were given preference by collectors. Qianlong's collection was replete with such works and the first installment of his catalog of calligraphy and painting is devoted to them.[17] The palace even owned a painting of a Buddhist Luohan from the Ningbo workshops.[18] However, Qianlong does not seem to have accepted professional products done with movable stencils, like those by Lu Xinzhong. If given a chance, Chinese museums might acquire them today, but they would be following the lead of Japanese and Western museums.

Summing up these few observations (on a topic that deserves a book-length study), one can say that the scope of objects included in art collections in China continually broadened through the centuries. Collecting calligraphy began in the fourth century, followed by paintings shortly thereafter. Bronzes began to enter collections in the Song dynasty; manufactured luxury goods in the Ming dynasty. The eighteenth-century imperial collection validated the late-Ming concept of art. The introduction of a Western-art concept at the beginning of the twentieth century widened the spectrum even farther.

The examination of art collections thus supplements and modifies the observations made when surveying the *Encyclopedia*. Both the collections and the *Encyclopedia* emphasize the supremacy of calligraphy and painting as arts, and both grant ancient bronzes an elevated position because of their inscriptions. Yet by acquiring manufactured objects, the production of which involved module systems, Ming-dynasty art collectors had already transcended the traditional classification scheme that, later still, would be expounded in the *Encyclopedia*.

Neither the compilers of the *Encyclopedia* nor collectors believed that all beautiful pieces of calligraphy and all good paintings should be considered art. Officials with a literary education defined culture and claimed a monopoly

on art. Insisting on the distinction between their own calligraphy and that of scribes in offices, and between their paintings and works by professionals, the literati set their own practice apart in various ways. In calligraphy, they emphasized the cursive types of script amenable to individual expression, which were not the script types used by clerks for documents. For their own paintings, the literati preferred ink and light color rather than heavy pigments. Thereby they likened painting to calligraphy and avoided any resemblance to artisans' products in gaudy colors. They limited their repertoire of themes and motifs, at times narrowing it down to landscapes and plants, and they favored plants that required little technical competence to paint but were fraught with symbolic meaning. Indeed, attempts to distance themselves from professional practice go a long way to explain why the literati chose certain technical, stylistic, and aesthetic features for their own art.

The literati used their art collections as instruments by which to promote their definition of art. They primarily acquired pieces of calligraphy and painting that conformed to their own standards and were created by their own group. Handwritten Buddhist sutras, like those engraved into stone in the Cloud Dwelling Monastery (see Figs. 1.1, 1.6, 1.7, 1.10–1.12), did not qualify as art, nor did paintings such as those discussed in chapter 7, from Lu Xinzhong's workshop, because they were the work of professionals.

The Aesthetic Ambition of Calligraphy

In addition to his social status, the educated calligrapher distinguishes himself from the professional scribe through his aesthetic ambition. When exploring the aesthetic dimension of script, calligraphers start from the simple fact, observed in chapter 1, that no two versions of the same handwritten character are completely identical. The same phenomenon is found in other fields. No two blocks in a timber frame building are completely alike, nor are two absolutely identical cups found among the 150,000 porcelains in the shipwreck of the *Geldermalsen*. Yet, whereas craftsmen have been aiming for ever greater standardization, and have achieved ever more perfect conformity of modules and units, calligraphers have been doing the opposite. They consciously exploit variants that creep in unconsciously in the execution of characters, trying new shapes, finding new forms, studying previous masters' inventions, modifying their creations and interpreting them. Generation after generation, countless practitioners built the increasingly complex edifice that is the great calligraphic tradition in China.

In A.D. 777, the Buddhist monk Huaisu (about 735–about 799) wrote his autobiography (*Zixutie*). He was a master of the Mad Cursive Script (*kuangcao*), and his handscroll (Fig. 8.2) is one of the most extraordinary calligraphic creations of all epochs. A work in the literati mode, it represents an extreme aesthetic alternative to most other works illustrated in *Ten Thousand Things* so far.[19] Whereas those works involved division of labor among teams of mostly anonymous craftsmen, the *Autobiography* was created by an individual, and we know his name.

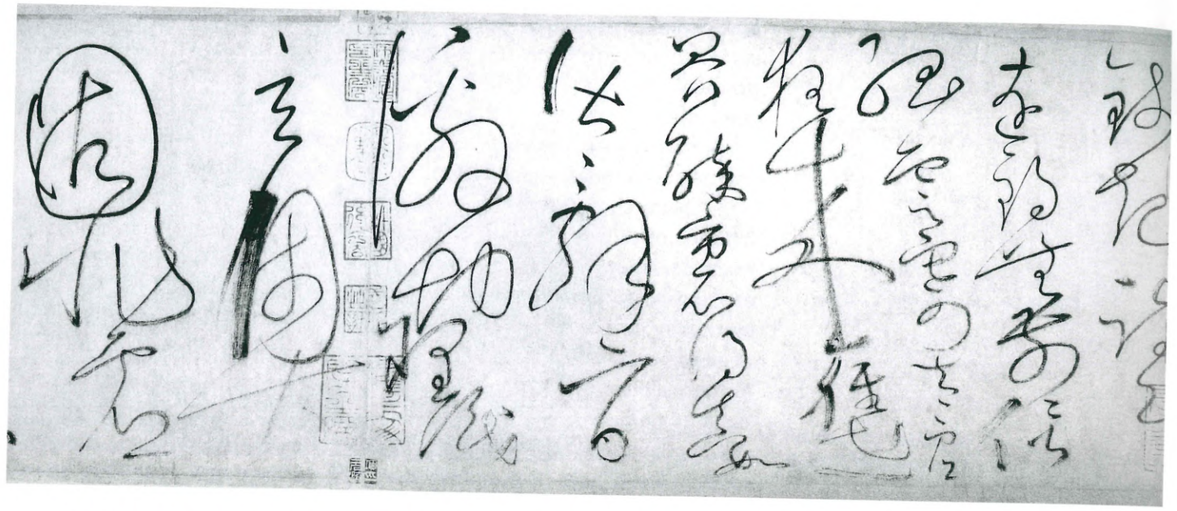


Fig. 8.2 Huaisu, *Autobiography* (detail), A.D. 777. Handscroll, ink on paper, 28.2 × 755 cm. National Palace Museum, Taipei, Republic of China

