

The Engine of Life and The BioMat

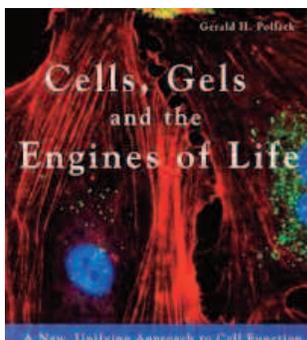
By Thomas Myers

Thomas Myers directs Kinesis, which offers continuing education seminars worldwide for manual and movement professionals. Tom is the author of *Anatomy Trains* (Elsevier 2001, 2009) and *Fascial Release for Structural Balance* (North Atlantic 2010) and numerous journal and magazine articles. www.anatomytrains.com

I have been using the BioMat® for general health, and specifically for restoration after my frequent bouts of air travel. It is clearly more effective and physiological than a simple 'heating pad', but the available written material on the mechanism by which the BioMat might positively affect cell function positively was either missing or way too 'New Age' for me.

Recently, I came across some new information on far infrared rays and how they might work to clean and renew nearly every cell of the body. The basic research comes from Dr Gerald Pollack, the author of *Cells, Gels, and the Engines of Life* (Ebner and Sons, Seattle, 2001 - (see it on Amazon.com) whose work revolutionizes the way we think about cell function and how it is powered. In this piece, I extrapolate from Dr Pollack's work to how the BioMat may be working.

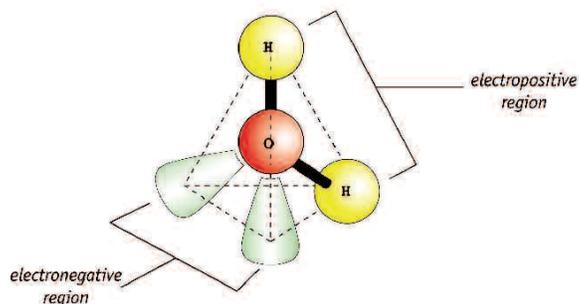
The standard model has cell function powered entirely by fuel – glucose, sugar, and the ATP → ADP conversion. Dr Pollack shows that some of the functions within the cell can be powered by light – far infrared light waves specifically.



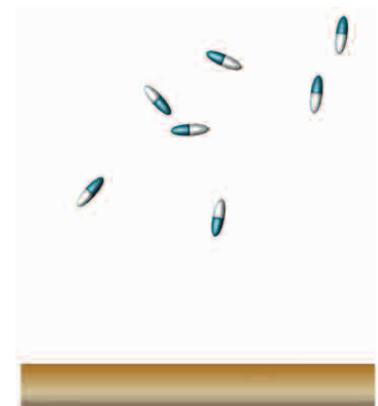
As you might expect the action of the far infrared waves is via that most widely distributed substance in our bodies – water. Water molecules are 99% of the molecules in the body. Please note, this does not mean the body is 99% water, as H₂O molecules are very small, and protein molecules are huge in comparison. By volume, a body is generally between 60-75% water, depending on how old it is and how much fat it has. Nevertheless by number water very much dominates the molecular count.

We think we know a lot about water, but there are many aspects of this simple element that remain mysterious. I am not talking about Masaru Emoto's *Hidden Messages in Water* (Also on Amazon.com). Take the time to examine his studies and, as pretty and emotionally appealing as his results are, you will find his self-selecting methods do not stand up to scrutiny. Water is mysterious enough without making up stories. Pollack's work, on the other hand, has been replicated and confirmed by many labs.

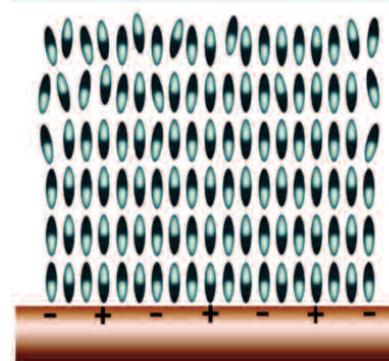
Water is a dipole molecule, meaning it is polarized with electrically positive and negative ends.



In regular water – in the tap or in the pond – the molecules are constantly shifting position, going every which way, random and not lined up.

