

porphyrin ring. The fifth coordination site is occupied by a nitrogen atom from a histidine side chain on one of the amino acids in the protein. The last coordination site is available to bind an O₂ molecule. The heme is therefore the oxygen-carrying portion of the hemoglobin and myoglobin molecules. This raises the question: What is the relationship between the structure of CHLOROPHYLL and the structure of HEMOGLOBIN?

The structure of myoglobin suggests that the oxygen-carrying heme group is buried inside the protein portion of this molecule, which keeps pairs of hemes group from coming too close together. This is important, because these proteins need to bind O₂ reversibly and the Fe(II) heme, by itself, cannot do this. When there is no globin to protect the heme, it reacts with oxygen to form an oxidized Fe(III) atom instead of an Fe(II)-O₂ complex.

Hemoglobin consists of four protein chains, each about the size of a myoglobin molecule, which fold to give a structure that looks very similar to myoglobin. Thus, hemoglobin has four separate heme groups that can bind a molecule of O₂. Even though the distance between the iron atoms of adjacent hemes in hemoglobin is very large—between 250 and 370 nm—the act of binding an O₂ molecule at one of the four hemes in hemoglobin leads to a significant increase in the affinity for O₂ binding at the other hemes.

In conclusion, CHLOROPHYLL is the base of a natural food pyramid and we need to make it a food group in order to harness the cleanest fuel available. Evolution began from the chlorophyll then to all other life forms and the animals are “mirror images” of that from which they came, symbiotically. Thus we have a choice to build our cells from the understanding of Natural Law, where the ultimate nutrition comes from sunshine and the origins of life on Earth. One may benefit from the rejuvenating power of nature’s best nutrients for life and there is the true anti-aging and rejuvenation. That choice would involve a whole new way of thinking about nutrition rather than a constant pop-culture, social event of missing the obvious.

A paradigm for new anti-aging technology can only succeed when the top players also realize the infinite power of evolution and use both the modern discoveries along with the old, established evolutionary requisites; chlorophyll and chlorophyll created nutrition as the ultimate, high test fuel with the cleanest burn and hence less or nothing to detox.

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CHLOROPHYLL & HEMOGLOBIN

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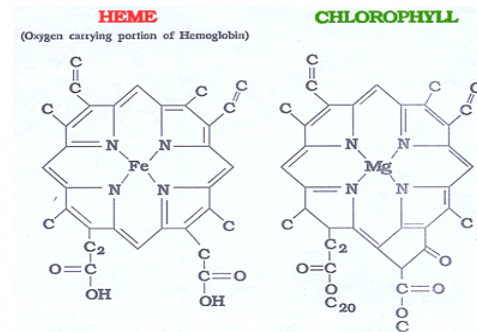


CHLOROPHYLL and the EVOLUTION of BLOOD

My intense research as a human blood microbiologist and my keen instinct and understanding of “Natural Law” has me convinced me of the obvious; we cannot change our evolution and most of the energy on planet Earth comes from the sun. That may not be saying much, but, sometimes the obvious is where the best answers are.

Throughout planet Earth there is a vast diversity of plant life and an equally vast diversity of animal life and the symbiotic relationship between plants and animals has been clearly well established. What is interesting to note is that all of the green plants produce their own food (from sunlight + carbon dioxide + water) through the process of photosynthesis and this complex conversion is how plants alchemically change light into matter as they create their own food supply. It is this original source of captured sunlight (energy) that has shown itself to be the essence of life and vitality for everything alive here in this ecosystem.

A molecule of chlorophyll is remarkably mirrored by the HEME (blood) molecule with the major difference being the center atom of chlorophyll is magnesium while in the blood it is iron. Look at the obvious similarity below;



How are these molecules similar?

How are they different?

Where do you get your magnesium?

WHY ARE MOST AMERICANS MAGNESIUM DEFICIENT?

We can see compelling molecular evidence to our own evolution and symbiotic relationship to green plants. It is interesting how they are opposites on the color wheel as well, with the original sun and water (yellow and blue) creating life (green) and then the HEME (red) came later.

