1876-2001

中国蒸汽机车

世纪影集

A Picture Album of Steam Locomotives in China

中国铁道出版社
CHINA RAILWAY PUBLISHING HOUSE

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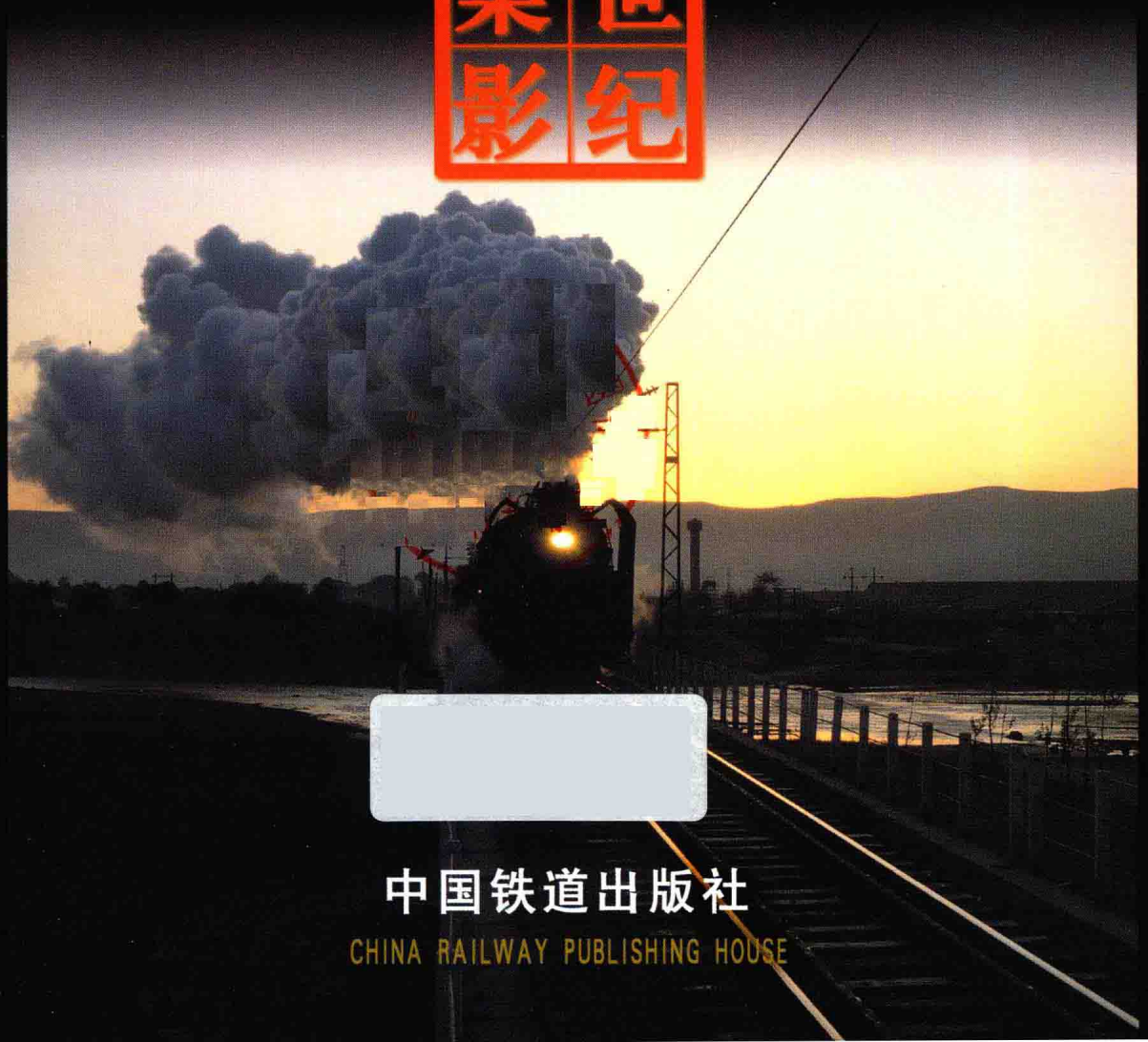
PICTURE ALBUM OF STEAM LOCOMOTIVES IN CHINA