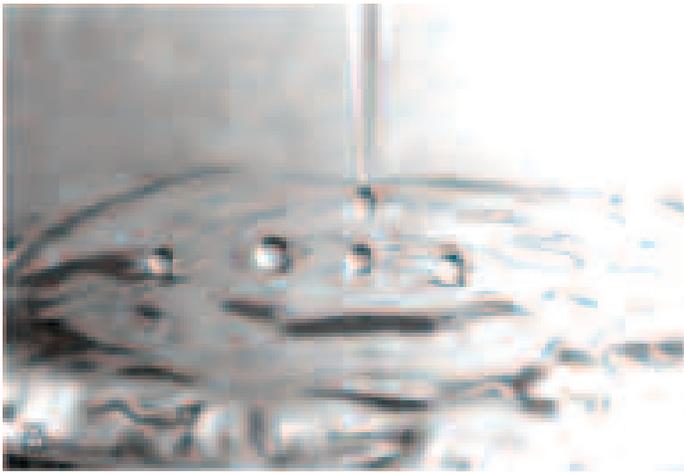


Run a current through it, and the water molecules will line up – the very definition of a 'liquid crystal'.

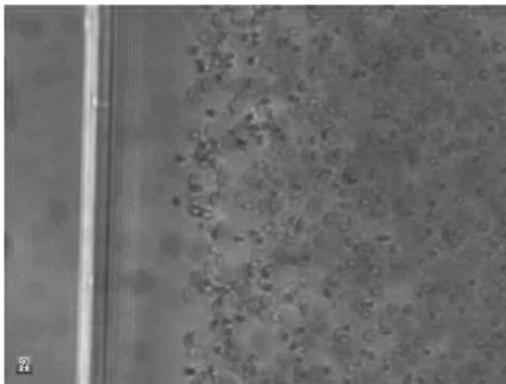


This also happens along edges, accounting for surface tension at the upper 'edge' of a glass of water which can support a carefully placed paper clip when it 'should' sink, or a water boatman beetle on the surface of a pond. Even water will 'float' on water for a bit as two same-charged surfaces repel each other.

As the water lines up in rows building out from the edges of these membranes, the aligned water molecules become a liquid crystal, creating what Dr Pollack calls an 'exclusion zone' (EZ). Pollack has



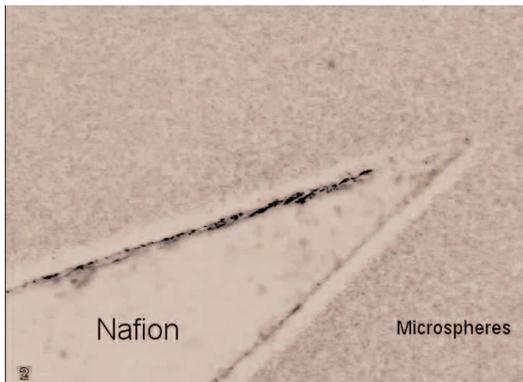
shown that the EZ from a properly charged surface can extend not just a few molecular layers away from the surface, but millions of molecular layers away from the surface – enough to create layers in the water that are visible in the microscope and occasionally to the naked eye. This is a very strong effect, and the surprise is that it has not been studied more in cells=



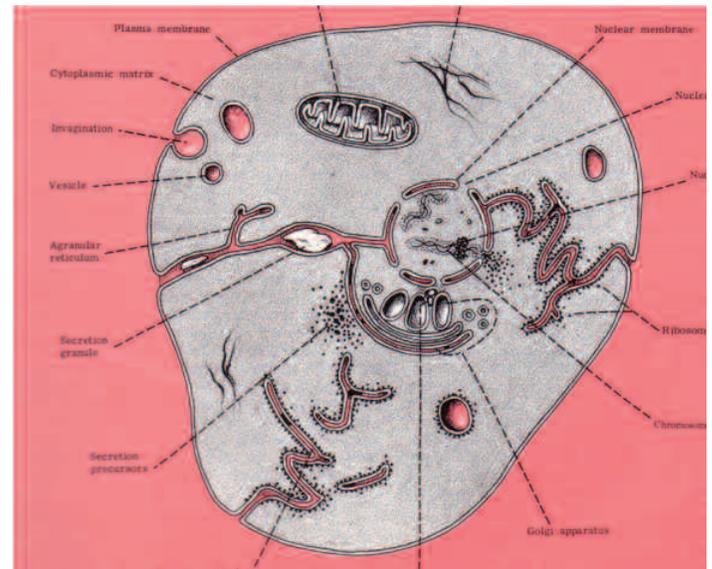
In the EZ, the array of aligned water molecules – the liquid crystal – leaves no room for other solutes in the water, so all other

substances are forced out of the zone, essentially 'filtering' the water, pushing all other substances back out of this exclusion zone. In other words, this layer of liquid crystal water essentially cleans the area, also clearing up the 'windows' (ion channels) in the cell membrane through which ionic balance happens and cell functions accelerate.

