

*A Conjecture at the Quantity of Blood in Men,
together with an Estimate of the Celerity of its
Circulation. By Allen Moulin, M. D. Reg. S. S.*

IN a *Sheep* weighing alive 118 *l.* we found but 5 *l.* $\frac{1}{4}$ of Blood which is but $\frac{1}{47\frac{1}{2}}$ of the weight of the *Sheep*. In a *Lamb* weighing 30 *l.* $\frac{1}{2}$ when living, but there was but 1 *l.* $\frac{1}{2}$ of Blood which is nearly a 20th part.

In a *Duck* weighing alive 2 *l.* 14 Ounces 50 gr. we found an Ounce a half and 53 gr. of Blood, which is less than a 28th of the whole weight of the living *Duck*.

In a *Rabbit* weighing 10 Ounces, 7 Dr. and 50 gr. we found 2 Dr. 57 gr. of Blood, which is about a 30th Part.

In the right Ventricle and Auricle of the Heart of a *Dog*, I found 6 ounces of Blood, after that I injected into the jugular Vein a Liquor that coagulated the Blood. I found a greater quantity of Blood in the Heart of another *Dog*, whom I treated after the same manner. The Hearts were much distended by the Blood found in them. I shall therefore suppose, that 4 ounces only were received at a time by these Hearts without force, that is naturally: And least I should suppose a greater quantity of Blood to be admitted at a time than really is, I will suppose a Man's Heart, which is much larger, (and has much larger Vessels than those I speak of) to receive but 4 ounces at each *Diastrale*. Allowing 75 Pulses to every Minute, there will be 4500 in an hour, and 18000 ounces of Blood transmitted in that time. This last Number is the Product of the foregoing 4500, being multiplied by 4, the Number of Ounces at a *Diastrale*.

Now

Now if we shall suppose that a Man's Blood bears the same Proportion to his weight, as that of any of the afore-said Animals had to its weight, which in a *Lamb* was the greatest, being $\frac{1}{16}$ part, it will follow that the quantity of circulating Blood in a Man weighing 160*l.* will not exceed 8*l.* or 128 ounces; according to which computation the Blood will circulate 140 times in an hour. But let us suppose that instead of 8*l.* the masse of Blood in such a Man be 12*l.* it will follow that it will circulate between 93 and 94 times in an hour; which is a circulation and half, and somewhat more, every minute. I take this last computation to be very modest, when especially it is considered that in the *Lamb* when opened, there was scarce a dram of Blood; in the *Sheep* not 3 oun. to be seen. From the celerity of the motion of the Blood now mentioned, we may give a good account of the suddain Refection with victuals, and particularly such as are liquid: we may also account for the quick passing of Urine, from the same thing; and also the quick motion of the *Chyle* into the Breasts of Nurfes, without supposing unknown passages, from the Stomach or any other part into the Bladder and Breasts.

Half an ounce of Blood at a *Diafole* is the greatest quantity that I remember any Anatomist supposes to gett into the Heart, and they suppose the quantity of Blood in the Body to be between 15 and 25*l.* by which it will appear how their computations and mine differ.