Amount Returning.... So Vital Indeed!

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Ernest Henry Starling (1866-1927), British physiologist whose prolific contributions to a modern understanding of body functions, especially the maintenance of fluid balance throughout the tissues, the regulatory role of endocrine secretions, and mechanical controls on heart function, made him one of the foremost scientists of his time. Starling developed an isolated heart-lung preparation that enabled him formulate (1918) his "law of the heart". This law states that, “The energy of contraction of a cardiac muscle fibre like that of a skeletal muscle fibre is proportional to the initial fibre length at rest ." Thus the force of muscular contraction of the heart is directly proportional to the extent to which the muscle is stretched; the latter is in turn dependent on the venous return. [Pralikar S NJIRM 2014; 5(4) :135]

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The blood pumped by the heart
Nourishes all organs;
And through the veins
It darts,
Back to the heart.
The skeletal muscles of the limbs,
Push the blood upstream;
The muscles of the abdomen,
Pull blood up the venous lumen;
And the thorax as it expands, Draws more blood towards the heart.
This venous return,
Is of vital concern:
The pumping of blood by the heart
Dependent on the amount returning
Via the venous path.
The stretching of the heart
In diastole,
Is what determines its contraction
Eventually.
Thus goes the law of Frank-Starling,
The amount returning
So vital
Indeed.

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