On the spectrum posited in chapter 2, extending from a holistic production on the one hand to total division of labor on the other, Huaisu's *Autobiography* exemplifies a purely holistic creation. The monk wrote it in a linear sequence from beginning to end, in a "rapid, uninterrupted flow of darting, looping brush movements."[20] He did not plan the shapes of his characters in advance but rather let them evolve under his brush spontaneously. When he began, he had yet to know the final form the work was to take. At each stage he could still experiment. Even shortly before the end, he came up with unforeseen shapes. These fantastic graphic inventions give his scroll a spectacular finale and add considerably to its quality.

The *Autobiography* also differs from modular works in that it is a unique opus. It is not part of a set of similar scrolls, and Huaisu possibly wrote it only once. Unlike bronze vessels, lacquer dishes, bracket arms, and books, the *Autobiography* cannot be duplicated or reproduced without losing its essential quality. There is only one original.

Nor is Huaisu's scroll built up of modules. One cannot identify distinct or interchangeable components that the monk may have written at different times and assembled later, or those which he used in this or other scrolls. Whereas working with modules depends upon standardization, division of labor, and predictability, calligraphers like Huaisu strove for original, personal, and spontaneous creations.

These aesthetic values are precisely those that lie at the core of Chinese art theory. The educated literati produced a voluminous and fascinating body of writing on aesthetic issues, with emphasis upon calligraphy and painting. One of the earliest known treatises, written in the fifth century A.D., already gives the highest praise to calligraphy imbued with spontaneity (*ziran*).[21]

One eighth-century text relates how Wang Xizhi wrote his *Orchid Pavilion Preface* in the spring of A.D. 353 (see Fig. 1.5). He invited his friends for an outdoor party at a certain Orchid Pavilion. At the end of the day the

host evoked in beautiful prose the serene atmosphere of the gathering and spontaneously wrote his text down with his own brush. Very satisfied with his calligraphy, Wang Xizhi wanted to copy it the next day; yet, as the chronicler tells it, the master tried several hundred times, but was unable to match his performance of the previous day. The *Preface* was the outflow of a unique and felicitous moment of creation, which was never to repeat itself.[22]

Many theoreticians emphasized that a work of art is the visible manifestation of a unique personality, and that true artistic creation has to be distinctive. Although they acknowledged that a calligrapher has to spend years copying other masters' works, they nevertheless demanded that he must eventually develop a style of his own. They called it "getting the substance" of an old master, "transcending formal resemblance," and "becoming a master in one's own right." This is a tall order, considering that China has been home to millions of dedicated practitioners of calligraphy. Yet the system of calligraphic shapes is so resourceful that throughout the ages, and even today, masters have continuously been able to forge new, individual styles. Experience shows that even a very few characters can betray the hand of a particular calligrapher.

Not all calligraphy that conforms to the aesthetic ideals of the literati has to look wild and erratic like Huaisu's *Autobiography.* There exists a broad stylistic range. For example, Deng Shiru (1743–1805), whom some critics regard as the greatest calligrapher of the Qing dynasty, was a master of the stately and tectonic Seal Script (Fig. 8.3). He wrote very slowly, in full control of the movements of his hand at every moment. The subtle nuances in the width of each stroke and the delicate balance in the sophisticated composition of each character are inimitable.[23] Deng Shiru's epigraphic script conveys a totally different impression than Huaisu's swift brush traces, but both works embody the same aesthetic values of nonmodular art, which is spontaneous and unique.

Yet freedom of the brush is not easily won. A calligrapher works within a framework of many rules. First is the essential fact that he writes a prescribed sequence of brush movements. In every character, the individual strokes must follow one another in a specified order to be obeyed by everyone. This is especially important when contracting several strokes into one sweeping movement in cursive script. If a calligrapher were then to change the sequence of the strokes, his characters would degenerate into unintelligibility. The characters must also follow one another in a definite order, again, lest the text become incomprehensible.

When watching a calligrapher write, the viewer knows what was observed a few seconds ago, and what the calligrapher did in those few seconds. The viewer who knows the text, such as that of a famous poem, will also have a fair idea of what the calligrapher will do in the following seconds. When the eminent calligrapher Fu Shen wrote the two characters that stand for "ten thousand things" (*wanwu*) to be the frontispiece for this book, the well-informed spectators present at the occasion could anticipate every stroke as it was about to be written, but they could not visualize its final appearance (Fig. 8.4). Likewise, when a pianist performs a well-known piece,

