

DIFFERENT STAGES OF THE EVOLUTION OF JACQUES BERTIN'S WORKS

MORITA T.

Hosei University, TOKYO, JAPAN

Every ICA member accepts the importance of Jacques BERTIN's achievements in the domain of cartography but it seems there are few documents that describe the background of his achievements. I was a Ph.D. student in his laboratory in the seventies. After the "Semiology of Graphics" was published in 1967, I had some experience of how his theories were disseminated and of the reactions they provoked. The overall flow can be explained chronologically through considering the principal events using an annotated bibliography.

Before considering each event, it is better to have an overall image (Fig.1) of the different periods of his life. Bertin was born in 1918 just after World War I (1914-1918). After studying geography/cartography he obtained a superior license in cartography (1937) from the University of Paris, but then World War II (1939-1945) broke out. After the war, from 1947 to 1957, while in his thirties, he worked at the National Scientific Research Center (CNRS) and founded the Laboratory of Cartography at the Ecole Pratique des Hautes Etudes (Sorbonne) in 1954. He published his first book, "Semiology of Graphics", after ten years of running his laboratory. In the seventies there was economic stagnation caused by the energy crisis, but this did not prevent him publishing his second book, "Graphics and graphic information-processing" ten years after his first book. This was on the method of graphic processing in the dawn of the use of the personal computer. He retired in 1985 but continued his work, and his efforts came to fruition with the Atlas of Word History (1997). The fall of the Berlin wall (1989), the spread of the internet after the appearance of the internet browser (1990), and the development of information and communication technology have led to globalization and new era of graphic communication. We should re-evaluate Bertin's works in this context.

How did his laboratory function? The laboratory of cartography was located in boulevard Saint-Michel amid typical Parisian medium-rise buildings. On the ground floor, there was a photographic laboratory, a blueprint machine room, a hall for manipulation of orderable matrix processing, and a lecture room on the opposite side of a small courtyard. On the first floor, there were three workrooms in which many maps were stored, four researcher's rooms, two secretary's rooms, and Bertin's studio. Every week Bertin gave a lecture for about 20 school license, master's, or doctoral course students in the lecture room, and the laboratory offered facilities for the research and development of his methodology, training in his method, and production of cartographic materials in collaboration with researchers from any disciplines.

Bertin's work could be divided into three parts (Fig.2). The first is the semiotic approach, summarized order by *Sémiologie Graphique* (1967, *Semiology of Graphics*). The second is map as process, developed by *La Graphique et le Traitement Graphique de l'Information* (1977, *Graphics and graphic information-processing*). And the third is the storytelling with time-space framework, proposed in *Atlas Historique Universel* (1997, *Atlas of Word History*). About 30 related papers could be classified as belonging to this framework.

He recognized the map as a form of dynamic graphic information processing; making a map (from data to graphic symbols), manipulating a map (re-ordering graphic symbols), and communicating a map (recognizing the world and solving problems). His theory is easier to apply in the digital information era.

Brief Chronology of Jacques Bertin



World War I ('14 - '18)

(age)

1918 0 Born (27 July) at Maisons-Laffitte

1928 10

1938 20

World War II ('39 - '45)

1948 30

1954 36 Laboratory of Cartography
at EPHE

1957 39 Directeur d'études of LC

1967 49 Sémiologie Graphique

1974 56 2nd Edition of SG

Laboratory of Graphics at EHESS

1977 59 La Graphique et le Traitement
Graphique de l'Information
Graphics ('81), Semiology of
Graphics ('83)

1980 62 ICC Tokyo

1985 66 Retirement

1997 79 Atlas Historique Universel
Colloque: 30 ans de Sémiologie
Graphique

1999 81 ICA Gold medal, 3rd Edition of SG

2010 91 Passed away

Figure 1 Chronology of Jacques Bertin

Three stages

1st : Semiotic Approach

- BERTIN, J., 1967, 1974, 1999, Sémiologie graphique : Les diagrammes, les réseaux, les cartes, Paris, La Haye, Mouton, Gauthier-Villars



2nd : Map as process

- BERTIN, J., 1977. La graphique et le traitement graphique de l'information, 227p., Paris, Flammarion



3rd : Storytelling

- BERTIN, J., 1997, Atlas Historique Universel - Panorama de l'histoire du monde, 179p., Editions de Minerva SA, Geneve(Suisse)



Figure 2 Three stages