

difficulties, proper to be investigated by themselves if regarded as matters of uncertainty. But they ought not to outweigh the direct testimony of visible phenomena."

Since Galen's views of the circulation were those to obtain until the 15th century it may be well to summarize them here.

The liver was the central blood forming organ; here blood was formed from chyle and here all veins arose; the pulmonary artery or vena arterialis was part of the venous system and like the other veins carried dark thick blood.

The arterial blood was lighter in colour, and spirituous, and as the veins arose from the liver the arteries came from the heart, and there obtained their heat and pulsatile force.

This pulsatile force was one of active expansion, resembling inspiration, by which blood was attracted, to be repelled in systole, thus keeping up a continual interchange of contents.

Out from the arteries passed to the skin excrementitious products, and by the arteria venalis or pulmonary vein, fuliginous vapours analogous to the smoke of combustion.

Galen accurately described the valves, but maintained that the closure of the tricuspid and mitral was incomplete, thus allowing some reflux in each direction.

But besides its mechanical action, the heart had a much more important one. It was the centre of organic life, the source and fire place of the innate heat by which the body was controlled.

The pulmonary vein received from the lung by openings too small to allow the escape of blood, the vital spirits and exhaled fuliginous vapours.

Though in some passages there are suggestions of a circulation, the general trend of his writings would indicate that he had in mind no such circulation as we conceive of, but rather such a mechanism as that by which pulsation in a vessel would draw the fluid from either direction and propel it toward every point.

He established the doctrine of anastomosis between terminal arteries and veins by opening an artery and bleeding the animal to death, when both veins and arteries were found empty.

Galen, also, left behind him the doctrine of the passage of blood through the interventricular septum which was for centuries to be accepted as an alternative to the circulation of the blood.

From the time of Galen until the 14th Century, his works were looked upon as Holy Writ, and most if not all, of the medicine, Grecian and Arabian, during the Dark Ages was a reflection from him. Even in the