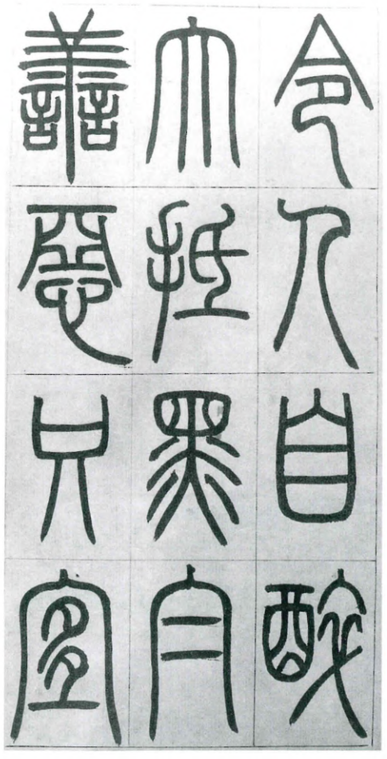
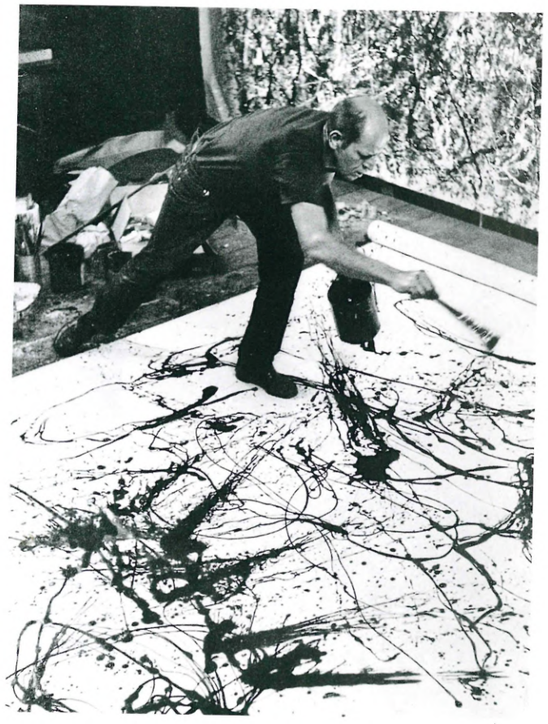


Fig. 8.3 Deng Shiru (1743–1805), Single leaf from album with Seal Script. Ink on paper, 31.3 × 16.2 cm. Formerly Collection of Zhou Peiyuan

Fig. 8.4 (left) Fu Shen (born 1937) writing the frontispiece for *Ten Thousand Things*, March 1997

Fig. 8.5 (below) Jackson Pollock (1912–1956) painting *Number 32,* 1950



educated listeners will not concentrate on *what* he plays (which they know already) but on *how* he plays. Both, a few characters written by a calligrapher and a few bars played by a pianist can embody the experience of a lifetime. The difference is, of course, that the performance of a calligrapher results in a permanent trace, which remains to be viewed.

A viewer watching Jackson Pollock paint, by contrast, may not remember what exactly he saw in the preceding ten seconds (Fig. 8.5). And he could hardly anticipate what the abstract artist would do next. Some critics who claim that modern action painters have felt akin to East Asian artists of the brush, and looked to them for inspiration and legitimacy, may have failed to see, or perhaps did not want to acknowledge, that Chinese calligraphy requires discipline from beginning to end.

Spontaneous freedom in calligraphy is further limited by the paradox that it has to be learned slowly, under painstaking training. When westerners develop a personal handwriting in their youth, certain ways of abbreviating and contracting letters creep in unintentionally, and these idiosyncrasies tend to remain for life. This is why banks have been persuaded to trust our signatures on checks. A Chinese calligrapher, by contrast, can hardly ever invent his own abbreviations. He learns spontaneous movements by slowly copying the spontaneous movements of earlier masters.

Frequently, a calligrapher's models are copies themselves. In so-called tracing copies (*shuanggou*), the copyist first traces the outlines of every single dot and stroke and then meticulously fills in the contours with small strokes

Fig. 8.6 (left) Detail of a tracing copy after *Xingrangtie,* letter in cursive script by Wang Xizhi (303–361), 7th century A.D. Handscroll, ink on *yinghuang* paper, 24.4 × 8.9 cm. Princeton University Art Museum, Princeton, New Jersey (anonymous loan)

Fig. 8.7 (right) Detail of the stone-cut (A.D. 1747) after *Xingrangtie,* letter in cursive script by Wang Xizhi (303–361). Sanxitang Collection, Beihai Park, Beijing

of black ink. A tracing copy of a letter by Wang Xizhi in the Princeton University Art Museum carefully preserves the spontaneous flow of the master's brush in this way (Fig. 8.6). [24]

A more common form of copy is the rubbing taken from a stone into which the shapes of characters have been accurately cut. Figure 8.7 shows a detail of the stone cut of the same letter by Wang Xizhi, done in 1747 for the Sanxitang Collection of calligraphic rubbings, compiled at the imperial palace at Beijing. The traces of his swift movements are preserved here for eternity, frozen as it were.

A third phenomenon that severely curtails the freedom of a calligrapher is the pervasiveness of technical, aesthetic, and stylistic standards. Materials—namely brush, inkstone, ink, and paper or silk—and technique underwent no essential changes after the fourth century A.D. The three main types of script, regular, running, and cursive, were also formulated in the fourth century and have been in use from that time to today.

Only within this framework did calligraphers create personal styles. When considered valuable, these styles could be canonized and become part of an available repertoire of models. Masterpieces embodying those standards were reproduced through rubbings and, beginning in the tenth century, conveniently brought together in albums. A calligrapher could choose which of these exemplars to learn. Although the styles were not modules in a physical sense, their codification reveals a modular pattern of thought.