世纪影集



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内 容 简 介

全书集纳400余幅图片，展示了中国大地自1876年出现第一条铁路起至2001年的125年间，在中国铁路运行过的外国（11国）和中国制造的177种型号的蒸汽机车，作了简要介绍，同时辑录了有关介绍中国蒸汽机车型名变更沿革、中外主要蒸汽机车技术概要、轮轴分类和名称对照等多方面的资料，极具知识性、观赏性和收藏价值。

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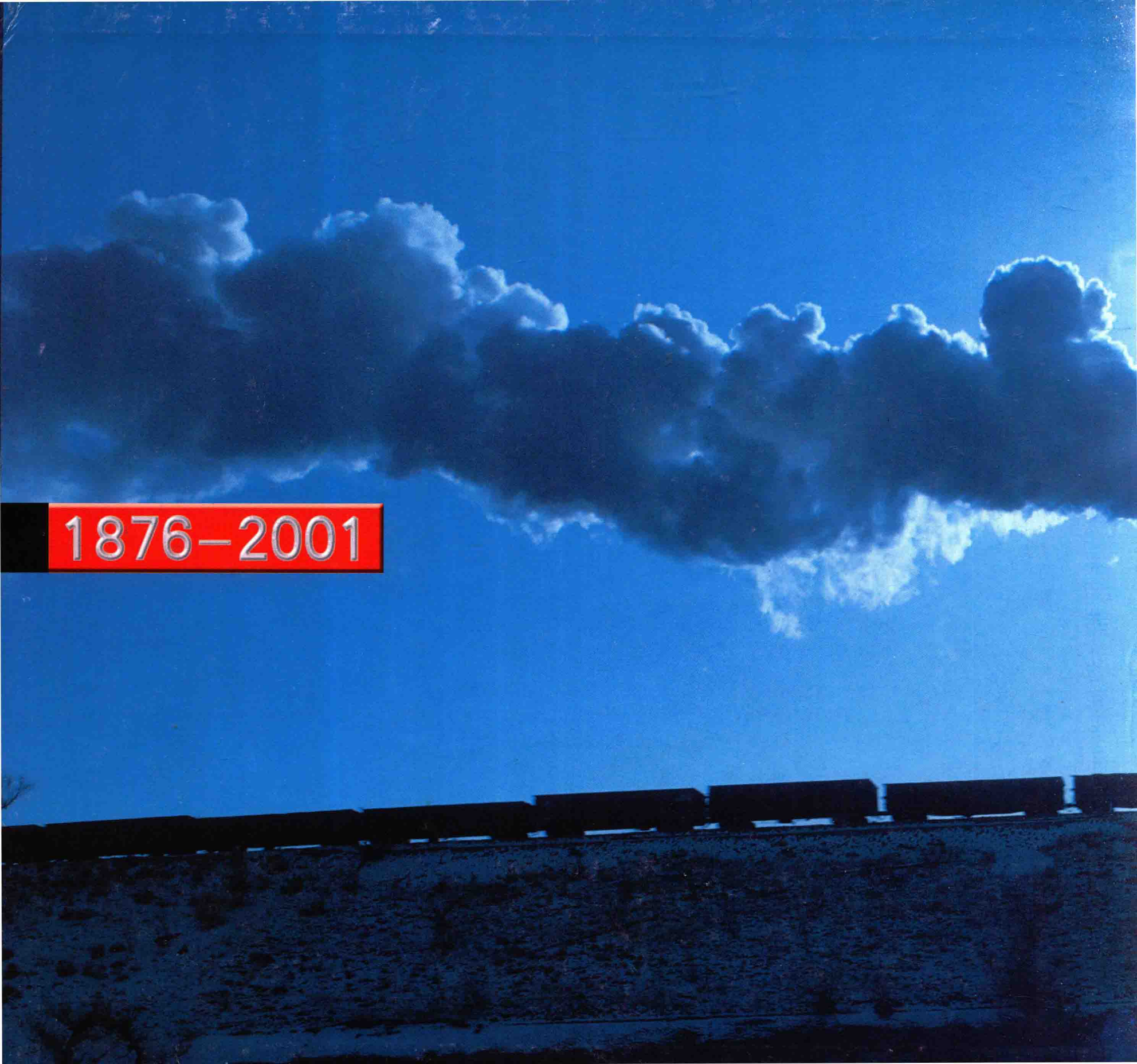
兰州铁路局职工把蒸汽机车尊为“历史功臣”，在包兰铁路电化后，隆重欢送最后一台蒸汽机车光荣退役。我社编辑出版此书的目的之一，也是要表达对“历史功臣”的敬意和怀念。

The steam locomotives were compared to "the historical heroes who rendered outstanding service" by the staff members of the Lanzhou Railway Administration. After the Baotou-Lanzhou Railway was electrified, they held a grand ceremony to bid farewell to the last steam locomotive once running on the line. As a result, one of the purposes of our press to publish this picture album is to commemorate and express our respect to these "historical heroes".


