

THE SYMMETRICAL DIAGRAMS BY JAPANESE THINKERS IN THE EDO ERA

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Abstract: *This study is focuses on the diagrams drawn by Japanese thinkers in the Edo Era. They used the diagrams as tools for constructing and developing their thoughts. The purpose of this study is to clarify the features of their diagrams. This kind of diagram was also used in the western culture. Firstly, the diagrams in the western and eastern culture are introduced. Secondly, the diagrams drawn by the Japanese thinkers in the Edo era, especially Baien Miura, Tojyu Nakae, Banzan Kumazawa, Sontoku Ninomiya, and Shoeki Ando, are focused. The diagrams called “Gengo-zu” by Baien Miura are quite unique. Therefore, “Gengo-zu” is compared with the diagrams by the other thinkers in terms of the shapes and the functions. As the result, common features of their diagrams are circularity and symmetry. On the other hands, the remarkable difference is that “Gengo-zu” represents three-dimensional structures and Baien formulated his own system as languages and formulas. It is considered that Baien was influenced by the western culture, which is visual aid used in geography and astronomy.*

1 DIAGRAMS USED IN THINKING PROCESS

Diagrams in general are mainly used for illustrating contents. However, the diagrams are also used as tools with which thinkers construct and develop their thoughts. This study focuses on this kind of diagram. In the western culture, diagrams of this kind are mainly seen in the Middle Ages and the Renaissance. For example, the diagrams were used for logical thinking processes, which were treated as the reduction of the syllogisms and the art of mnemonics. Giordano Bruno was used his diagrams for

thinking about harmony of universe (Fig.3). In the eastern culture, the diagrammatic representations were frequently used in order to expound traditional doctrine and spiritual images (Fig. 4,5). In addition, many diagrams were drawn by the thinkers in Japan, especially in the Edo era (17th and 18th centuries). They represented their philosophical and theoretical ideas in diagrams, and used them in their thinking processes (Fig. 6,7).

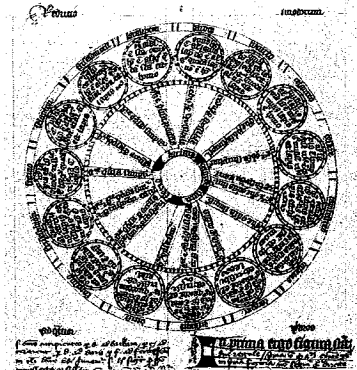


Fig. 1. (Upper left) The Reduction of Syllogisms by Jean Buridan (14th century)

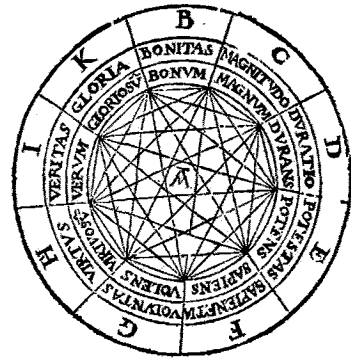


Fig. 2. (Upper right) The Ars Brevis of Ramond Lull (1617)

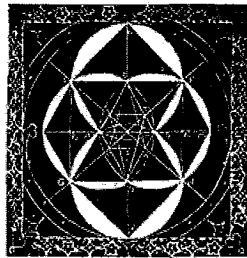


Fig. 3. The Diagrams by Bruno, G. (1558)

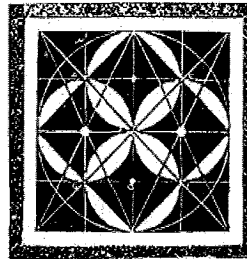


Fig. 4. The diagrams of "Tai-chi" (1796)

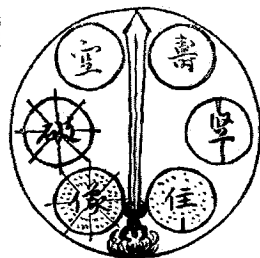
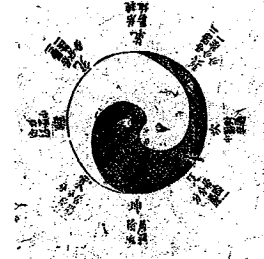


Fig. 5. (Upper left) "Rokurin-Ichiro-no-Zu" by Zenchiku (15th century)

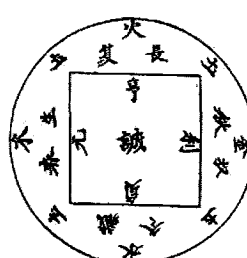


Fig. 6. (Upper middle) "Shinpo-zukai" by Banzan Kumazawa (17th century)

