

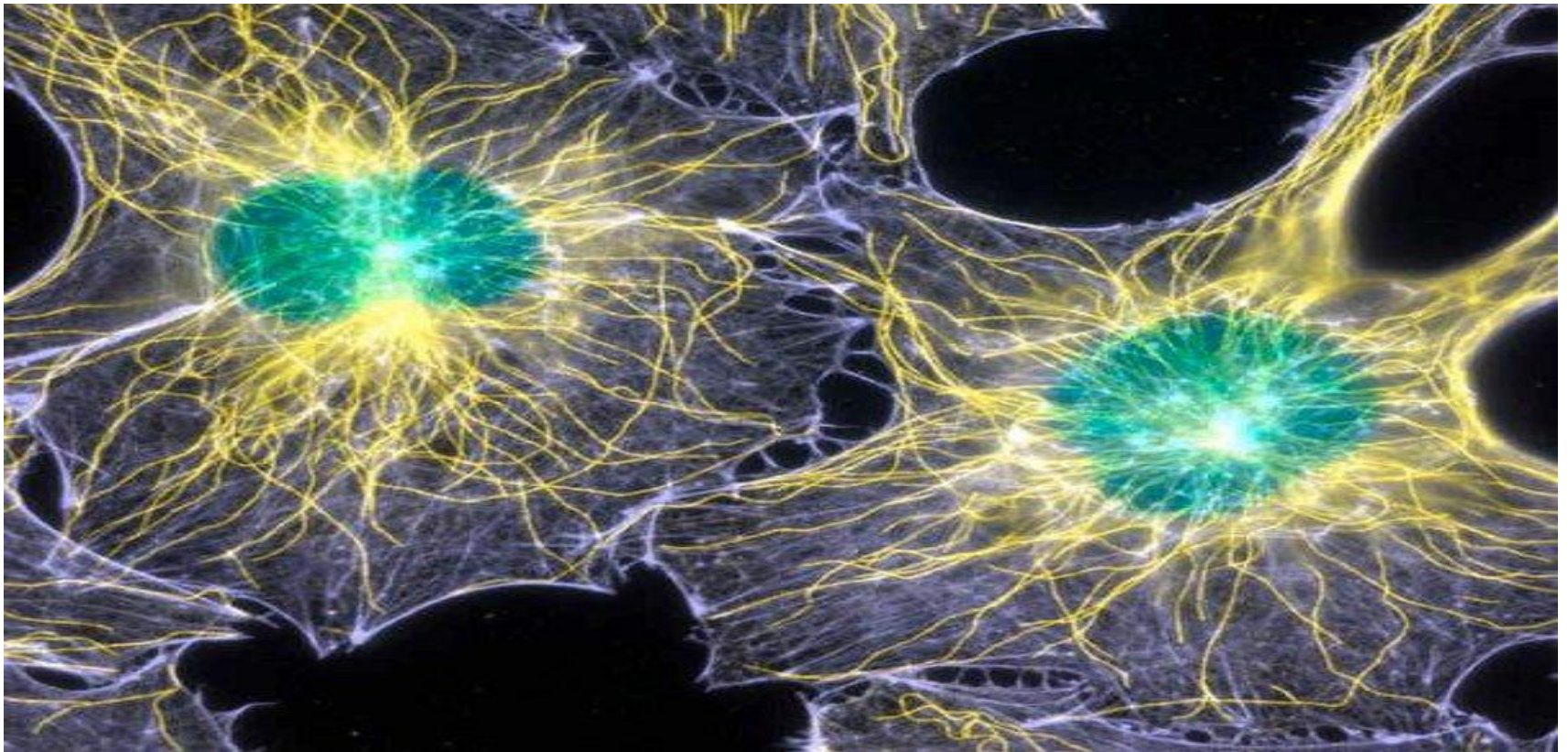


The Living Light:

Can biophotonic light emitted from trained probiotic microbes help balance the body?

