Review of YAN FU AND KE XUE (SCIENCE), by SHEN Guowei. Nanjing: Phoenix Publishing House, 2017

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As a lexical historian and expert on lexical semantics, Professor SHEN Guowei traces the historical journey of how the English word SCIENCE became the Chinese term KE XUE (科学) based on solid textual analysis and an objective methodology. He also highlights for us the source of Yan Fu's consistent scientific thought: Francis Bacon. SHEN reinterprets Yan Fu and his works from this completely new perspective. The methodology displayed in the book is very insightful to Yan Fu studies as well as to the study of the modern history of concepts.

This book about Yan Fu and his adoption of different Chinese terms to convey the meaning of SCIENCE consists of 6 chapters, an introduction, a conclusion and 4 appendices. Each chapter deals with one of Yan Fu's translated works and the corresponding terms used by Yan Fu for the English word SCIENCE. The contents are as follows:

Introduction: Western Knowledge Went Eastward: When SCIENCE Became KAGAKU

Chapter 1: Evolution and Ethics and other Essays (1895–1898): SCIENCE and GE ZHI (格致)

Chapter 2: An Inquiry into the Nature and Causes of the Wealth of

Nations: SCIENCE and KE XUE (科学)

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Chapter 3: The Study of Sociology: SCIENCE and KE XUE

Chapter 4: Yan Fu and the KE XUE Discourse in the Imperial Examinations in the late Qing Dynasty

Chapter 5: A System of Logic, Ratiocinative and Inductive: SCIENCE and KE XUE

Chapter 6: Political Science and the Science of WU LI (物理)

Conclusion: The System of Science and Art vs. the System of Discourse

Appendix 1: KE XUE in the Collected Works of Yan Fu and its Supplements

Appendix 2: KE XUE in the Translated Works of Yan Fu

Appendix 3: Francis Bacon in the Translated Works of Yan Fu

Appendix 4: Selected Translations of NISHI Amane's *Encyclopedia-Philosophy*

Professor SHEN Guowei is an expert with a specialization in the study of modern lexicology, especially the history of lexical contact between the west and the east, with a focus on lexical borrowing from Japanese to Chinese. His recently published book Jindai zhongri cihui jiaoliu yanjiu:hanzi xinci de chuangzhi, rongshou yu gongxiang (A Study of Modern Lexical Communications Between Chinese and Japanese: The Invention, Acceptance and Sharing of New Chinese Words, 2010, Beijing: Zhonghua Shuju) has already discussed the lexical contact and communication between modern China and Japan, especially the borrowing of new words from the Japanese language into Chinese. In the second part of the book, SHEN traced Yan Fu's translation process of Thomas H. Huxley's Evolution and Ethics and other Essays (1895–1898) and Adam Smith's An Inquiry into the Nature and Causes of the Wealth of Nations (1898-1902), in which three ways of transferring meanings of western terms applied by Yan Fu are discussed respectively: using existing terms, inventing new terms and borrowing terms from Japanese. Nearly all of these terms reflect Yan Fu's understanding of XI XUE (western knowledge) and his attempt to transplant new ideas through conventional forms. SHEN analyzed Yan Fu's translation of ECONOMY, where he observed that instead of choosing the existing JINGJI (经济) or LICAI (理财), Yan Fu coined a new term JIXUE (计学), which exhibits his intention of conveying the essence of western knowledge (pp.170–179).

This research centric approach of reconstructing Yan Fu's thought by tracing its roots within historical context and understanding the complicated process from his application of new terms in translated works is again employed in this book and named "keyword reading approach", that is, to scrutinize and classify a keyword that conveys a core concept in a certain set of books so as to interpret the author's (translator's) intention of using these

Book Reviews 111

words, the development of their understanding and features of expression (p.3).