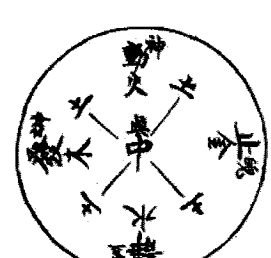


Fig. 7. (Upper right) The Diagram in "Todo-shinden" by Shoeki Ando (18th century)

2 JAPANESE THINKER'S DIAGRAMS IN THE EDO ERA

There were many Japanese thinkers in the Edo era who used the diagrams, for instance Tojyu Nakae(1608-1648), Banzan Kumazawa(1619-1691), Shoeki Ando(1703-?), Baien Miura(1723-1789), and Sontoku Ninomiya(1787-1856). Especially, Baien Miura used many unique diagrams called “Gengo-zu” in his philosophical works. His philosophical thought is studied by the researchers (Takahashi 1981, Ogata 1998, Yamada 1984). The features of “Gengo-zu” were also explored by the author’s recent studies (Izuhara 2000, 2002, 2004). As the result, it was clarified that “Gengo-zu” represents three-dimensional structures (Fig.11). In this study, “Gengo-zu” is compared with the diagrams by the other thinkers in terms of the shapes and the functions. As the result, the common features of their diagrams are circularity and symmetry (Fig. 6,7,8,9,10). On the other hands, the characteristic features of “Gengo-zu” are that Baien formulated his own system as languages and formulas. Furthermore, it is confirmed that only “Gengo-zu” represents three-dimensional structures. The reason of these differences is considered that Baien was influenced by the western culture, which was visual aid used in geography and astronomy, for instance world maps, terrestrial and celestial globes, armillary sphere and so on.

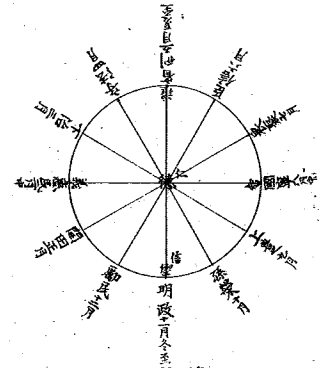
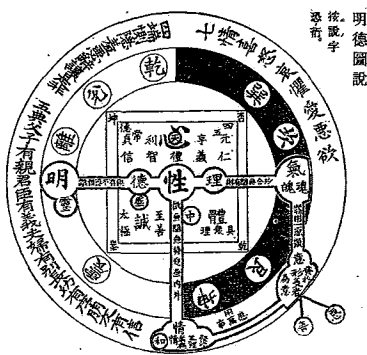


Fig. 8. (Upper left) “Meitoku Zusetsu” by Tojyu Nakae (17th century)

Fig. 9. (Upper right) “Ichien Yugo Zu” by Sontoku Ninomiya (1836)

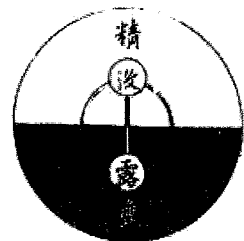
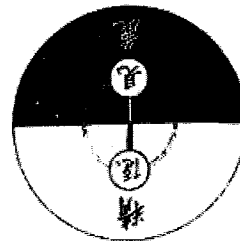
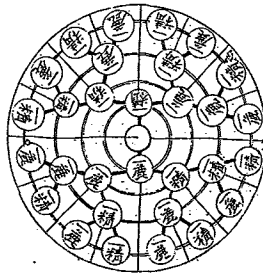


Fig.10. “Gengo-zu” by Baien Miura (1787)

These western things were imported from the Netherlands and the other countries at that time at Dejima in Nagasaki. We shall remind about the image by J. Kepler (Fig.12). It is considered that Baien also imagined his theoretical structures based on the unified principle of universe in cosmological structure.

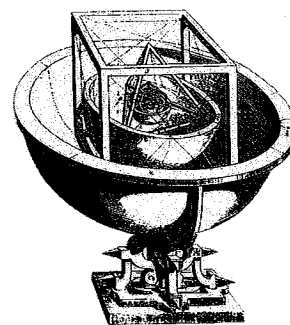
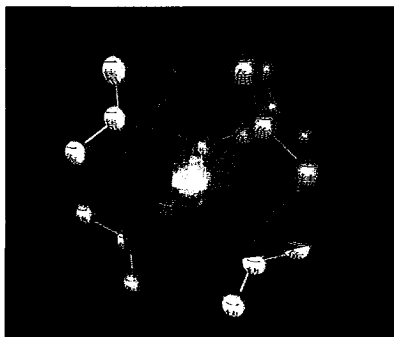


Fig. 11. (Upper left) 3D Images of “Gengo-zu” by Izuhara, R.

Fig. 12. (Upper right) “Mysterium Cosmographicum” by Kepler, J.(1660)

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