

“First, Equalize the Circulation”

Treatment of the Whole Organism through the Circulation

We may state it as an axiom that the condition of health requires a circulation normal in time and character, and just in proportion as we have a change from this normal standard we have severity of disease.

—— John Scudder (1883, 316)

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Abstract

The state of the circulation as a whole was used as a basis for evaluation and treatment in folk medicine, hydrotherapy, osteopathy, and botanical medicine in the nineteenth century. This was summed up in a phrase used in both eclectic and physiomedical botanical practice: “first equalize the circulation.” We will discuss what this meant and how to work with the organism in this fashion. Modern research by Dr. Irwin Korr, DO, demonstrates that this approach is scientifically justified. The pulse is an ideal method for analyzing the condition of the circulation as a whole. Tangentially, since the circulation of the blood was unknown in Greek, Ayurvedic, and traditional Chinese medicine, evaluation and treatment of the “circulation” must be considered one more characteristic justifying our definition of a unique “traditional” Western herbal medicine.

The Circulation

Evaluation and treatment of the circulation was a very important component of nineteenth century conventional and alternative medicine. It was the basis of hydrotherapy, which increases and decreases the peripheral circulation through changes in water temperament. Therefore, it was an axiom of classical naturopathy. It was the basis of the theory of Dr. Andrew Still (1828-1917), the founder of osteopathy. “The rule of the artery and the vein is universal,” wrote the good doctor (Still, 1902, 58). It was an important axiom of the two great schools of botanical medicine in nineteenth century America, the eclectics and the physiomedicalists. They operated under the principle, “first equalize the circulation.” Dr. John Scudder, the “leading light” of the eclectic movement, noted that this was a feature of “old woman’s medicine” (Scudder, 1883, 316). Indeed, this method is used by the mother in Louisa May Alcott’s *Little Women* (1868). The importance of the circulation was defended against the simplified pathophysiology of the cell and germ theories by the great German physiologist Carl von Rotikansky. Today it is still recognized in German medicine – hence the importance of ginkgo in Germany.

The blood brings food, oxygen, and heat to local areas and therefore the blockage or freedom of the circulation strongly influences local tissue and organ health. However, Dr. Irwin Korr, an osteopathic researcher, has also

demonstrated that the condition of the circulation reflects the condition of the sympathetic nervous system and that therefore disease processes leave their mark upon the distribution of the blood and can be approached therapeutically through changes in local blood distribution.

Chronic hyperactivity of the innervating sympathetic pathways seems to be a prevailing theme in many clinical conditions, yet it is not readily perceived because of the barriers imposed by specialization. The evidence is in four categories: a) symptomatology and pathophysiology; b) chronic experimental stimulation; c) interruption or reduction of sympathetic activity, and d) morphological changes in ganglia and other sympathetic components (Korr, 1979, 2:70).

The distribution of heat in the body is largely the product of blood movement and deserves special attention. The movement of the blood produces friction as it moves against the walls of the vessels, so the blood is both a generator and carrier of heat in the body. There is also a certain amount of friction within the blood itself, as particles move against particles. The blood mass does not move at the same rate, some streams and particles moving faster or slower than others in a constantly moving kaleidoscope of activity. These fluctuations cause constant minute temperature changes in the blood that vary with rates of friction. Thus, the blood generates energy within itself. We can see, therefore, how thoroughly the blood is the agent of heat in the body. As a moving and living system, the blood and cardiovascular system is a fine tuned tool of thermal economy and management. It possesses tremendous potential to act upon pathology. It should really be thought of as a healing instrument of the body as powerful as the immune system.

This is how the old doctors – hydrotherapeutic, naturopathic, osteopathic, and botanical – thought of the “circulation of the blood.” They worked upon it, not only to improve the health of the heart or vasculature itself, but as a resource for the treatment of disease. By manipulating the circuits of the blood, through hot and cold water, food, manipulation, and herbs, we can assist the body to deal with disease.

The Circulation and the Pulse

There are many ways we can learn to “read” the circulation and the distribution of the blood. My favorite, however, is the pulse, since it has a direct bead on the circulation. We are going to study the pulse in the next five pages. Even if the reader or listener is not interested in the pulse, he or she can learn a lot about the circulation through this discussion.