1876–2001

目 录

CONTENTS

目 录

CONTENTS

目 录

CONTENTS

目 录

CONTENTS

序 言

蒸汽机车已经开始远离我们。也许再过些年，它将作为历史文物而进入陈列馆。但是，它在中国大地上留下的姿态万千的身影，却会永久地焕发出特有的魅力，引发人们去回顾、去寻找那一段段逝去的岁月。

蒸汽机车是十九世纪工业革命的象征。它在英国出生，在美、法、德、日、俄等国成长，曾牵动了世界铁路历史性的大发展热潮。蒸汽机车引入中国虽然较晚，却在中国达到了它发展史上的鼎盛。世界上，没有哪一个国家曾云集过那么多类型的异国蒸汽机车，也没有哪一个国家对蒸汽机车的运用、制造、设计倾注过那么多的人力物力，并把它的效用发挥到了极致。

蒸汽机车在中国的发展演变，不仅是一个产品的更新换代过程。它是一百多年来我们国家和民族由衰败走向兴旺的历史缩影，是中国几代铁路人拼搏奋斗的见证。今天，蒸汽机车走下历史舞台，代之以更先进的牵引动力，这是科技进步与社会经济发展的必然。在我们奔向新的世纪，重新认识并发掘铁路产业优势的时候，再度回顾历史，把在中国大地上行驶过的各种类型的蒸汽机车图片汇集起来，精印出版，是一件很有意义的事情。不仅为蒸汽机车在中国的发展留下永存的丰碑，也为研究世界蒸汽机车的发展提供了珍贵的资料。

作为老一代铁路工作者，我对蒸汽机车有着特殊的感情。能在有生之年看到这本画册的问世，也是我多年盼望的大好事。

感谢为编辑本书付出辛勤劳动的同志们。

吕正操

2000.6.20

PREFACE

By LÜ Zhengcao

(June 20, 2000)

Steam locomotives have become more and more rarely used nowadays, and probably with the lapse of several years, they will be preserved in museums as historical relics. However, the superb sight they left on the land of China will forever be fresh with special charms, bringing people back to retrace those elapsing glorious years.

Steam locomotives, born in the United Kingdom and growing up in the United States, France, Germany, Japan and Russia and other countries, are the symbol of the Industrial Revolution in the 19th century. They were once greatly concerned with the historical development of world railway industry. It was in China that steam locomotives were developed into its most splendid period, although they were introduced to China only a short period of time ago. No single country in the world like China collected so many different types of foreign steam locomotives, spent so much manpower and material resources on applying, manufacturing and designing steam locomotives, and gave full play of the functions of all of them.

The evolution of steam locomotives in China is not only the supersession of old products by new ones, but also an epitome of the development of the Chinese nation from declining to prosperity and a witness to the great efforts made by generations of railway workers. At present, steam locomotives are going to recede from the railway stage and be replaced by the more advanced traction engine locomotives. This is an inexorable law of scientific progress and social and economic development. On the threshold of a new century, it is of great significance for us to collect all the pictures of steam locomotives once running on the land of China and have the fine album published when we are reconsidering and exploring the advantages of the railway industry. Publishing of the album will not only preserve the glories of the old steam locomotives on China's land, but also provide valuable materials for the research on the development of world steam locomotives.

I cherish special feelings towards the steam locomotives as a railway worker of the old generation. It is also my yearlong wish to see this fine album published in my lifetime.

I avail this opportunity to extend my heartfelt thanks to those who have devoted to the publishing of this album.

