



Boao Forum for Asia Annual Conference 2017

Session Summary (No.40)

Boao Forum for Asia Institute

March 25th, 2017

Session 25

Artificial Intelligence: Dialogue with Scientists

Time: 14:15-15:30, March 25th, 2017

Venue: ICC, Level 1, Dong Yu Grand Ballroom C

Moderator: TIAN Wei, host, China Global Television Network (CGTN)

Panelists

Ben GOERTZEL, Chief Scientist, Hanson Robotics

LU Bai, Professor, Tsinghua University

WANG Xiaochuan, CEO, Sogou

Max YUAN, Chairman & CEO of Shanghai Xiaoi Robot Technology Co., Ltd (Xiaoi)

Shoucheng ZHANG, J.G. Jackson and C.J Wood Professor of Physics at Stanford

ZHANG Yaqing, President, Baidu



Key points:

- Artificial intelligence (AI) needs to integrate with other disciplines such as brain science for future development.
- Men being replaced by AI is something that only happens in science fiction movies; it is impossible in reality in today's world.
- Facing AI, all countries are just “children in front of the sea”. Every one is at the same starting line.
- Men can improve AI, and also take advantage of AI to make themselves smarter.
- AI is not synonymous with repetition and complexity; sometimes AI means simplicity and instantaneity.
- AI needs the cooperation between algorithms and data to move forward.

Synopsis:

Up till now, what men know the least about is still themselves, their brains in particular. If men do not understand their brains, there is no way for bionic AI and machine brains. In this dialogue, many scientists discuss the development of AI and the positive meaning of AI to today's society.

The future development of AI is the integration of multiple disciplines

Ben GOERTZEL said that the next stage of artificial intelligence will come from many disciplines such as physics, biology, bioscience and data. The better these disciplines are integrated with artificial intelligence, the more breakthroughs future artificial intelligence will score.

LU Bai pointed out that for artificial intelligence to move forward, brain science should be further explored to drive its development, not the other way around. Artificial intelligence has benefited from one theory in brain science; as a matter of fact, more theories in brain science can be applied to AI. The business



communities often have no chance to go to universities and have interactions with professors and students. Thus, exchange channels should be built between businesses and universities to promote the interaction and connectivity between brain science and AI, thus promoting their cooperation and the development of artificial intelligence.

ZHANG Yaqin believed that the future breakthroughs in artificial intelligence will surely come from the combination of digital intelligence and biological intelligence, both of which are indispensable.

Men are stupid, but machines are more stupid

LU Bai's answer to the question "is AI likely to replace people" is "absolutely not". The brain of human kind has five functions: senses, motion, memory, feelings and emotions and cognition. The latter two represent human beings' sociality, logical thinking and analysis ability and advanced cognition functions, which machines are not equipped with and are the key reasons why AI cannot replace mankind.

WANG Xiaochuan said that human kind being replaced by AI is absolutely impossible in today's society. People are stupid, but machines are more stupid. In the 1960s and 1980s, people provided rule guidance for two generations of AI, but failed. Though people gave answers to machines, they are incapable of cognition. In 2000, people began to make a third try, giving "routine" via big data to machines and letting machines learn over and over what people do repeatedly. Thus, in professional terms, today's AI is also called "machine learning".

Max YUAN pointed out that a huge amount of basic information is open to the public now since AI came into being 60 years ago. Recently AI stages a comeback. In terms of algorithms and technological foundation, we are still in the early phase of AI worldwide. Facing the blue sea of AI, all of us are just children and none can conquer it. All countries in the world are now on the same starting line and in the preliminary development stage of AI.



People can become smarter via AI

Shoucheng ZHANG said that machine learning over time will surely reach the level of human recognition. In the future, people will make machines smarter; in turn, machines might also make people smarter. The concept of AI can be introduced to education to enhance the overall knowledge of the next generation.

WANG Xiaochuan said that the Chinese market is very large. The original systems that are quite weak in China give new technologies more opportunities. The Internet technologies are rapidly adopted by domestic media and the e-commerce mode takes off in China and many other similar successful cases happen not only because the Chinese market is huge but because traditional players in some Chinese industries are quite weak. In addition, practices of following suit blindly will give rise to bubbles, but they can encourage AI start-ups to improve the overall salary and benefits in the industry. The big bubbles in the Chinese market can help attract more talents and thus help China create more value out of AI applications.

AI is not synonymous with repetition and complexity

ZHANG Yaqin argued that machine learning in the area of AI is moving towards two directions: one is becoming bigger and deeper, and the other is becoming simpler and free from the need to do repetitive learning with complex and enormous data. In many cases, AI can immediately make decisions without the need for large-scale operation models and the algorithms do not need to be that troublesome.

Shoucheng ZHANG said that during the course of AI development, algorithms and data are often disconnected. Algorithms are usually invented by universities while data is usually monopolized by big companies. As the information in the hands of companies often contains many business secrets, big companies are quite cautious and skeptical about information release. Thus, the mechanism of distrust should be addressed by technological means such as encryption so as to unite all circles. For human beings to march forward, what



is most needed is the dialogue and cooperation between the academic community and business community, which can also be referred to as the cooperation between algorithms and data.

Ben GOERTZEL says that the current stage of AI is about transitioning from AI in the narrow sense to universal AI. AI will do a wider range of and more diverse work. In corporate management, using professional AI might become the most efficient way of doing things. In the future, we will see more universal AI bring more economic benefits to the society instead of just doing simple, repetitive and low-level work.