

**HEALTH PRIMERS,
VOL. 8: THE HEART
AND ITS FUNCTION**

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Health Primers, Vol. 8: The Heart and Its Function by Various

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THE HEART AND ITS FUNCTION.

CHAPTER I.

WHY WE HAVE A HEART.

NOTWITHSTANDING the many millions of years which our world and race have, according to some, already existed, the discovery of the circulation of the blood is but a thing of yesterday. From some passages in his work, "De Trinitatis Erroribus," published in 1531, Servetus would seem to have been fully aware of the lesser or pulmonary circulation. But it was not till 1628 that the doctrine of the circulation of the blood through the system generally was actually published by Dr. William Harvey, though indeed he had taught it publicly from the year 1619. It was not, however, till 1661, more than thirty years subsequently, that the circulation of the blood was actually demonstrated by means of the microscope, by Malpighi, so that this important fact has been known for little more than two centuries.

The whole quantity of blood in the body has been reckoned at about one-fourteenth part of the weight of the body; the blood in the body of a man weighing fourteen stone will therefore amount to one stone, or fourteen pounds. If we accept this as a probable average of the weight of blood in the body, then as fourteen pounds amount to 224 ounces, and as the left ventricle contains, as we suppose, only 3 ounces, it follows that the whole blood of a man weighing 196 lbs. passes through his left ventricle in nearly 75 (74·6) of its systoles or contractions. And as we suppose the heart to contract only 70 times in a minute, then the whole of the blood of such a man passes through his heart 48 times in one hour, or 1152 times in one day. Of course the length of time that the whole of the blood in a man takes to pass through his heart depends upon three factors,—first, the actual amount of blood he possesses; second, the size of his ventricular cavity; and thirdly, the rate of its pulsation.

The actual velocity of the circulation, the time that one blood globule takes to circulate, that is, to return to the heart after leaving it, is a somewhat different matter, and has been found by Vierordt to be nearly equal to the same number (27) of ventricular systoles in all animals. Of course the time actually involved in these twenty-seven pulsations varies with the rate at which the heart