前　言

蒸汽机车，它那高大雄伟、威风凛凛的英姿，排山倒海、雷霆万钧的力量，喷着遮天浓烟呼啸疾进的气势，铿锵悦耳、让人感到激越而温馨的排气的声响……对很多人来说真是魅力无穷！然而，这种曾为中国的社会经济发展作出过巨大贡献的交通工具，已然被更先进的内燃、电力机车所替代，正因如此，它现今更受到越来越多的人们的关注和青睐。做学问的人在寻找资料研究它，从未见过它的年轻人想一睹其丰采，熟识它的人们生发了怀旧之情。起源于欧美日澳的“蒸汽机车热”在中国引起了共鸣并日益升温。《中国蒸汽机车世纪集影》正是在这样的情势下编撰出版的。

《中国蒸汽机车世纪集影》，集纳的不只是中国自己制造的蒸汽机车，也包括曾在中国铁路上运行过的外国蒸汽机车，共177种型号，400多幅图片。外国蒸汽机车又有两部分，一是自1876年“落户”于中国的第一台蒸汽机车“先导号”起，清朝、北洋政府和民国3个时期内，英、美、德、法、日、比、捷、沙俄和瑞士等国以各种方式进入中国、我们又找到了图片的蒸汽机车，计154个型号；二是1958至1961年间从前苏联和波兰进口的蒸汽机车，计2种。国产蒸汽机车直到人民共和国成立之后才有，计21种。以收集中国蒸汽机车各种型号的图片为内容的画册，澳大利亚、英国、德国在20世纪八十年代先后出版过，收集的机车型号分别为57种、27种、58种；国内也有单位编撰过类似的画册，但没有从全国范围收集机车型号。与之相比，《中国蒸汽机车世纪集影》是迄今国内外编撰出版的同类书籍中收集蒸汽机车型号最多的出版物，较为系统地反映了蒸汽机车在中国从无到有、从简陋到完善、从鼎盛到退出铁路运输舞台的历史进程，可以说是中国蒸汽机车家族的一本较为详尽的“族谱”；书中图片所记录的画面，最远的发生于清朝光绪二年（1876），最近的拍摄于公元2001年2月，绵延125年，纵跨3个世纪，是名副其实的“世纪集影”。

但是，《中国蒸汽机车世纪集影》远不是中国蒸汽机车的“全家福”。对于人民共和国成立前进入中国的外国蒸汽机车，现在查不清到底有多少种型号。从1876年英国人在上海擅筑吴淞铁路算起，到1949年国民政府撤离大陆，73年间，中国铁路使用的全部是外国蒸汽机车，连1933年中国专家自己设计的性能极好的KF_1型蒸汽机车，也因国内没有制造能力而拿到英国去生产的。铁道部于1949年对旧中国留下的蒸汽机车进行全面清理，得到的统计数字是，当时全路共有4069台蒸汽机车，分别由8个国家的30多家工厂生产，机车型号多达198种（准轨187种，窄轨11种；台湾存有34种窄轨机车型号未计在内）。然而，此前半个多世纪内已经淘汰了多少种机车，没有资料可查。但有一点是清楚的：旧中国铁路上运行过的外国蒸汽机车肯定超过1949年的统计数。就蒸汽机车型号的庞杂众多而言，中国绝对可位居“世界之最”。旧中国铁路曾被讥称为“万国蒸汽机车博览会”，外国人对收集中国蒸汽机车图片感兴趣甚至出书，原因恐怕正在于此。这当然不是我们的光荣，但这原本就是充满屈辱的中国近代史的一部分，是我们必须有勇气面对的史实。

中国第一台真正意义上的国产蒸汽机车，是1952年底由四方机车工厂按日本“天皇型”仿制的ㄇㄋ1型2121号机车。本书也编入了“出生”于旧中国机车工厂的蒸汽机车的十多幅图片，它们用的是外国的机车型名，但它们的“出生地”毕竟是在国内，因而列入了“中国不同时期生产的蒸汽机车”之中。然而，这些工厂不过是用外来的零部件为外国厂家组装机车，算不上“制造”，更不是真正的“国产”。上述标题中用“生产”而不是“制造”，就是试图以“生产”来概括蒸汽机车在中国从“组装”、“仿制”、“改进”到“自行设计制造”的各个发展阶段。