The enormous stylistic coherence in Chinese calligraphy is unparalleled in world art. It mirrored, and at the same time fostered, a social coherence among the literati class. Chapter 1 explained that the Chinese clung to their cumbersome system of script because it allowed the educated elite to read texts written thousands of years before and by people whose spoken language they would not have understood. Script was thus a powerful instrument to ensure the stability and survival of Chinese social and cultural institutions.

The literati reinforced the cohesive force of script by developing and exploiting the aesthetic dimension of calligraphy.[25] Although the full-fledged aesthetic system of calligraphy does not have such a long history as the system of script itself, it was in place for the last millennium and a half. That was precisely the period when the Chinese literati officials held political power. They made proficiency in calligraphy one of the fundamental requirements for admission to their club, and they claimed a monopoly on writing calligraphy as an art. It was one way to bolster class identity.

Because each piece of calligraphy results from a specified sequence of brush movements, the insider who follows these movements with his eyes can sense the body language in the writer's calligraphy and thereby recreate for himself the moments of the actual creation. As long as the aesthetic standards do not change, every calligrapher can thus establish a personal rapport with the writer of any given piece, even if he lives hundreds of miles away, or hundreds of years later. In a quasi-graphological sense, the viewer evaluates the writer's personality and visualizes him as an individual human being.

The Aesthetic Ambition of Painting

The situation in painting is similar to that in calligraphy, although not identical. As they did for calligraphy, the literati clearly set forth their attitudes in theoretical literature, and they applied to painting the aesthetic standards they had first formulated for calligraphy. Mimesis was not the pressing issue it was in Europe, and not the foremost purpose of a painting. Its essential qualities, rather, were to be found "beyond representation." Spontaneous execution was always a core value, even if it was interpreted in varying ways.[26] Like a calligrapher, a so-called literati painter had to study old masters widely, but at some point he had to find a style that revealed his own unique personality. A professional painter was not expected to do this. If the arbiters of art labeled a fellow painter an artisan (*jiang*), or even called him vulgar (*su*), this was a very severe criticism that thereby questioned his social position.

Xu Wei (1521–1593) was a paragon of the literati painter who also excelled as a poet and writer of prose. His behavior bordered on madness; he mutilated himself and beat his third wife to death. Yet his paintings are admired as masterworks of an untrammeled genius, and they have influenced generations of artists right up to today (Fig. 8.8). In extolling expressive qualities similar to those of Huaisu, Xu Wei formed rocks and plants by splashing ink erratically onto the paper. His brushwork appears utterly spontaneous and he does not seem to have premeditated the exact shapes in detail.[27]

Like Huaisu's wild cursive script, Xu Wei's eccentric performance represents only one facet of the spectrum. So-called orthodox painters like Wang Yuanqi (1642–1715) who take time to build their compositions slowly and deliberately equally conform to the standards of literati aesthetics (Fig. 8.9).

The framework of rules is not as pervasive for a painter as it is for a calligrapher. There is no prescribed order of brushstrokes, and formulas for motifs are not codified as strictly as are abbreviations in cursive script. But

Fig. 8.8 Xu Wei (1521–1593), *Flowers and Other Plants* (detail). Handscroll, ink on paper, 30 × 1,053.5 cm (entire scroll). Nanjing Museum

Fig. 8.9 Wang Yuanqi (1642–1715), *Landscape in the Style of Huang Gongwang,* 1679. Hanging scroll, ink and color on silk, 80 × 36.8 cm. Linden-Museum, Stuttgart

even in his most idiosyncratic inventions, a painter still must render specific objects, such as rocks or trees, legible, as one might a handwritten text. There is no pure abstract painting, even if some painters push the boundary to the limit.

As in calligraphy, ubiquitous technical standards that have been in place for over a thousand years further curtail the freedom of a painter's brush. Apart from a few colors, he uses, in effect, the calligrapher's materials: brush, inkstone, ink, and paper or silk. And except for the addition of ink washes, the painter's technique is also similar to the calligrapher's.

There is a further parallel: Like a calligrapher who copies model pieces by old masters into an album of rubbings, thereby building his repertoire of styles, a painter may study paintings by old masters in the form of small versions assembled in an album. A famous example is the album *To See Large Within Small* (*Xiaozhong xianda*). It contains twenty-two copies after Song- and Yuan-dynasty masters that the great Dong Qichang (1555–1636) entrusted to his young protégé, Wang Shimin (1592–1680). Wang Shimin studied them so intensively that, "in his paintings, every composition, every design, texture, and ink wash had its origin in an ancient source."[28] After Dong Qichang, it became fashionable among certain painters to produce albums in which each leaf was painted in the style of a different old master. Randomly choosing from a repertoire of codified styles and then combining them into one work reveals, again, a modular pattern of thought.

If modular thought was indeed ingrained as deeply in the Chinese mind as the previous chapters have suggested, it should come as no surprise that it made itself felt in painting in still other respects. Indeed, in spite of their avowed disdain for modular production, literati painters worked along modular lines in building compositions and in combining motifs.

A famous landscape composition by the influential literati painter Mi Youren (1072–1151) begins at the right with a stretch of flat land and distant mountain ranges enveloped in clouds (Fig. 8.10). A lonely fishing boat floats in the void. Gradually the composition broadens, the mountains become larger, and a few roofs of buildings appear between leafy treetops. A stream emerges from the mountains, is spanned by a bridge leading to a riverbank covered with trees, and finally reaches the expanse of water in the foreground. Thereafter the focus of the scene quickly recedes again. The last mountains at the left disappear once more into background clouds.

