Comprehensive Exploration into Mind and Research on Five Levels of Human Cognition:Summary of the 8th Chinese National Conference of Cognitive Science / the 2nd International Conference of Cognitive Science in China and World

XIA Yan, Reporter of Scientific Chinese
Translated by WU Cuilin

Famous masters gathered in Chengdu,
Meeting friends in this golden fall again.
People work together in one mind,
Exploring the mystery of human cognition.

From October 22nd to 23rd , he 8th Chinese National Conference of Cognitive Science / the 2nd International Conference of Cognitive Science in China and World was held in Chengdu University. It was jointly organized by the Department of Psychology, Tsinghua University, Tsinghua University Psychology and Cognitive Science Research Center, School of National Culture and Cognitive Science of Guizhou Minzu University, the magazine of Scientific Chinese and the magazine of Academics, and Chengdu University, and undertaken by Chengdu University.

On the morning of October 22nd, he 8th Chinese National Conference of Cognitive Science / the 2nd International Conference of Cognitive Science in China and World was held in Chengdu University. Professor Cai Shushan, president of the organizing committee, dean of School of National Culture and Cognitive Science of Guizhou Minzu University, director of Psychology and Cognitive Science Center of Tsinghua University, presided over the opening ceremony. The leaders of organizers and representatives of invited guests, including Professor Wang Yuanqing, president of Chengdu University, Professor Zhang Xueli, Secretary of the Party Committee of Guizhou Minzu University, Professor Zhang Gang, chief editor and proprietor of Scientific Chinese, Yao Shun, editor of Academics,

Professor Zhou Jianshe, vice president of Capital Normal University, Professor Fu Xiaolan, director of Institute of Psychology of the Chinese Academy of Sciences, Professor Fang Fang, dean of School of Psychology and Cognitive Science in Peking University, made speeches in turn and congratulated on the successful convening of the conference.

The theme of the conference is "Artificial Intelligence and Human Mind", and it has five parts, including Psychology and Cognition; Human Language, Thinking and Cognition; Language, Calculation and Cognition; Artificial Intelligence and Human Mind; Chinese National Culture and Cognition. More than 100 professors, Chinese Academy of Sciences, Institute of Philosophy of Chinese Academy of Social Sciences, Institute of Scientific and Technical Information of China, Capital Normal University, Tianjin University, the Chinese University of Hong Kong, Guizhou Minzu University, Chengdu University, Hunan Academy of Social Sciences, Haojiu Zhilian Information Technology Co., Ltd. The academic reports of the conference cover all branches of cognitive science, and all levels of cognitive science research from the scientific route it covers. After 20 reports and discussions in 2 days, the conference saw the closing ceremony on the noon of October 23rd, and Professor Cai Shushan, president of the organizing committee, commented that this conference had achieved the following results in his conclusion remark.

1.Adhering to Whole Subject Coverage and Intersection of Multidisciplinary Subjects in Research on Cognitive Science

At the beginning of the conference, the purpose of the study on cognitive science research, which covers full subjects and multiple disciplines, has been established. This conference will continue to promote the research of cognitive science in this purpose. First of all, experts at the meeting are involved in the field of neuroscience, psychology, linguistics, philosophy and logic, computer science, culture and anthropology, covering 6 branches of cognitive science. In the framework of the 6+1 discipline proposed by Wikipedia, this conference also increased the subject and academic report of pedagogy. For example, Han Li, a young teacher of the School of National Culture and Cognition Science of Guizhou Minzu University, reported on "Influences of Kindergarten Environment on Children's Cognitive Development"; Gou Wei, the CEO of Haojiu Zhilian Information Technology Co., Ltd, reported "Application of Augmented Reality Technology to Cognitive Science Education." Secondly, most of the research work

using cross-disciplinary and interdisciplinary research methods, and get new results that can't get from single subject researches. Cognitive science itself is a multi-disciplinary interdisciplinary framework, from the beginning of the study, cognitive science research shows its comprehensive interdisciplinary characteristics and vitality.

For example, Fu Xiaolan, a professor of the Institute of Psychology of the Chinese Academy of Sciences, made a report "Simon's Thought on Cognitive Science", showing that cognitive science itself is a multi-disciplinary interdisciplinary framework, which has shown since the beginning of the study its comprehensive interdisciplinary characteristics and vitality.

Professor Zhang Xueli, Secretary of the Party Committee of Guizhou Minzu University, made a report "Discipline Construction of National Culture and Cognitive Science", showing the experience of the establishment of School of National Culture and Cognitive Science and the construction of key disciplines of national culture and cognitive science. Thirdly, some research team organized a cross-system, cross-unit collaborative research team to make collaborative research on some major projects. For example, Professor Zhou Jianshe, vice president of Capital Normal University, reported the important work and achievements of Beijing Language Intelligence Research, for the study of interdisciplinary research field in cognitive science. "Full range coverage and interdisciplinary intersection", this purpose of cognitive science research and discipline construction has won identification of more and more scholars and experts.

2. Highlighting Research on Five Levels of Cognitive Science

The theory of five levels of cognitive science is an important feature of this conference. Professor Cai Shushan's report, "Theory of Five Levels of Human Cognition and Its Application", puts forward the theory of dividing human cognition into five levels based on the evolution of human mind in the five stages, and he reported the latest research results of what he and his team had achieved in this regard, such as "Human Mind and Cognition", the latest work of the cognitive science team at Tsinghua University , and some relevant papers he had published recently.