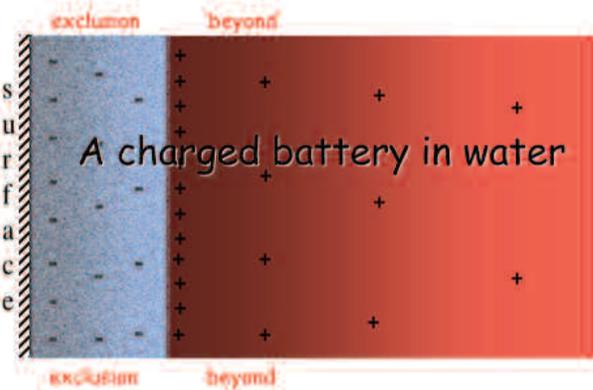
Most people still think of a cell as something like a water balloon – a bag of water with the membrane providing the outer skin. If so, you need an update: The mem-



brane of a cell is not only the surface; it is folded like curtains into the structure of the whole cell, including such inner structures as the endoplasmic reticulum, the Golgi apparatus, and even the nuclear membrane wrapped around the genetic material. The membrane thus goes not only around the outside the cell but all through the cell – think of the cell membrane less like a water balloon and more like a balled-up piece of paper or tissue, where the membrane is enfolded in a complex but singular way all through the cell, as well as forming the mosaic of the surface.



This phenomenon of 'membrane' (with nearby water forming into these ordered rows of a liquid crystal, expelling all foreign substances and thus acting as a filter for the 'cell juice', or cytoplasm) is thus happening throughout the cell and affecting its many processes, not just on its surface.

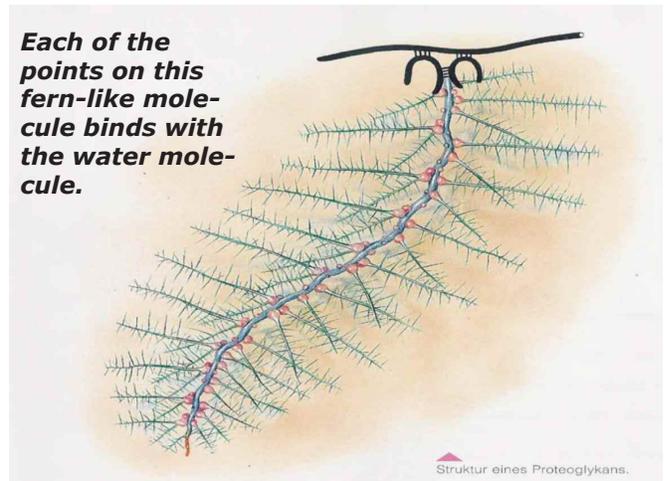


Because of the charge, this process of crystallizing and pushing substances 'upstream' creates a tiny battery along every edge within the cell – both via the folded membrane as well as the 'cytoskeleton' (the microtubules in the cells which form another surface for water molecules to fall in line around).



And it gets better than that: Much of the water in your body is between the cells – lymph, interstitial fluid, cerebrospinal fluid, and blood ‘plasma’ – but even this water is affected by the ordering of the liquid crystals along the polarized ‘edges’ of the huge hydrophilic protein gels (ground substance, or glycoaminoglycans) that also occupy the intercellular space. So this filtering function is not only happening within the cells themselves, it is also happening between the cells, where many toxins lie stuck in these gels.

There is a kicker to this interesting and largely ignored story: Power is needed to line the molecules up, create the battery, push the other substances out of the exclusion zone, and maintain the array. And this power, Pollack has found, come from the far infrared rays occurring naturally in our environment. The Biomat, however, concentrates these



infrared rays, sending them deeper into the body than the randomly occurring rays from the sun and objects around us, greatly magnifying this ordering and filtering function. In this way, the Biomat is very conceivably greatly augmenting the body’s natural ability to reorder and clean itself.

I have tried far infrared saunas and other products that claim to reorder the body electronically, sweat out heavy metals, and restore healthy function to the cells. The two essential elements that make this possible theory effective are 1) the literal energetic power contained within the infrared rays (of which the Biomat creates much larger amounts than simple sunlight, and seemingly stronger, more ordered, and more penetrating than a sauna), and 2) the ability of these rays to penetrate deeply within the body – and I have yet to find a device that appears to send this organizing energy more deeply into the human system than the Biomat.



Tom Myers (left) talks with Gerald Pollack at the Fascial Research Conference in 2012. Tom lives, writes, and sails on the coast of Maine with his partner Quan and their animals.