The pulse results from innumerable functions within the organism working together to enable the circulation of the blood. So complete is it as a representative of the whole being that some practitioners have been known who could diagnose and prescribe solely from the pulse. An example of this would be A. K. Bhattacharya (1985), who saw two hundred people an hour at his free clinic in Baroda, India.

We can see how every single disease may have a distinct “signature” represented by excess and deficiency and local distribution. We can also see that these “signatures” may sometimes resemble each other, causing changes in

the circulation and pathophysiology that fit into patterns – the patterns of traditional, natural, and holistic medicine: too hot, cold, damp, dry, tense, relaxed, high, low, inside, outside, etc. And finally, we can see the logic of the old dictum, “first equalize the circulation.”

There are at least three major imbalances in the distribution of the blood. In Southern folk medicine “high blood” refers to preponderance of blood in the upper parts of the body, and the outer, capillary layer. “Low blood” refers to the blood being in the lower and inner portions of the body. These two locations correspond to the *high* and *low* pulses of Greek and Chinese traditional medicine.

Three “Levels” of the Blood and Pulse. The *high* and *low* pulses are extremely important and are among the first we should learn, along with the *rapid* and the *slow*. When the pulse is *high* the body is merely engaging towards the surface, to defend itself, sometimes needlessly (as in allergy). There may be an excess of histamine or the arterioles are letting a bit too much blood into the capillary bed. The capillary walls are going to be a bit “overused” – over stimulated, beat up, and inflamed, etc. When the pulse is *rapid*, however, the body is pushing even more blood to the surface. The exchange of blood contents with the surface is quick and there are more red and white cells, and therefore, more heat, swelling, redness, and tenderness – the symptoms of inflammation. When the pulse is *slow* but not *hard* the body doesn’t have enough energy to move the blood to the surface. If it is *slow* and *hard*, there is resistance against the movement to the surface.

The organism tries to protect the heart against stress, so the movement from mere engagement at the surface (*high* pulse) to a speeding up of the circulation (*rapid* pulse) is an important one. There is a reality to the old Chinese idea that there is a “heart protector.” I think of this as corresponding to the thermoregulatory system of the body. The body doesn’t want the heart to beat hard, rapid, or against obstacles. It tries to compensate by manipulating the periphery through the arterioles, but there is only so much that can be accomplished before the heart is placed under stress.

The Greeks defined heat and cold by progression and measured that progression by “degree.” Heat “in the first degree” occurred due to becoming overheated on a summer day or eating a rich, stimulating diet; heat in the second degree occurred due to fever; and heat in the third degree corresponded to mental over stimulation – the heat vaporized the “spirits” and sent themselves upwards. Those of you who received your medical education from the *Beverly Hillbillies* will remember that Ellie Mae and Granny referred to “vapors” to describe nervousness and restlessness.

There are specific pulses for the three degrees. The *high*, or *high, wide*, and *long* pulse indicated overheating on a hot summer day or constitutional overheating due to a rich diet. The *rapid* pulse indicated fever. The *quick* pulse (no space between the beats; quick return of the beat) showed mania and obsessive/compulsive behavior.

Cold in the first degree occurs due to relaxation, and is indicated by the *rare* pulse (more about that one in a bit – it is the compliment of the *quick* pulse). Cold in the second degree is indicated by a *low* pulse, cold in the third by the *slow* (Floyer, 1707).

This gives us three pairs of pulses to look for in regard to heat and cold:

high/low
rapid/slow
quick/rare

Length of the Diastole. Research has shown that the moment of relaxation during the diastole, between the beats, is essential for cardiac health. The finely honed nerve signals from the cardiac synapses race through the nerves of the heart and arteries during the systole, but during the diastole the nerve signals turn chaotic for a moment. The more formed the nerve impulse is during the diastole, the sicker the heart. The more chaotic, the healthier.