Fig. 8.10 Mi Youren (1072–1151), *Cloudy Mountains*, 1130. Handscroll, ink, lead white, and slight color on silk, 43.4 × 194.3 cm. The Cleveland Museum of Art

Fig. 8.11 Muxi (ca. 1269), *Evening Glow over a Fishing Village*. Hanging scroll, ink on paper, 33.1 × 115.3 cm. Nezu Institute of Fine Arts, Tokyo

The scroll in the next illustration (Fig. 8.11), done in a looser style and with more ink wash, is attributed to the Chan monk Muxi (about 1269). No other handscroll with such a bold composition is known. Immediately after the opening scene at the right, all motifs fade into empty space. Yet as unorthodox as the result might be, Muxi merely rearranged Mi Youren's well-known compositional type. He transposed the left-hand section of the composition to the right and slightly reduced its size. The bridge is missing; the river disgorging from the mountains flows directly into the foreground water, but details such as the fishing boat and some buildings reoccur at corresponding places. One is reminded of the Ningbo painters who pushed figures of demons and sinners around in paintings of the kings of hell.[29]

Even a master like Xu Wei, whose creations look so unrestrained, may have built his compositions from interchangeable parts. Repeatedly his handscrolls show similar fruits and plants arranged in various orders. The artist also inscribed the same poems several times. Often his paintings are undated and lack a dedication, which suggests that he may have offered them on the "free market." Perhaps he even employed a team of helpers.[30]

In addition to shuffling entire passages of compositions, painters often treated motifs like modules, as witnessed most blatantly in painting manuals, which were modeled on prototypes in botany and mineralogy. There was a long tradition, beginning in the early centuries A.D., of concern with classification of plants appropriate for eating, for medicine, and also for immortality. Stones were similarly classified according to their medical benefits and other uses. However, early examples of such illustrated treatises have not survived into our time.[31] Painting manuals, primarily printed using the woodblock technique, likewise show plants and stones, but these illustrations are meant as repertoires of motifs to be used by painters. One of the earliest manuals, which dates from about 1238, contains one hundred pages of various plums.[32] Figure 8.12 shows a sample page from another manual, this one composed about 1351, that also illustrates types of plums with their branches and blossoms. The accompanying text identifies each one and explains in poetic verse how it should look when painted.[33] Still another famous painting manual, dating a few decades earlier, codifies the depiction of bamboo.[34]

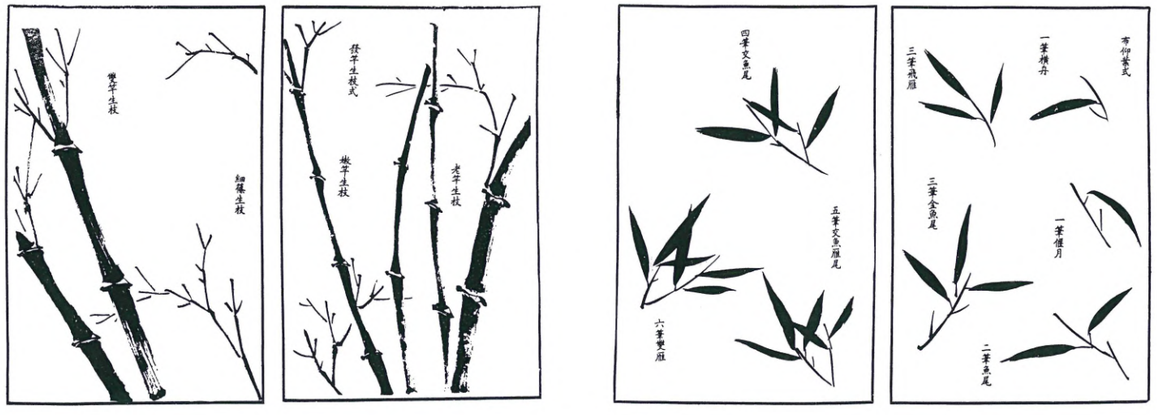
Fig. 8.12 *Plum Blossoms* (page from *Pine Studio Plum Manual*), between 1351 and 1365. Woodblock print, 21 × 17.6 cm

Fig. 8.13 *Rocks* (double page from *Mustard Seed Garden Manual of Painting,* ed. of 1679). Woodblock print, ca. 25.5 × 30 cm

Most influential was the so-called *Mustard Seed Garden Manual of Painting* (*Jieziyuan huazhuan*), which was printed in four installments beginning in 1679, and often reprinted thereafter in China and in Japan. Its many monochrome and colored woodcuts contain all the separate motifs that a painter might need, and they teach how paintings to the taste of literati can be built up from these modules. One page presents rocks in the styles of the classical masters Ni Zan (1301–1374) and Wu Zhen (1280–1354), with comments on each of their particular approaches to brushwork (Fig. 8.13). Another page illustrates how to paint bamboo stalks with branches, segments, and nodes (Fig. 8.14). The righthand page shows branches growing on old stalks and tender stalks; the lefthand page displays branches growing on fine stalks and double stalks. Still another page in this manual (Fig. 8.15) classifies brushstrokes for bamboo leaves—those accomplished in one stroke in the shape of a horizontal boat or a crescent moon; in two

Fig. 8.14 (left) *Bamboo Stalks* (double page from *Mustard Seed Garden Manual of Painting,* ed. of 1679). Woodblock print, ca. 25.5 × 30 cm

Fig. 8.15 (right) *Bamboo Leaves* (double page from *Mustard Seed Garden Manual of Painting,* ed. of 1679). Woodblock print, ca. 25.5 × 30 cm



strokes like a fish tail; two types of three-stroke leaves that resemble either a wild goose in flight or a goldfish's tail; in four strokes, like crossing fish tails; five strokes, like crossing fish tails and a wild goose; or in six strokes, like a pair of geese.

