Bloodletting: a medical resource since the stone age
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When traditional witchcraft's resources of herbs, ointments, animal sacrifices and rituals failed “to cure” in prehistoric times, a most impressive maneuver for the patient and onlookers was bloodletting. Something was being done albeit useless from the biomedical point of view. Not disregarding the presence of healed bones in prehistoric man, a proof of surprisingly effective medicine.

Later on during the Greek medicine of Alexandria, the famous Hippocrates believed in the four humors of the body: the blood, the phlegm the black bile and the yellow bile. One can understand how he arrived to this conclusion by simple observation of bleeding, coughing up phlegm or secreting mucous in the digestive tract, upper gastrointestinal hemorrhage, and vomiting bile.

Erasistratus discarded this as nonsense and believed himself that health was lost because there was an “excess of blood” that he named plethora. Although it may seem strange, he treated diseased organs by locally restricting blood flow and not by blood letting, since as a disciple of Crisipo of Gnido, he wisely opposed all sudden and violent evacuations. Crisipo had studied in Egypt and considered blood as the food of the soul. Erasistratus also insisted that phlebotomy, diminished the patient's resistance and that if his colleagues had listened to him, the history of medicine would not have been as bloody. When he saw a bleeding artery he sutured it. This technique was later ignored for many centuries and became a re-invention recently. Our most profound respect for these intuitive physicians of the Greek age.

Jumping to Arabic medicine during the middle ages (around 931), we find that malpractice was regulated by Calif Al-Muqdatir. All physicians of the era fearfully presented themselves in front of the medical authority Sinan Uibn Thabit in order to gain a permit to practice medicine. Noteworthy is the presence of a very old man, that did not know how to read or write, yet his wisdom overshadowed the rest. He was granted the permit “provided he did not practice bloodletting or prescribe a laxative”. He answered that such was his lifetime professional rule.

In 1305 we also know of Bernard Gordon, a Scotish physician known as the master of Montpellier in France. Among other things, he realized that gonorrhea was due to sexual contacts yet he also believed it may be due to “excessive desire or sitting in a cold rock”. In cases of urinary retention he introduced into the meatus the Avicena insect, a common practice at the time. In case of estangurria, he worked on alleviating the constipation and the importance of the diet. However his favorite treatment was that of bloodletting.

Gonorrhea continued to trouble physicians and in the 16th century, Brasovolous wrote a
book that should never have been written. In it he described gonorrhea as a complication of syphilis. Thereafter a common practice by many physicians, was the prescription of mercury, since the production of pus was considered “healthy”. Furthermore, the patient was bled and given drastic, powerful and irritant purgatives.

We cannot exclude from this brief historic summary the words by Robinson “The medical faculty of Paris (in the 17th century) was one of the most malignant influences that prevented the progress of medical science. It insisted in its infallibility and it is difficult to discover one sole example where its influence had not been pernicious. It proscribed Servet for his traditional treaty of syrups. When Ambrosio Pare's “Collection of Works” was translated to Latin, the faculty announced that since they were the only ones capable of writing in Latin, it was too much of a presumption of the surgeons and decreed that the edition be destroyed and its leftovers used for ignoble purposes. Besides prohibiting the teaching of Harvey's demonstrations of the circulation of blood it opposed the discovery of the thoracic conduct by Pecquet and went against the lymphatic vessels described by Aselli... This university believed in endless discussions and not in demonstrations. Under these concepts medicine returned to the middle ages. What had it not been for the genius of Moliere? Moliere's laugh has been the savior of medicine in the 17th century”. I go on to quote Moliere himself "Nearly all men die of their remedies and not of their illnesses,.”.

And then we jump into the worst era. Supposedly the standing premise was that “bad blood or sickness” was allowed to escape with bloodletting. Different devices were invented including: the thumb lancet, the spring lancet, multiple bladed scarificators, fleams that were knives containing multiple blades and even cups with flames in order to concentrate blood on the surface by a vacuum effect. In 1791, the German physician Johann Gottlieb Wolstein wrote “Considerations on the bleeding of man and the beasts”. It was an age of intense bleeding where physicians spilled oceans of blood for every fever encountered. He exclaimed that fever was not a disease but rather the best weapon that nature had to fight the evils. It is easy to imagine that the furious phlebotomists of that time ignored Wolstein and went on bleeding their patients, up to the point of leaving them bloodless. It was a sort of vampire therapy that took the life of thousands of people. Descartes was forced to cry out loud in the mortuary chambers “Gentlemen, save the French blood !”.

The immigrants to the new world, carried along this bleeding culture to the United States. James Marion Sims, a young physician from North Carolina quit his medical practice due to the difficulties encountered. He migrated to Alabama where he was shocked by the actual assassinations through bloodletting. His sensitive soul forced him to abandon the medical practice. Yet years later he returned and became famous for solving the vesico-vaginal fistula. Great doctors have indeed been shocked by bloodletting.

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But among the most deplorable use of bloodletting in history is that performed on the “father of the country” former and first President of the United States: George Washington. He woke up one morning with what we now call laryngitis. Completely aphonic and with some difficulty in breathing, he summoned his farm overseer with some practice in veterinary science and asked him to extract a pint of blood. Which he did. Since there was no improvement, the house physician arrived and proceeded to bleed him some more. But with no improvement the procedure was repeated the same morning for the third time. Two other physicians were also summoned. They found George Washington cyanotic and with difficulties in breathing. Although a young doctor suggested a tracheotomy, he was disregarded and again prescribed some more bleeding, a full quart this time. It is easy nowadays to imagine the low oxygen content of arterial blood. Calomel a strong laxative and Tartar an emetic were also prescribed. That same afternoon the former President died. It was December 14, 1799.

Gradually with time, bloodletting diminished, and registered phlebotomists nowadays play this fundamental role, but making sure that the donors are healthy, in order to transfuse blood to those in urgent need of red blood cells. Fundamentally to restore the oxygen content of blood because if it were only volume replacement, intravenous saline or dextrose would do. We also see some bleeding and change of blood in newborns with blood discrasias. Unfortunatelly, bloodletting is still being used in underdeveloped countries by quacks with no scientific sustain. The eighteen century has remained static there.

Indications for bloodletting were outlined by Joseph Pancoast in "A Treatise on Operative Surgery" (1844): Among them: 1) The diminution of the mass of the blood, by which the overloaded capillary or larger vessels of some affected part may be relieved; 2. The modification of the force and frequency of the heart's action; These concepts, have been overruled and are nowadays considered outdated.

The only medical specialty where it remains a practice is in chronic mountain sickness (CMS) at high altitude. Did our ancient colleagues understand why they were bloodletting ? Did they understand disease in order to prescribe phlebotomy ? History, time and the advance of science have proved them wrong.

But have we learned from the history of medicine? Do modern physicians understand the mechanism of CMS in order to prescribe bloodletting? Have the evil humors of blood (macroscopic) migrated to the evil red blood cells (microscopic)? Does oxygen content lack importance particularly at high altitude? Is cyanotic blood evil and excessive? 

May this be the ultimate push that tumbles the last building stone of the wrong concept that has done so much harm to human beings....