然而，这中国的“第一台”比世界上能实用的第一台蒸汽机车——1814年英国人乔治·斯蒂芬森设计制造的“半统靴号”晚了138年。而就在我们的“第一台”呱呱坠地的1952年，日本宣布停止蒸汽机车的生产，美国、前苏联也分别从1953年、1957年起不再生产蒸汽机车。先进工业国的铁路已经或接近完成牵引动力改革，用内燃和电力机车牵引了。此时中国的蒸汽机车制造业却刚刚起步。中国人在这场起跑线前后悬殊的竞赛中没有气馁，自力更生，艰苦奋斗，先仿制，再改进，直到自己设计制造出了性能超过当年发达国家的产品，诚如铁道部老部长吕正操为本书写的《序言》中所说，蒸汽机车“在中国达到了它发展史上的鼎盛”，其效用“发挥到了极致”。本书以许多珍贵的图片再现了中国蒸汽机车发展史上这段难忘的奋斗历程。国产蒸汽机车绝大部分由铁道部所属各工厂制造，“大跃进”年代路外也有一些工厂生产过各种小型蒸汽机车。前者生产的各种型号机车的图片，本书可说齐全，由于条件所限，对后者的收集恐有遗漏。

尽管很多人对蒸汽机车有一种难以割舍的感情，但“优胜劣汰”的规律不可抗拒，蒸汽机车是无可挽回地在走向“灭绝”。中国已于1988年底停止了大功率干线蒸汽机车的生产。但从工厂“停产”到铁路线上“停用”有一个更替过程，美国、日本、前苏联的更替分别用了7年、23年和20年时间。我国铁路的更替还没有最后完成，至2000年底，仍有602台蒸汽机车在国家铁路上行驶（蒸汽机车在我国铁路上使用最多是1979年、达7899台），另有少量蒸汽机车还在地方铁路和厂矿企业服役。从《中国蒸汽机车世纪集影》中，读者将会欣赏到这部分仍活跃在铁路线上的蒸汽机车喷云吐雾的身影。

《中国蒸汽机车世纪集影》的编辑出版，得到了全路上下很多人的热情鼓励，95岁高龄的吕老欣然为它写了序言，铁路系统十多位老前辈，有的参与了编撰，有的出任顾问，他们都是蒸汽机车运行、制造和科研部门的老领导、高级管理者、知名老专家，不仅为本书的顺利编成起到了无可替代的作用，还大大提高了它的权威性。在此谨向他们表示诚挚的谢意。

严介生
2001年2月20日

Foreword

By Yan Jiesheng
(February 20, 2001)

As for many people, steam locomotives are full of charms and attractions because of their imposing vision, overwhelming strength, thick smoke, swift speed and sonorous, exciting and warm screaming. However, more advanced diesel and electric locomotives have replaced them, although they once made great contribution to China's social and economic development. Scholars are looking for materials to research them, young people who have never seen them are looking forward to seeing their elegant demeanor, and old people who are familiar with steam locomotives recollect them with nostalgia. The "Steam Locomotive Heat", originated in Europe, America, Japan and Australia, is becoming increasingly high in China. To cater for this trend, *A Picture Album of Steam Locomotives in China* is going to be published.

This album of steam locomotives covers not only those made by China but also the foreign steams once running on the land of China, totaling 177 types with over 400 pictures. The foreign steam locomotives fall into two sections. The first section, including 154 types, contains the first steam locomotive by the name of "Pioneer" coming to China in 1876 and other steams, which we have preserved pictures of and were introduced to China through various channels from Britain, United States, Germany, France, Japan, Belgium, Czechoslovakia, Tsar Russia and Switzerland and so on during the reigns of the Qing Dynasty (1644-1911), the Beiyang Warlord Administration and the Republic of China respectively. The second part includes 2 types of steams imported form former USSR and Poland between 1958 and 1961 and 21 types of steam of Chinese make built until after the founding of the People's Republic of China in 1949. Several picture albums with the collection of steams in China were published by Australia, Great Britain and Germany in the 1980s, but they have never concluded the steams employed all over China. Compared with these published albums, *A Picture Album of Steam Locomotives in China* collects the most steam types in China from the time when China was unable to built steams to the period when new steams grew out of the under-developed ones and from the glorious roles they have played to the moment they recede from the railway stage. This book can be regarded as an elaborated "album of the whole steam locomotive family ".

The scenes recorded in this album can be traced back to as early as 1876 and as late as February 2001. It covers 125 years and is indeed an album crossing three centuries.