The length of the diastole indicates the length of rest in this in-between state the heart requires. This is measured in Greek medicine by a pulse quality called “rarity.” If there is a short diastole with one pulse following immediately upon another, it was called the *pulsus frequens* or (in English) the *quick* pulse. It feels like a tense, inflated blip, blip, blip without rest between the pulses. The heart gets no rest and it cannot open up and fill with as much blood – it is going to have to pump harder to move the blood. The opposite is the *pulsus rarus* or *rare* pulse, which has a long and comfortable diastole. The heart relaxes and fills with lots of blood. The well-toned pulse of someone who exercises and has good cardiac tone is *rare, slow, and even*. We can call this the *athletic* pulse.

There is no exact equivalent to the *quick* pulse in TCM, so TCMers should be excited to learn this pulse – which is exceedingly common. The *rare* pulse, however, is equivalent to the *leisurely* pulse of Li Shi Zhen.

For the Greeks, the *quick* pulse indicated heat, the *rare* pulse mild cold – cold in the first degree, or cold due to eating cold food, relaxation, bathing, etc. However, in practice I find that the *quick* pulse usually means obsessive compulsive tendencies of the mind – the mind can’t relax – while the *rare* indicates a relaxed, meditative mind and good cardiac tone. It is usually a sign of health and doesn’t need treatment. The *rare* pulse is only a problem for the elderly – a *rare, slow* pulse can indicate mental vacuity.

The *quick* pulse also probably indicates a lack of rest for the heart but I doubt there is any research on this subject. For the *quick* pulse try *Aesculus hippocastanum* (white chestnut flower essence; horse chestnut) according to my experience, or *Passiflora incarnata* (passionflower), according to my friend Francis Bonaldo.

Length of the Systole. The Greeks measured the length of each part of the beat: the rise of the systole, the apex of the systole, the decline of the diastole (there was debate about whether this could be felt), and the space between the beats. The Chinese measure the length of the entire pulse. Both the length of the systole and diastole are very important factors for assessing the health of the cardiovascular system, while the length of the pulse as a whole – the Chinese *long* and *short* pulses are more general in application.

The *long* apex of the systole means that the heart chambers are voluminous and can pick up a lot of blood. I do not have enough experience to know if this is uniformly a good thing – in cardiac decompensation the heart chambers can enlarge for pathological reasons. The *short* apex is a very bad

sign, especially if it is occurring in the heart position. This feels like a small, hard blip – sometimes called the *pencil-point* pulse. This indicates that the heart chambers aren't enlarging enough and can't pick up much blood.

The Pulse and the Nervous System. The central nervous system influences the cardiovascular system through changes in emotions and passions; an influence which has long been associated with the heart. For an outstanding discussion of this influence – plus the influence of hormones – on subjective life and the heart see Stephen Buhner's fine book, *The Secret Language of Plants* (2004). The autonomic nervous system runs the habitual side of cardiovascular function. As we have seen, it too is reinforced at some points by hormonal and chemical inputs.

Certain pulses result from and point to nervous phenomena. The pulses that pertain to nervous tension or its lack are the *wiry* or *tense*, the *relaxed*, the *tight*, the *loose* or *slack*, and the *hard* and *soft*. There are at least three pairs:

tense/relaxed
tight/loose
hard/soft

The *wiry* pulse feels “pulled lengthwise” like a “tight tendon.” This usually indicates muscular/skeletal and psychological tension. The *relaxed* pulse is not found in TCM – although it is the equivalent to the *concave* pulse of Jimmy Chang. It feels like a “clothes line hanging down” and indicates the need for astringents.

The *tight* pulse twangs and moves more side to side – it indicates cold causing chill, closure of pores, intermittent fever, etc. The opposite of the *tight* pulse is the *loose*, indicating a lack of exercise. The pulse feels a body “wearing loose clothes.” Phyllis Light says it feels like holding “slack reins” behind a mule and that is a good description. Both the *wiry* and *tight* pulses respond to acrid relaxing herbs.