In the beginning of life on Earth there was the cyanobacteria, the original form of life, a green algae still here producing chlorophyll. After a billion years or so, the atmosphere was getting "polluted" with too much oxygen from the green plants and a new form of life evolved. Thus, the animals, which would utilize the oxygen and return the carbon dioxide needed by their symbionts, the plants. All animals have evolved from the pre-existing plants and thus all animals are dependent upon the plants for the production of calories from sunlight to be food.

CHLOROPHYLL is our best answer if we are seeking ultimate nutrition and anti-aging. This green substance has been well known for cleansing, detoxifying, rejuvenating and energizing qualities and it is the absolute cleanest way to bring the harnessed energy of the sun directly into our blood, hence bringing the energy, calories and life energizing force.

The obvious miracle of this chlorophyll molecule for producing cellular energy is exactly the same for all the creatures that graze upon the grasses. Thus it obvious where the true nutrition is according to Natural Law; it's in the chlorophyll from the grasses. More biomass of animals feed on grasses than any other food on Earth.

The cereal grasses (wheat, oats, corn, rice etc.) all produce high quality chlorophyll as well as powerfully dense nutrition in their seeds. It is the sustenance from the cereal grasses that has provided nutrition for our evolution over the last 20,000 years as man has known how to cultivate crops rather than roam in search of food. Grasses lead the way as the "super-food" in the nourishment of animal cells and there are few exceptions (cats may be true carnivores).

WHAT HAS GONE WRONG IN THE LAST 100 YEARS?

Plenty, starting with a move away from fresh produce based diets to Completely **Refined And Processed (CRAP)**. Natural Law has not allowed us to evolve to this **CRAP** that is so prolific in the American diet. It is shocking to see parents poisoning their children with Completely **Refined And Processed** garbage and then also not taking the time to understand even the basics of real nutrition. Worse still, because of the massive amount of mis-

**WAKE-UP AMERICA,
TAKE BACK YOUR OWN
HEALTH, THE LIFE YOU
SAVE WILL BE YOUR OWN!**

information, Americans are completely occupied with nonsense such as counting calories, fat, sugars (although most don't realize what they are actually counting) amounts of specific compounds like vitamins and minerals, and even taking synthetic compounds to the false belief that "man-made" nutrition can replace the abundance of "God-made" nutrition still evident in everything green and everything made from green chlorophyll.

No animals are eating the brown, dead leaves of autumn due to the fact that the GREEN is where the nutrition is... there is none in the brown, caramelized sugars of the fallen leaves. Yet, this is what our supermarket shelves are full of; brown, cooked out of nutritional vitality, empty starch-carb-sugar calories without any "sunlight" rich qualities, so they devitalize bodies compared to what the sunshine "God" foods can deliver readily. This is why I sprout my own food. Americans and those following our Standard American Diets (**SAD**) are doing so at their own peril.

THE CHEMISTRY OF HEMOGLOBIN AND MYOGLOBIN

At one time or another, everyone has experienced the momentary sensation of having to stop, to "catch one's breath," until enough O₂ can be absorbed by the lungs and transported through the blood stream. Imagine what life would be like if we had to rely only on our lungs and the water in our blood to transport oxygen through our bodies.

O₂ is only marginally soluble (< 0.0001 M) in blood plasma at physiological pH. If we had to rely on the oxygen that dissolved in blood as our source of oxygen, we would get roughly 1% of the oxygen to which we are accustomed. (Consider what life would be like if the amount of oxygen you received was equivalent to only one breath every 5 min, instead of one breath every 3 s.) **The evolution of forms of life even as complex as an earthworm** required the development of a mechanism to actively transport oxygen through the system.

Our blood stream contains about 150 g/L of the protein known as **hemoglobin (Hb)**, which is so effective as an oxygen-carrier that the concentration of O₂ in the blood stream reaches 0.01 M the same concentration as air (~20%). Once the Hb-O₂ complex reaches the tissue that consumes oxygen, the O₂ molecules are transferred to another protein **myoglobin (Mb)** which transports oxygen through the muscle tissue.

The site at which oxygen binds to both hemoglobin and myoglobin is the **heme**. At the center of the heme is an Fe(II) atom. Four of the six coordination sites around this atom are occupied by nitrogen atoms from a planar