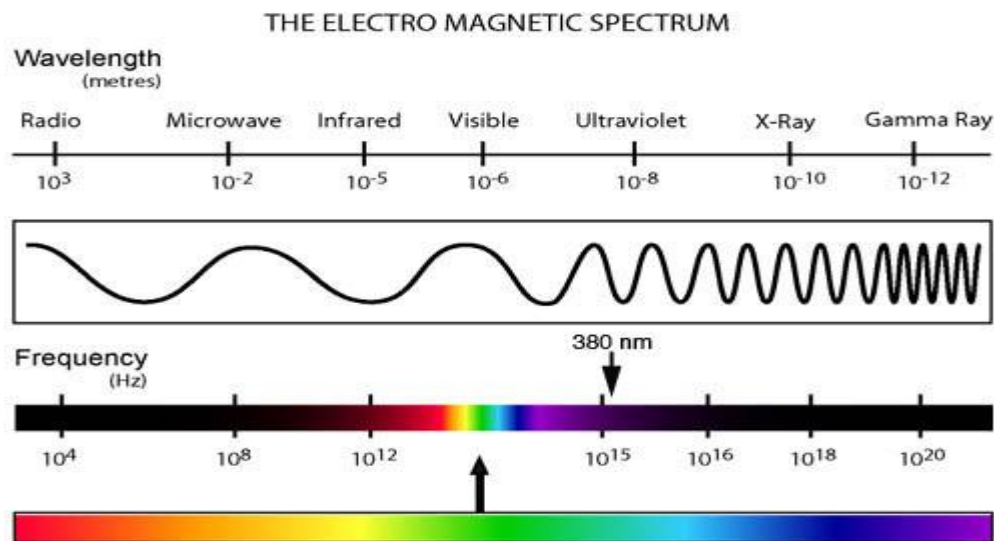
Presented by Compton Rom Bada
Arizona Naturopathic Medical Association (AzNMA) Spring Conference
June 2-3, 2012

We are literally Light Beings 1



Are humans really beings of light? Our cells release biophotons

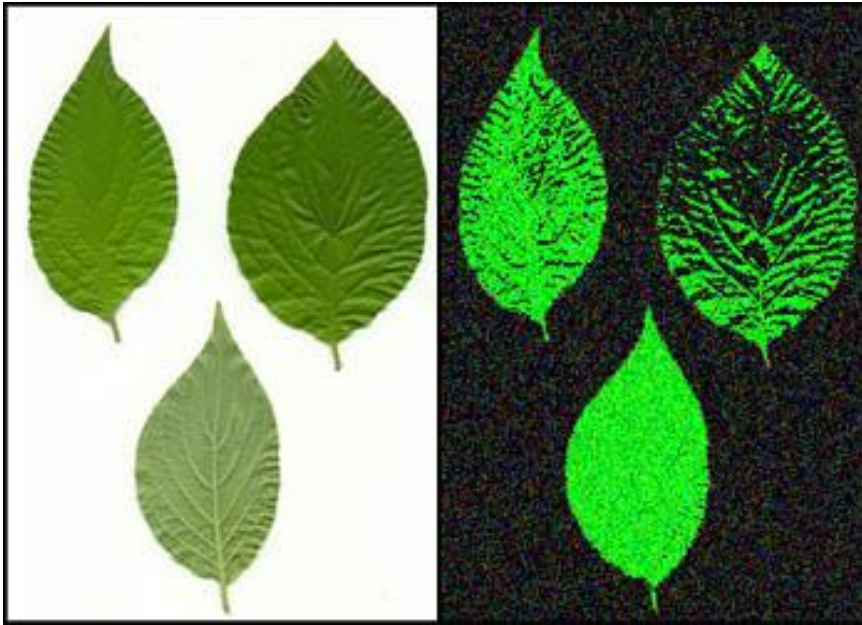
- In the 1970's, Dr. Fritz Albert Popp coined the term "Biophotons", for the ultra weak photonic emissions given off by cells during reactions. This light is very weak - typically **several million times as faint as the light from a firefly**. He was able to confirm that living cells emit small bursts of light. He determined that cells do not just radiate light, they also absorb light. He later found out that **DNA is a source of our inner light** [Cell Biochemistry and Biophysics Volume 6, Number 1, 33-52](#)



- Another source is from **free radicals** emitted when our cells are under stress. Since enzymes and anti-oxidants usually mop up reactive oxygen molecules and free radicals before they can damage the cell, a **healthy cell tends to release very few photons**, maybe only tens per minute. Not easy to collect, even in a pitch-black lab.
- In the 1980s, when light detectors called **photomultipliers** were developed, researchers found these emissions coming out of everything from plant seeds to fruit flies.

New Scientist magazine, vol 173 issue 2331, 23/02/2002, page 30

Plant cells emit light



To prove this, Dr. Popp placed a fresh cutting from a plant and a wooden match in a plastic container inside the dark chamber and closed the light proof door. Immediately he switches on the photomultiplier and the image shows up on a computer screen.

The match stick is black while the green, glowing silhouette of the leaves is clearly visible.

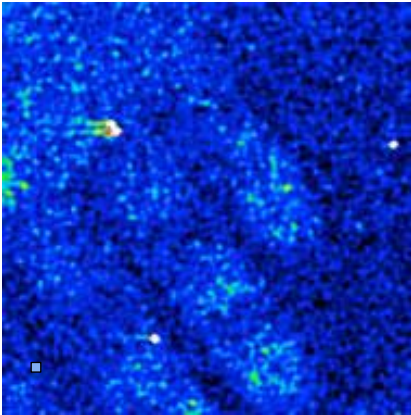
Dr. Popp exclaims, "We now know, today, that man is essentially a being of light."