After having studied the *Mustard Seed Garden Manual,* even a dilettante painter could assemble these motifs into whole compositions and thereby achieve passable paintings. The remarkable fact that it was possible at all to dissect literati paintings in this way and to codify their parts demonstrates once again how akin module systems were to the Chinese mode of thinking.

Modular Paintings

Nevertheless, most literati painters looked down on the *Mustard Seed Garden Manual.* They pointed out, correctly, that its compiler, Wang Gai (active 1677–1705), was somewhat ignorant because he had little access to good paintings in important collections. In addition it was felt that woodblock illustrations cannot convey the vibrant quality and nuances of original brushwork. Yet the works of literati painters betray that many of them treated motifs as modules, in ways similar to painting manuals, albeit not as mechanically.

An example is the oeuvre of the orthodox master Wang Yuanqi, another paragon of the literati tradition (see Fig. 8.9). He compiled a standard compendium of writings on calligraphy and painting, in which he espoused traditional literati values.[35] It was due to his influence that the Kangxi Emperor (r. 1662–1722) propagated the orthodox tradition at court and in the empire.

Many of Wang Yuanqi's compositions resemble one another closely, and his repertoire of motifs is rather limited. Almost invariably, he used a group of trees on a riverbank in the foreground, a bridge, groups of buildings between trees, or a flight of steps leading up to a monastery in the saddle of a high mountain. The size of his motifs hardly increased with the size of his scrolls. In large paintings he simply added more motifs. Yet the master never worked mechanically. Seamlessly joining the

Fig. 8.16 (left) Xu Beihong (1895–1953), *Standing Horse,* 1942. Hanging scroll, ink and light color on paper, 101.5 × 48.2 cm. Arthur M. Sackler Gallery, Smithsonian Institution, Washington, D.C.

Fig. 8.17 (below) Xu Beihong (1895–1953), *Galloping Horse,* 1941. Hanging scroll, ink and light color on paper, 130 × 76 cm

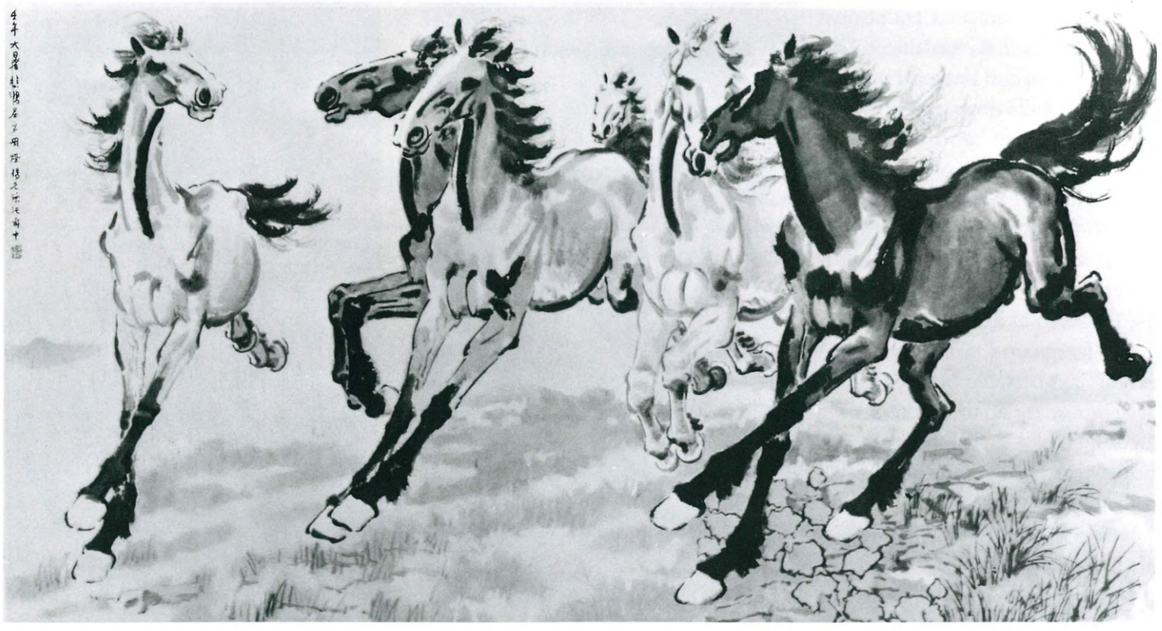
parts of his compositions together, he turns each one into an individual creation. The greatness of his art lies not in novel formal inventions but in the endlessly varied execution of familiar motifs.[36]

Xu Beihong (1895–1953) is another artist who used a modular approach to painting. His bravura ink paintings of horses have become world famous. Seeing a scroll with a single horse (Figs. 8.16, 8.17), the viewer is taken aback by the forceful spontaneity of the dashing animal.[37] In a group of horses, he finds similar legs, manes, tails, and equivalent sets of brushstrokes for heads, necks, and chests (Fig. 8.18). A comparative analysis of a large number of his paintings reveals how Xu Beihong created the bravado of his horses from set parts.