The academic report of this conference covers all five levels of cognitive science, i.e., neural cognition, psychological cognition, linguistic cognition, thinking cognition and cultural cognition. On the neurocognitive level, Professor

Fang Fang, dean of School of Psychology and Cognitive Science of Peking University, made a report "What can visual illusions tell us about visual information processing in the brain", revealing the mystery of visual information processing in the brain from the visual illusion. Professor Zhou Xiaolin, director of the School of Brain and Cognitive Science of Peking University, reported "Gene and Decision Framework Effect", which studied the framework effect of decision making at the level of gene and physiological cognition.

On the level of cognitive psychology, Professor Fu Xiaolan's report, "Simon's Cognitive Science", shows the development of cognitive science and cognitive psychology, the changes of theory and the innovation of research methods.

On the level of language cognition, Chen Baoya, professor of the Chinese Department of Peking University, uses the theory and method of semiotics to analyze the position and function of language in human cognition in his paper "Arbitrary Symbols Coding Behavior: the Cornerstone of Cognitive Relativity". Feng Shengli, professor at the Department of Chinese, the Chinese University of Hong Kong, examines the logical method and cognitive significance of analogy used in the study of linguistics in the Qian-Jia era, and shows his findings in his report "On the Necessity of Wang Niansun's Analogy Logic and its Significance in Contemporary Academic Research." Zou Chongli, a researcher at the Institute of Philosophy of Chinese Academy of Social Sciences, studies the relationship between syntactic and semantic processing with method of language logic, and shows his achievements in his report "Logical Semantics of Language Construction". Su Pei, Doctoral student in computational linguistics of Tsinghua University, Jiang Minghu, Professor of the Department of Chinese of Tsinghua University, and Bai Chen, associate professor of School of Foreign Languages and Literature of Tianjin University made a cooperative report "The N400 Effect of Metaphors in Chinese Two-Character Expression, and Hemisphere Preference in Metaphors in Chinese DE Phrases by ERP Studies", in which the N400 effect of metaphor in double byte Chinese words and the lateralization of brain in the Chinese word structure were studied by means of ERP; Associate Professor Bai Chen's Report "Chinese Rhyme and Idiom Cognition" Uses ERP to Study the influence of Chinese rhyme on idiom processing. Professor Zhou Jianshe's report "On the domain of the main language semantic network construction" describes the practices of using domain semantic to build a language network and his team's achievements.

According to the theory of five levels of human cognition, cognition on the thinking level is mapped into the fields of philosophy, logic, computer science and

technology. At this conference, a number of scholars have reported the results of cognitive research on the thinking level. Wang Huilin, researcher at Institute of Scientific and Technical Information of China, explored the development of mind & body since Descartes and the development of this important theory in contemporary cognitive science background in the report "Mind & Body Problem and the Development of Artificial Intelligence". Zhang Yinsheng, researcher at Institute of Scientific and Technical Information of China discussed two basic theories of artificial intelligence in the reports "The Development of Intelligent Computability" and "Turing's incomputability studying history and progress". Gou Wei, the CEO of Haojiu Zhilian Company, introduced the company's technology to enhance practical technology and its application in children's education in the report "Enhancing the Practical Technology in Cognitive Science Education in the Application." Ren Xiaoming, a professor of philosophy at Nankai University, discussed the artificial life theory and its role in cognitive science from the perspective of philosophy of science in the report "The Role of Artificial Life Theory in the Transformation of Cognitive Science Paradigm". Song Chunyan, a researcher at Hunan Academy of Social Sciences, discussed the subjectivity of cognitive systems from the perspective of philosophy of mind in the report "The Subjectivity of Extended Cognitive System". On the level of cultural cognition, Zhang Xu, a young teacher of School of National Culture and Cognitive Science, Guizhou Minzu University, used historical facts and legends in the epic of the Miao and the other Nationalities to explore and study the ancient primitive thinking mode and its cognitive meaning in the report "The Study of The Ancient Primitive Thinking Mode in Guizhou Province Minority Epics".

3. Research Promoted Deeper with Joint Efforts of Masters, Young Talents Making Great Progress in Academic Studies

Famous masters gathered together on this Chinese National Conference of Cognitive Science and The International Conference of Cognitive Science in China and World. Front line experts on every level of cognitive science and related disciplines who are active in Chinese cognitive science research gathered here. In some disciplines, some well-known overseas scholars also attended the conference. The reports submitted at the meeting reflect the latest and most cutting-edge research results in the field of related disciplines, with academic standards improved significantly. At the closing ceremony, Professor Cai Shushan explained

that the conference had been named international conference since 2015 because international scholars had joined us; most of our scholars had international academic background; and we also welcomed more international scholars to join us. The international conference did not mean that it had to be hosted by foreigners or be based on foreigners, and today, the Chinese can also host a high-level international conference with Chinese people as the main body. The more national, the more international. We should have such academic confidence.

At this conference some young scholars cut a striking figure and they showed outstanding scientific achievements in national culture, children's education, language cognition and cognitive fields. Dozens of graduate students and undergraduate students of Chengdu University attended the conference. They actively asked questions and communicated with scholars and experts face to face. This shows that after years of continuous promotion of the conference, research on cognitive science in China is getting better and better, and the cause of China's cognitive science has qualified successors.