This time Professor SHEN focused on the word SCIENCE. He probed into all of Yan Fu's works and translations to find out the terms Yan Fu used to express the meaning of SCIENCE, then listed them chronologically and provided the original context if needed for convenience of analysis. Through this detailed investigation, Professor SHEN retraced the process of Yan Fu's translation of SCIENCE into KE XUE (科学) and the subsequent acceptance, and use of the term by the Chinese society. In this way he probed into the depths of Yan Fu's comprehension of western science and scientific thought. Professor SHEN's approach and findings remind us of Raymond Williams' Keywords: A Vocabulary of Culture and Society (1976), which aims at sketching the transformation of culture and society by tracking the etymology and changes in usage of some keywords. Interestingly Raymond also discussed the word SCIENCE, which means knowledge or a particular body of knowledge when it first came into English in the 14th century. From the 17th century onwards, SCIENCE began to be distinct from ART, the former referring to a skill requiring theoretical knowledge and the latter a skill requiring only practice. When the distinction between experience and experiment became more and more evident with time, the conditions for the emergence of science as the theoretical and methodical study of nature were complete in the 18th century and concretized in the 19th century. "The terms 'scientific', 'scientific method' and 'scientific truth' became specialized to the successful methods of the natural sciences, primarily physics, chemistry and biology." (New York: Oxford University Press, 1983: p. 279)

Raymond's description reveals the gradual process of how the word SCIENCE transitions from a general word into a specific term. In a similar manner, Professor SHEN went into the etymology of SCIENCE and its corresponding term KE XUE in Chinese. KE XUE is originally a wasei-kango, or Japanese-made Chinese word. Therefore, NISHI Amane's book about the western disciplinary system is examined both at the beginning and in the appendix. Then the various terms Yan Fu used in different translated works were explored and analyzed chronologically, as illustrated in the aforementioned contents. Professor SHEN examined Yan Fu's view of western science on the basis of an archeological analysis of this word. This is one of the most comprehensive and in-depth study of Yan Fu's thought based on the detailed and expert analysis of his works, which lays a solid foundation for the future study of modern Chinese lexicology and lexicography.

The greatest contribution of this book is that Professor SHEN discovered Yan Fu's relation with English empiricism, primarily with Francis Bacon, and brought to light his influence on Yan Fu, which has never been explored in over a century of Yan Fu studies. In the beginning of his *Tian Yan Lun* (literally meaning the 'Evolution of Nature', which is the translation of Huxley's *Evolution and Ethics and other Essays*), Yan Fu said "Tao embodies itself in the lowest things of heaven and earth, the lower the thing, the deeper the Tao, even in the meanest things. When its nature is revealed, the nature of all things is revealed; when its reason is uncovered, the reason of all things is uncovered." These words do not exist in Huxley's original book. They are Yan Fu's additions based on Francis Bacon's thought that science doesn't distinguish itself between the physical and metaphysical world, that "whatever is worthy of being is worthy also of scientific knowledge, which is the image of being. And mean things exist as well as elegant things." (*The New Organon*, Cambridge: Cambridge University Press, 2000, p.92)

Previous research on Yan Fu's thought stressed too much on his search for wealth and power, such as Benjamin Schwartz's representative work *In Search of Wealth and Power: Yan Fu and the West* (1983). After careful textual analysis, Professor SHEN points out that in Yan Fu's understanding, the major function of SCIENCE is to train the intellectual mind and modes of thought, and through the learning of different disciplines, people can overcome what Bacon called "idols" and avoid what Spencer named "bias". Yan Fu said that "sociology is the end of all science", that the study of mathematics, physics and chemistry is only the preparation for the study of sociology (pp.105–123).

From this we can see what Yan Fu understands as QUN XUE, its connotations are much broader than SOCIOLOGY. Yan Fu said "only by understanding QUN XUE can we understand the cause of turmoil and peace, and thus contribute to the governance of the world." Professor SHEN tells us what Yan Fu wanted is metaphysically-oriented governance. So Bacon's empiricism combined with the Great Learning of ancient Chinese sages is the source of Yan Fu's scientific view.

The significance of this book also lies in the fact that it initiates a new approach towards understanding Yan Fu. The previous studies of Yan Fu's thought constantly focus on the isolated analysis of Yan Fu's translations, and those who study Yan Fu's translations pay less attention to Yan Fu's political essays. Professor SHEN's book shows us the best way to study Yan Fu is to grasp his discourse along with the timeline, with a comprehensive understanding of the east and the west, instead of analyzing his discourse out of the historical context.