

第六届东亚科技与社会(STS)国际会议论文集

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文化与创新

Culture and Innovation

主编 陈 凡 陈红兵

Chief Editor Chen Fan Chen Hongbing



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主编 陈 凡 陈红兵

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序

在现代社会,科学技术已经成为推动世界的决定性力量。它不仅决定着人类经济、社会发展的速度,而且深刻地影响着人类社会发展的方向。科学与技术已同人类社会的经济、政治、文化等各个方面结合成一体,彼此交融,相互促进,共同创造着人类的现代文明。正是在科学技术的高度发展及其广泛深入应用所导致的科学技术的社会化及社会的科学技术化的大背景下,“STS”应运而生了。

STS是科学、技术与社会(Science, Technology and Society)的英文缩写词,于20世纪60年代开始在欧美发展起来的,是一门研究科学、技术与社会相互关系的规律及其应用,并涉及多学科、多领域的综合性新兴学科。STS以人为本,视科学技术为一把“双刃剑”,其研究宗旨是发挥科技的积极作用,克服科技的负面影响,使科技真正造福于人类。它代表了一种科技与社会、科技与人文、人与自然协调发展的新的价值观和思维模式,适应了当代世界克服传统工业文明的深层次矛盾、实现全球科技经济快速健康发展、开创人类新文明的需要,因而STS受到各国学术界和社会的强烈关注,在美国、英国、加拿大、日本、德国、韩国、印度等国家得到了蓬勃发展。改革开放以来,我国自然辩证法界也开始着手探究STS方面的问题,并把STS作为一个与国际接轨的独立的学科开展研究。

STS运用跨学科方法,开展科学、技术与社会研究,使人文社会科学与当代科技革命相结合,强调科技与社会、科技与人文、人与自然、物质与精神的和谐发展,并积极研究和提供这种和谐发展的内在机制及方法。STS还从自己独特的新视角出发,通过科技政策,科技管理,科技与生态环境、资源、能源、人口等全球问题关系方面的具体成果,并通过STS教育培养跨学科复合型人才,促进全面协调可持续发展。因此,在建设和谐社会中存在着研究、发展和运用STS的肥沃土壤。

为了贯彻落实中央“繁荣发展哲学社会科学”的意见,促进国内外的学术交流与合作,适应经济全球化和科学技术与社会一体化的趋势,加强科技创新,振兴东北老工业基地,建设和谐社会,由教育部“985工程”科技与社会(STS)哲学社会科学创新基地(东北大学科学技术哲学研究中心)和中国自然辩证法研究会及技术哲学专业委员会主办,辽宁省自然辩证法研究会、沈阳市自然辩证法研究会、沈阳师范大学、沈阳大学等单位共同协办的“第六届东亚科技与社会(STS)国际学术会议”于2005年9月2日至6日于沈阳的东北大学举行。

本次会议汇集了东亚地区STS领域的专家、学者以及其他有兴趣于STS问题的人,并以“文化与创新”为主题。这一主题反映了在科技与社会一体化、知识经济带来的全球化以及文化多元化的时代,如何使民族传统文化与现代科学技术相结合,如何把文化遗产与科技创新结合起来,更好地依靠科学技术进步促进人类的文明等问题探讨所具有的重大的理论和现实意义。

围绕主题，与会代表各抒己见，展开了全面深入的讨论。在此基础上，我们将与会代表提交的论文按照如下五方面议题予以编辑整理：（1）STS与东亚国家的工业化、城市化、现代化和国际化；（2）STS与中国东北老工业基地改造和振兴的战略与对策；（3）科学技术与文化；（4）文化背景中的创新：科技创新、制度创新、管理创新和体制创新等问题；（5）其他STS研究的基本理论与现实问题。代表们的论文不仅展现了东亚地区在STS领域的最新进展，对于STS的学科建设具有重要的学术价值，同时对我国在新世纪如何以科学发展观为指导，全面建设小康社会，构建和谐社会具有重要的现实意义。