However, this album is far from a complete "family album" of steam locomotives in China. How many types of foreign steams were introduced to China before the founding of the People's Republic of China is still unknown so far. During the 73 years from 1876 when Great Britain built the Shanghai-Wusong Railway without authorization of the Qing government till 1949 when the Kuomingtang Administration retreated from China's mainland, China had been employing foreign steam locomotives in its railway sector. Moreover, even Class KF1 designed by China's own experts, had to be built in Britain because China was incapable of making it then. In 1949, the Ministry of Railways conducted a survey on the steams left over by Old China. Altogether, there were 4,069 steam locomotives, built by over 30 works of 8 countries, in China's railway industry. There were as many as 198 types, including 187 types of steams with standard gauge and 11 with narrow gauge (excluding 34 types of narrow gauges in Taiwan).

However, over the 50 years before 1949, how many steams were superseded is unknown because materials concerned are unavailable. One thing is clear, however, that the numbers of steams running on the land of Old China are definitely much more than those collected in 1949. China indeed ranks first in the world as the diversity of steam types concerned. Old China was once teased as "Universal Fair on Steam Locomotives". That is maybe where the foreigners' interest in collecting and publishing steams in China consists. We are certainly not proud of this at all, and actually this is part of the period of humiliation in China's modern history; however, we are courageous enough to face the historical facts.

The first steam locomotive built by China in a true sense is Class 1 No 2121 produced by Sifang Locomotive Works at the end of 1952 on the basis of imitating a Japanese steam by the name of Mikado. This album covers a dozen of pictures of the steams "born" in Old China's locomotive works. The classes and numbers of these steams were classified in foreign ways, but they were actually born in China. Therefore, they were included in the part of "Steams Born in China at Different Periods". As a matter of fact, these factories merely assembled several steam locomotives for other countries by using the imported parts and components. So these steams cannot be regarded as "manufactured" by China or "made in China". That we use "born" instead of "manufactured" in the above-mentioned title intends to divide in details stages of steam development in China into the periods of assembling, imitating, improving and manufacturing by China herself.

However, the first steam locomotive built by China is exactly 138 years later than the birth of the first practical steam Blucher in the world designed and manufactured by a British by the name of George Stephenson. Just in 1952 when China's "first" steam locomotive was born, Japan decided to stop manufacturing steam locomotives. And in 1953 and 1957, the United States and former USSR also cancelled the production of steam locomotives. While China's steam locomotive manufacturing began, some industrialized countries in the world were carrying out the reforms on traction efforts and some had finished the reform by employing diesel and electrical locomotives. The Chinese people, however, not frustrated at the great gap but dependent on themselves, pulled themselves together and finally designed and built the steams with the functions exceeding the levels of the developed countries then by means of mimicking and modifying. As Mr. Lü said in the *Preface* that "it was in China that steam locomotives reached their most splendid period and gave full play of their functions". The precious pictures collected in this album represent this memorable period of struggle and hard working in the history of China's steam locomotives. The works affiliated to the Ministry of Railways produced most of the domestic steams, but other works built some small steams during the period of Great Leap around the 1960s. This album includes all types of steams built by the former, but as for those by the latter, some of them are maybe missing.

Many people still cherish special feelings toward steam locomotives, but the law of "the fittest survive" cannot be violated. In other words, steam locomotives will inevitably become "distinct". China stopped the production of steams with great power used on trunk lines at the end of 1988. However, it takes time from cancellation of steam production till steams are out of service in railway industry. The United States, Japan and former Soviet Union underwent 7, 23 or 20 years of transferring from steam age to advanced locomotive age. In China, this process has not been finished and by the end of 2000, there had been 602 steams running on the national railways of China (1979 was the year when China's railway employed the greatest numbers of steams, totaling 7,899). In addition, a small number of steam locomotives have been in service for some local railways and some factories. From *A Picture Album of Steam Locomotives in China*, readers are able to appreciate the superb views of the steams still moving on the railways.

We have received courage and support from the people in the railway circle in editing and preparing the publishing of this album. It should be particularly mentioned that Mr. Lü Zhengcao, at the senior age of 95, was very excited and wrote the preface for this album. A dozen of doyens in the railway industry took part in compiling the album or acted as advisors. They are former leaders, senior managers or renowned experts in railway locomotive operation, manufacturing or research departments. They played an indispensable role for successful publishing of this album, and at the same time, their participation also adds much authority to the book. I now avail myself of this opportunity to extend my heartfelt thanks to all of them.