The *firm* or *resistant* pulse feels *medium low* and *medium hard*. It indicates some kind of internal compression. Sometimes there are old blood clots or inflamed muscles or tendons causing contraction and pressure. The *nonresistant* pulse (as I call it) is a variety of the *slippery* pulse of TCM. It is the feels like it slips quickly and easily under the finger, is slightly rapid, and lacks resistance. It indicates that “heat is having its way with the system.” I have never known yarrow to fail to bring this aberrant heat under control but . . . never say never.

The *hard* and *soft* pulses were known to the ancient Greek and Chinese pulse diagnosticians, certainly, but they conform to conditions in the nervous system and this, since it was not understood in ancient times, means that the ancient physicians didn't really comprehend their significance. The *hard* pulse indicates a persistent clenching of the nerves – not a tension but a contraction. It always indicates pain, according to Dr. John Floyer (1707), and is due to blockage of the nerves somewhere in the body. This can occur due to external heat, cold, dryness, or injury. The *hard* pulse feels so *hard* or *sharp* that it hurts the finger of the diagnostician – at least it hurts mine. Remedies: wild lettuce, wormwood, among others. This is the *long hard* pulse of Li Shi Zhen.

The *soft* pulse is due to lack of tension in the nerves. It occurs after fluid

loss, heat exhaustion, especially in humid heat, dampness in the system, or nervous exhaustion from overwork or stress. Work hard on a hot summer day and take your pulse – that is the *soft* pulse. A specific here is homeopathic *Gelsemium*. The Southern folk medical remedy here would be *Lonicera*, which is also used in TCM for damp heat conditions – but I have always used the preceding remedy. There are probably other remedies as well.

Lack of Arteriolar Resistance. We can feel changes in the condition of the cardiovascular system in the pulse, including lack or excess of tonus in the arterioles. If the arterioles are incapable of contracting to hold back the surge of blood in the systole then we feel the *flooding* pulse of TCM. This was one of the most important pulses in Greek medicine. It was called the *undose* (“wave-like”) pulse. In both systems it was likened to the pounding of the surf on the beach – the wave comes with force and recedes meekly.

The meaning of the *flooding* pulse in the two systems of medicine is exactly identical but also very different. For the Greeks this pulse meant that the disease process was reaching a *crisis* and was about to eliminate through the exterior. If the elimination occurred by sweating, expectoration, urine, diarrhea, or even bilious diarrhea, the prognosis favored recovery. However, if the elimination occurred by bleeding the person would be weakened and the indication was that they were still sick. They needed more therapy or were untreatable. On the good side, the *undose* pulse indicates that there are no hard and dangerous tumors, because these create resistance in the pulse (Floyer, 1707, 1710).

The whole of Greek medicine was geared towards cultivating a *crisis* and managing it successfully, so the *undose* pulse was of almost supreme importance among all the pulses. It is one of the only pulses even mentioned by Moses Maimonides in his “Aphorisms” for students.

For the Chinese, on the other hand, the *flooding* pulse indicated the danger of bleeding and the need for yin and blood tonics to try to contain the danger and limit or prevent the loss.

The opposite of the *undose* pulse in the Western tradition is the *oppressed* pulse. This feels like the surf hitting rocks on the beach and there is a “splash-back” at the apex of the pulse. In the very least it indicates that the arterioles are closing too tight or quickly and causing the blood to hit at the end of the systole with a “crash.” This probably aggravates the ballistic effect that shoots backwards and may have a wearing effect on the aortic valve.

We have covered only half the significant pulses of Greek and Chinese medicine, at best, but these are pulses which particularly help us visualize the nature of the circulation.

Circulation and Traditional Western Herbalism.

The circulation is ever-changing to accommodate the needs of the organism: eating, thinking, sleeping, exercising, fighting, loving, and living all require changes in blood supply. No two moments are the same and neither is the distribution of the blood. Likewise, no two disharmonies of health are exactly alike and therefore the circulation reacts uniquely to each distress. However, patterns of distribution can be detected. A disease may have a circulatory “signature.” This is very closely analogous to what we are looking

for as a basis of right herbal prescription: the proper pattern or signature matching the pattern known to be associated with that herb or formula.