科学、技术与社会的互动关系本身是一个复杂的系统工程，同时STS又是一个较新的领域，对于STS的基本问题学者们并没有形成共识。甚至有学者认为，目前STS研究领域边界较宽、研究视角多样，使得这个学术群体缺乏一种总体上的学术认同感。对于这一状况，学者认为这并不是中国特殊国情造成的，而首先是世界性的问题，是由于科技本身的飞速发展带来了许多前所未有但又是紧迫的社会问题、文化问题、哲学问题，因此也催生了许多边缘学科、交叉学科。正是由于这一现状的存在，导致本文集的文章归类上有很多不尽如人意的地方。当然，学科本身的问题并不能掩盖编者认识与水平上的局限所带来的问题。文集的不妥之处敬请作者与读者原谅！

编 者

2007年7月

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STS 与东亚国家的工业化、 城市化和国际化

Science City Project and Structural Change of Japanese Economy

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1 Introduction

The Kansai Science City is now in the end of its Second Stage and is entering into the Third Stage. At every stage, reflecting the changing structure of Japanese economy, this science city faced at new missions. However, creation of new industries has been an unchanged mission because it concerns with new leading sector of knowledge economy in the 21st century.

Kansai Science City was proposed by an academic group, Kansai Science City Study Group in 1978, and supported by business community and Local and National Government. It was authorized by *the Promotion Act* to become a national project in 1987. With this national law, a twin institution was established are to promote and maintain this science city based on the coalition of Government, Business, and Academia in Kansai.

Since then, the Kansai Science City get a big success. Now, developed and confirmed research area has about 3,000 hectares and seventy thousand population. About four thousands research people were working in about eighty institutes. There are several universities and colleges and 25,000 students are learning. But, now it is facing at new challenges.

The Kansai Science City has very short history, less than thirty years. But it is a critical period for Japan and the world. This is a turning point of socioeconomic structure toward the knowledge-intensive society. In this transient phase, we should overcome many kind of difficulties. Our science city should be a preferable model of the future.

2 Brief Overview of the Kansai Science City

2.1 The Zero-th Stage (1978—1987)

This project was initiated by an academic group, Kansai Science City Study Group, "the Okuda Committee", with several proposals in 1978. The scholars recognized critical agenda of

that time, in the early 1970s:

Environmental crisis, which was revealed by several harsh pollution problems,
Resource-energy crisis after the first oil crisis in 1973,
Progress of information and communication technology, and
Student riot and need for university reform.

There was a model of science city: Novosiberisk in Russia, Tata in India, Tsukuba in Japan, and Taedok in Korea. The aims were the rapid growth of science and technology in each nation, supported by the big Government investment. In each case, accumulated research institutes became a big town, specified to the science and technology research. Also in the United States, the same trend was found at several places where the big national institutes for defense are located. Most of them might be a product of the national policy for military R&D in the age of World War II and the Cold War.

But we were rather critical to that model, because our civilization was already changing as mentioned above. There was another model of science city, or science park: Stanford Science Park, which had become famous as the core of Silicon Valley, new concept of academia-industry complex. In 1970s, "the Cambridge Phenomenon" had prevailed in the United Kingdom, inspired by the success of the Cambridge Science Park. In the United States, the Research Triangle of North Carolina began to promote technology transfer of their research results to industrial community in surrounding area. The typical case was the Austin model, which helped to change Texas to a high-tech state.

The background of this movement was a new linking of science, technology and industry which was suitable to so-called high technology industry: computer and communications, advanced manufacturing, new materials development and bio-industry. Thus established concentration of new industrial firms had become a new foundation of the regional economy.

In planning the Kansai Science City, the study group must acknowledge the delay of reform in Japanese higher education. They should concern with the revitalization of Kansai in economic activity. Difficult problems in existing urban community must be resolved. Thus, basic missions were defined as:

- (1) Promotion of research activity,
- (2) Development of regional economy,
- (3) Creation of new industries, and
- (4) Establishment of new urban community.

Further, "culture" was an important keyword in the whole plan, because Kansai is the most important cultural heartland of Japan.

2.2 The First Stage Development (1988—1994)

The Kansai Cultural and Academic Research City Promoting Act was decided by the House. Thus started first stage was very practical and so many people were involved into the planning and construction. At the starting point, the Prime Minister must authorize the plan of this