Literati painters were not shy about producing works on a large scale, which may be one reason why they resorted to modular compositions. Cheng Zhengkui (1604–1676), for example, painted some three hundred landscape handscrolls, all with the same title, *Dream Journey Among Streams and Mountains* (*Jiangshan woyutu*). As each scroll was, on average, almost three meters long, he produced nearly one kilometer of landscape painting![38] The great literati painter of the modern age, Zhang Daiqian (1899–1983), completed some thirty thousand paintings in his lifetime, the prices of which were determined by their size.[39]

Zhang Daiqian was not the first Chinese painter to set up a fixed price list.[40] Many others had done so before, including Zheng Xie (1693–1765), who once again typifies the educated painter in the literati tradition. He set the prices of his paintings according to size and added wryly that he preferred hard cash over presents or food that might not meet his personal taste.[41]

Fig. 8.18 Xu Beihong (1895–1953), *Galloping Horses,* 1942. Hanging scroll, ink and light color on paper, 95 × 181 cm



Zheng Xie was not a marginal figure. Counted among the so-called Eight Eccentrics of Yangzhou, he was the only one among this loosely knit group of independent painters who attempted the highest state examination (*jinshi*). He passed in 1736, the second best in the country, and subsequently he served twelve years as a magistrate. He was widely praised as a benevolent and upright official who cared for his subjects. During the catastrophic famine of 1746–47 he opened the government storehouses to save the starving people.

Zheng Xie was also a prolific writer. His sixteen *Family Letters* (*Jiashu*), which he sent over the course of several years to a cousin twenty-four years younger than he, are well known.[42] In accordance with the literati ideal, Zheng Xie also excelled in poetry, calligraphy, and seal carving. The artist has remained famous into modern times, copies of his calligraphy continue to be sold everywhere in China, and the scholarly literature concerning him is plentiful.

Zheng Xie wrote extensively about the arts and about his own practice, paying profuse tribute to the convictions and values of the literati painter. In his own judgment, his art was neither ancient nor modern, bamboo was in his mind, and as he drew it, it took shape spontaneously:

I have ten thousand bamboo stalks in my mind,
Which burst forth at any moment as dripping wet ink.

When I painted in youth, I followed the rules;
But as an old man, I'm careless and do away with methods.

The artist studies old masters, but Heaven, he claims, is his true master:

The way Heaven gives life, is the way I paint.[43]

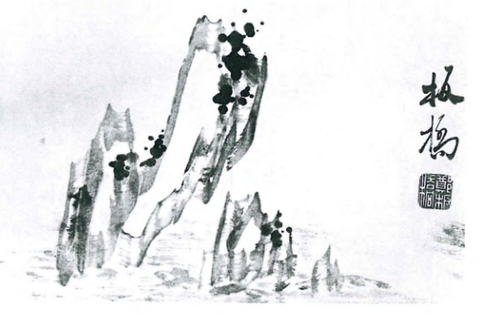
Yet Zheng Xie's avowed freedom of the brush did not prevent him from developing a module system. He concentrated on very few motifs—mostly bamboo, wild orchids, and rocks, once saying, somewhat exaggeratedly, that he had painted nothing but orchids and bamboo in fifty years.[44] Both plants are easy to execute in ink, and each is fraught with symbolism in literati lore. The resilient bamboo stands for firmness and integrity, scholarly aspirations, and the concern of an official for the common people, while the fragrant orchid recalls loyalty and purity, and the life away from the intrigues of officialdom. Rocks, which also appear frequently in Zheng Xie's paintings, signify solidity, perseverance, and longevity.[45]

At times, Zheng Xie laid out his entire repertoire in the format of a handscroll, on which his preferred motifs followed one after the other.[46] He also did this in an album of eight leaves, three of which are shown in Figures 8.19–8.21.[47] The bamboo consists of a few branches rendered in thin ink lines, and a cluster of leaves described by sweeping movements of a resilient, obliquely held brush. Although executed similarly, no two stalks or leaves are completely identical. For the orchid, the painter used an entirely different set of brushstrokes:

Fig. 8.19 (top) Zheng Xie (1693–1765), *Bamboo,* 1749. Album leaf, ink on paper

Fig. 8.20 (center) Zheng Xie (1693–1765), *Orchid,* 1749. Album leaf, ink on paper

Fig. 8.21 (bottom) Zheng Xie (1693–1765), *Rock,* 1749. Album leaf, ink on paper



long, undulating lines, and short, straighter ones for two kinds of leaves; staccato strokes for the segmented stems; and soft, sometimes grayish hues for the petals. The variously shaped dots for the pistils are all known from calligraphy. Zheng Xie renders rocks as oblong blocks with vertical divisions. Here the painter resorted to still other kinds of brushwork: broad, angular contour lines combined with short sweeps to the side that convey the stony surface. Round, inky dots suggest moss or other vegetation.

On these three compositions, Zheng Xie placed his signature at the top, the left side, or the right, respectively. For all of these he happened to use the same seal, but other leaves in the same album show several others of his seals and different forms of his name. The artist made use of various signatures and seals to diversify his compositions.

With bamboo, orchid, and rock, Zheng Xie built compositions—probably thousands of them—along three principles: multiplication, combination, and individual execution of each motif. Hanging scrolls for which bamboo is the sole motif (Figs. 8.22–8.26) reveal similar clusters of leaves that were done with the same stroke types as those in the album. At times the clusters mesh in lush profusion, which can be seen especially well in the

Fig. 8.22 (left) Zheng Xie (1693–1765), *Bamboo.* Hanging scroll, ink on paper

Fig. 8.23 (center) Zheng Xie (1693–1765), *Bamboo.* Hanging scroll, ink on paper

Fig. 8.24 (right) Zheng Xie (1693–1765), *Bamboo.* Hanging scroll, ink on paper

Fig. 8.25 (left) Zheng Xie (1693–1765), *Bamboo.* Hanging scroll, ink on paper

Fig. 8.26 (right) Zheng Xie (1693–1765), *Bamboo.* 1757. Hanging scroll, ink on paper, 226.5 × 91.5 cm. National Museum, Tokyo

Fig. 8.27 (right) Zheng Xie (1693–1765), *Bamboo and Rock.* Hanging scroll, ink on paper

Fig 8.28 (below) Zheng Xie (1693–1765), *Misty Bamboo on a Distant Mountain.* 1753. Set of four hanging scrolls, ink on paper, 68.2 × 179.2 cm. The Metropolitan Museum of Art, New York

painting that opens this chapter (Fig. 8.1). The stalks are more elaborate in the long hanging scrolls, but codified stroke types are apparent for thin and for thick stalks, as are formulas for the nodes between the segments.