No matter how we label disease, for our own convenience, it is a natural process that has a constitutional tendency, forming itself into a characteristic pattern. This is the basis of traditional and holistic medicine. TCM defines disease by yin and yang, qi and blood, and the five elements; Ayurveda uses *tridosha* and five elements; Greek medicine, the four qualities, four elements, and the two “tissue states;” physiomedicalism the six “tissue states.”

Distribution of the blood gives us another language for describing pattern. Osteopathy has no language like the systems just mentioned but it is still able to trace the lineaments of disease by the way it shines through in the circulation. This is quite compatible with the way herbalism was often practiced in the nineteenth century. The eclectics and the physiomedicalists tended to observe and treat broad functional spheres of activity in the organism – digestion, metabolism, elimination, innervation, endocrine, and circulation (Scudder, 1883; Priest and Priest, 1981, 2001). They did not always use an identifiable system of “energetics” or language of pathological pattern, but this does not mean that their thinking was not holistic and effective. The circulation very often showed them what they needed to know. Their motto in this regard was – “First, Equalize the Circulation.”

The idea of inequalities in the circulation was held by Samuel Thomson (1769-1842), the popularizer of herbal medicine in early nineteenth century America – also by his successors in the physiomedical wing of botanical medicine, such as Dr. Alva Curtis. It was also an article of faith for the early eclectic botanical physicians and Dr. John Scudder (1827-93), who revised eclecticism with his “specific medicine.” Scudder (1883, 319) writes:

A popular expression in treatment is, “equalize the circulation.” Some have laughed at the expression as being indefinite, unscientific, and partaking of the character of ‘old women’s’ medicine. But there is no plainer pathological fact than that the circulation of blood is unequal in many instances – here too much blood, there too little – a want of circulation to the extremities and surface, too much blood in the cavities of the body.

That this was “old women’s medicine,” as Scudder says, is shown in the popular novel *Little Women* (1868). The mother comes home from tending her wounded husband in a Civil War hospital to find one of her daughters is unconscious from fever. Her first move is to observe the distribution of the blood. She takes off the covers and proclaims that the head is too full of blood. The first thing we need to do, she says, is get the blood back down to the feet.

Dr. Scudder was never one to scorn folk medicine; neither should we.

According to this motto – and the practice outlined in *Little Women* – the first evaluation and the first treatment is directed towards the distribution of the blood. I used to presume that this motto referred to the correct methodology for treating heart conditions, but after studying nineteenth century medical literature I now realize that “first” referred to most conditions!

Thomson taught the principle of moving the blood to effect healing. It was advocated by his student, Dr. Alva Curtis (who was medically trained) and taught as a part of physiomedicalism from that time to the present. It is still

mentioned by A. W. and L. R. Priest in their transmission of physiomedical principles in *Herbal Medication* (1981, 2001).

Scudder (1883, 319) considered the inequality in the distribution of the blood to be a common source of disease.

Every one will recollect the cold feet and chilled surface that attends an ordinary bad cold, and will recall the local and general wrong that comes from a similar condition as the period of the menstrual flow, very greatly increased by the local stasis of blood in the uterus if the flow should be stopped. Many can recall cases of chronic disease, associated with cold feet and a tendency to chilliness of the surface from imperfect circulation, and they will recollect that such cases were very intractable. Some will recall cases of pneumonia or of typhoid fever, in which an irregularity of the circulation, and a tendency to accumulation of blood in the cavities, and a want of blood to extremities and surface were prominent features, and they will recall the gravity of such cases.

In other cases, circulation will only be evidence of the disease, but even here positive treatment will be helpful.

This brings up the important point in the study of disease – that there is a first and predominant wrong which the entire morbid process rests. In some cases, as in the instances given, this is so markedly the case that when we have removed this, the whole disease rapidly fades away. But in others this simply paves the way for the doing of something else, and this again for the restoration of other functions, and thus a succession of means may be required in a single case.

The importance of the circulation as a cause of disease and a symptom to be treated runs like a fine thread throughout the traditions of medicine which appeared after William Harvey discovered the circulation of the blood. They are unique to Western medicine because these ideas cannot be visualized unless we know about the circulation of the blood. We do not find their equivalency in Greek, Ayurvedic, or Chinese medicine.

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