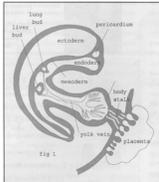
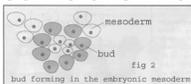


*The Heart is the key to the world and to Life.
 We live in our present helpless condition
 In order to love one another
 And be obliged to help one another.
 Through imperfection we become open
 To the influence of others
 And this influence from outside is the aim
 That in our frailties
 Others can and may help us.
 —Novalis*



In the embryology of the human heart the first forms that appear reveal a deep mystery to physiologists. The middle layer, or mesoderm, is the most active of the three layers in the early embryo. It proliferates inside and even outside of the embryo early in the first week. At that time, an inner space mysteriously opens in the mesoderm. (see fig.1) This magical space, or pericardium, appears, with no previous indicators, just outside of the head on the periphery of the embryonic disc. The pericardium then enters through the primal mouth opening of the inner mesoderm and descends through the body of the embryo towards the chest. Simultaneously, near the tail end, other mesodermal cells modify into blood-filled veins known as yolk veins. The pericardial cavity and the yolk veins develop on opposite ends, outside of the body of the embryo. Eventually the yolk veins from below will meet the descending pericardial space and penetrate it in the very center of the body. The union of these two polar developments is the formal motif that underlies the miracle of the human heart.

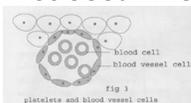
The mesoderm completely permeates the inside and the outside of the embryo in its early development. Buds of organs rise out of the mesoderm like buds rising out of the cambium of a tree. Some buds are formed outside of the embryo and some are within the embryo. (see fig.2)



In the first week many of these buds form in the mesoderm of the yolk sac in the gut region of the embryonic disc. In these yolk sac buds, the cells that are on the periphery of the bud flatten and form plates. (see fig.3) At the same time, cells in the center of the yolk sac buds form donut-shaped blood cells.

As the buds proliferate on the periphery of the yolk sac, the flattened plates of cells join each other on their sides and then canalize into each other to form islands of capillaries.

Inside the canals of the capillaries, the donut-shaped blood cells from the center of the buds form the blood itself. Together the vessels and blood cells form vascular, sponge-like tissues called blood islands. These blood islands are the first seed-like formation of the heart in the metabolic region.



It is hoped that with these imaginations a spark of interest can be kindled to study the morphology of our human body as a central motif in the task of self-knowledge. Physiology and morphology are the keys to the secret door of self-knowledge. When we can picture inwardly the sequences of creative movements that the Hierarchies have presented to us in the sublime morphology of the embryo, the door to self-knowledge is unlocked. Meditatively working with the images as a sequence of inner pictures slowly opens the inner door to an experience of the imaginative capacity in the soul. In this way the embryo can be experienced as the keeper of the keys to self-knowledge.

Dennis Klocek, Director of the Con-sciousness Studies Program at Rudolf Steiner College, Fair Oaks, CA; author of several books and international lecturer. One of the keynote presenters with Bert Chase, architect, in the conference at RSC June 16-20, Embryology, Architecture and the Origins of Form.