As the amount of surface space increased, the painter did not enlarge the clusters of bamboo leaves correspondingly. Rather, he added more clusters of a similar size. (Because the artist always uses seals of a similar size, one can estimate the actual size of the painting by referring to the seals in the reproductions for scale.) Painting larger bamboo would require different body movements that would have to originate from the painter's arm and shoulder, rather than from his wrist and fingers. This is the same principle found in bronze decor, in the bracketing of palace

halls, and in porcelain decoration: in units that are large in absolute size, modules do not grow proportionately, but new modules are added instead.

In compositions that combine bamboo and rock (Figs. 8.27–8.33), the rocks are of the familiar oblong type. In the larger scrolls several rocks stand upright, one behind the other. They appear in front of the bamboo or behind it, below it or above. Zheng Xie manipulated his compositions quite consciously. He once wrote that he refused to abide by the rule that holds that rocks should be less prominent than bamboo.[48] In one hanging scroll the rock towering above the bamboo is meant as an admonishment for the young recipient of the painting to raise his head, as the master's dedicatory inscription informs (Fig. 8.32).[49]

Bamboo and rocks are the two motifs that Zheng Xie combined most frequently. But he also painted orchids alone, orchids with rocks, and a few other motifs, such as mushrooms or thorns. In a hanging scroll for which he combined rocks and bamboo with orchids and mushrooms (Fig. 8.34), the rocks and the bamboo clusters would have fit just as well in one of the other compositions already illustrated here.[50]

Inscriptions are used for further variation. The master freely placed his calligraphy in the composition, extending the game of combinations even to the level of meaning. He sometimes wrote different inscriptions on nearly identical compositions, thereby altering their iconographical message. A bamboo stalk may represent the fishing rod of a retired recluse or it may signify vigorous growth for a newborn son.[51]

The exchangeability between subject matter and inscription had economic implications, too. Rather than preparing a painting for a particular

Fig. 8.29 (left) Zheng Xie (1693–1765), *Bamboo and Rock.* Hanging scroll, ink on paper

Fig. 8.30 (center) Zheng Xie (1693–1765), *Bamboo and Rock.* 1758. Hanging scroll, ink on paper, 171 × 91 cm

Fig. 8.31 (right) Zheng Xie (1693–1765), *Bamboo and Rocks.* 1765. Hanging scroll, ink on paper

Fig. 8.32 (below, left) Zheng Xie (1693–1765), *Bamboo and Rocks,* ca. 1762. Hanging scroll, ink on paper, 170 × 79 cm. Museum für Ostasiatische Kunst, Berlin

Fig. 8.33 (below, right) Zheng Xie (1693–1765), *Bamboo and Rocks,* 1756. Hanging scroll, ink on paper

Opposite:
Fig. 8.34 (opposite) Zheng Xie (1693–1765), *Bamboo and Fungi.* Hanging scroll, ink on paper, 187.7 × 93.2 cm. Asian Art Museum of San Francisco, The Avery Brundage Collection. Gift of The Asian Art Foundation of San Francisco

recipient and dedicating it to him, as was customary among traditional literati painters, Zheng Xie could finish a work before he knew who would buy it. This allowed him to produce works for a large and anonymous clientele.

Motifs such as bamboo, orchid, and rock are not modules in a physical sense, like blocks and brackets, but Zheng Xie treated them as modules when he multiplied and combined them. However, the individual execution in Zheng Xie's compositions sets his motifs apart from modules in manufactured goods. For instance, each of the nodes on the thicker bamboo stalk at the left of Figure 8.22 result from three strokes: a large horizontal one topping off the lower segment, and two little, dark curves that connect to the segment above. The same three strokes appear in the dark, thin stalk at the right, where they are smaller correspondingly, but each node has them. The painter repeated them again and again, as if writing a character with three strokes. His hand moved always in the same way. That is why Chinese literati painters like to say that they "write" (*xie*) a painting. But now consider the most amazing fact: all nodes are clearly different. Although the painter wielded his brush in the same way a thousand times, he still managed to do it differently each time. The same holds true for his clusters of bamboo leaves, of which two absolutely identical ones cannot be found in the entirety of Zheng Xie's oeuvre.

Considering that the artist's hand moved almost automatically, this achievement is all the more astonishing. Yet individual execution is the very quality by which literati painters set their work apart from that of artisans: the application of boundless inventive energy in the ever-changing execution of details. It is to this creativity that Zheng Xie referred when saying that he painted like heaven gives life. He saw no contradiction between his claim to spontaneity and the fact that he rendered bamboo stalks using the same stroke types over and over again.

Painters like Zheng Xie strive to emulate nature in two respects. They produce large, almost limitless quantities of works and are enabled to do so by module systems of compositions, motifs, and brushstrokes. But, they also imbue every single work with its own unique and inimitable shape, as nature does in its prodigious invention of forms. A lifetime devoted to training his aesthetic sensibilities enables the artist to approximate the power of nature. For the Chinese literati painter, modular systems and individuality are but two sides of the same coin. Its name is *creativity.*