"There are about 100,000 chemical reactions happening in every cell each second. The chemical reaction can only happen if the molecule which is reacting is excited by a photon... Once the photon has excited a reaction it returns to the field and is available for more reactions... We are swimming in an ocean of light."

These 'biophoton emission', as Popp called them, provided an ideal communication system for the transfer of information to many cells across the organism.

The Field, Lynne Mc Taggart

Human cells emit light



Ultra-weak biophoton emission from a human hand

- The origin of the biophoton is the reactive oxygen species (ROS) produced in biochemical reactions and metabolic processes, such as mitochondrial aerobic respiration. Injury and biological stress increases ROS. <http://www.eng.kyushu-u.ac.jp/e/research/quantum/research/studies02.html>

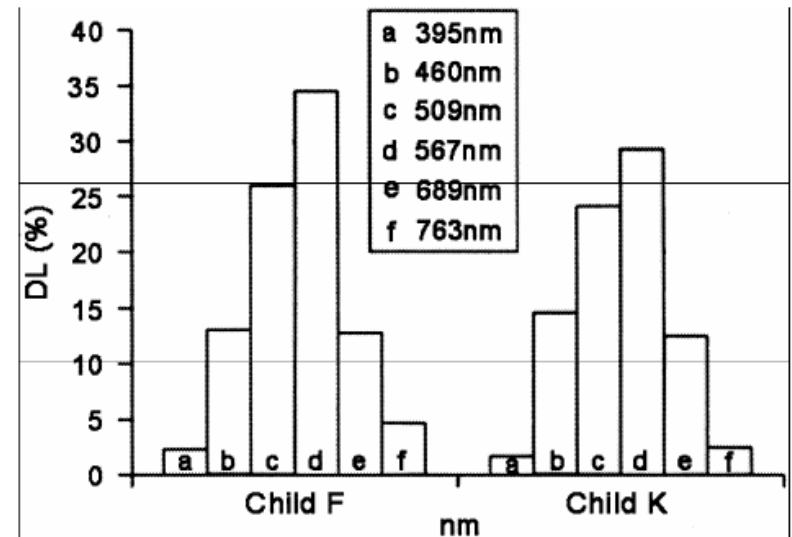
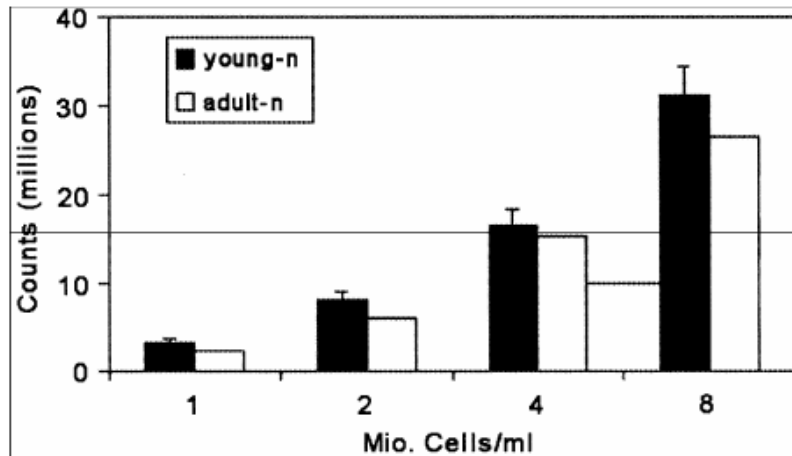


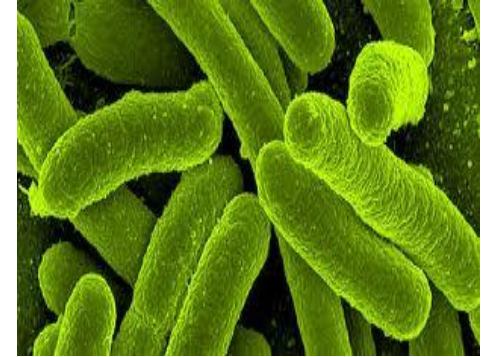
Fig. 2—Initial rates of DL of normal young skin fibroblasts (3229 p 13 and 117; 1221 p 16 and 22), adult fibroblasts (GM 1717; p 9)

- When subjected to UVA rays, human fibroblasts show a marked ability to emit Biophotonic Light in the range of 395 – 763 nm, with the strongest emission in the 560 – 650 nm range (red)
- Note that **younger cells emit more healing biophotons than adult skin cells**

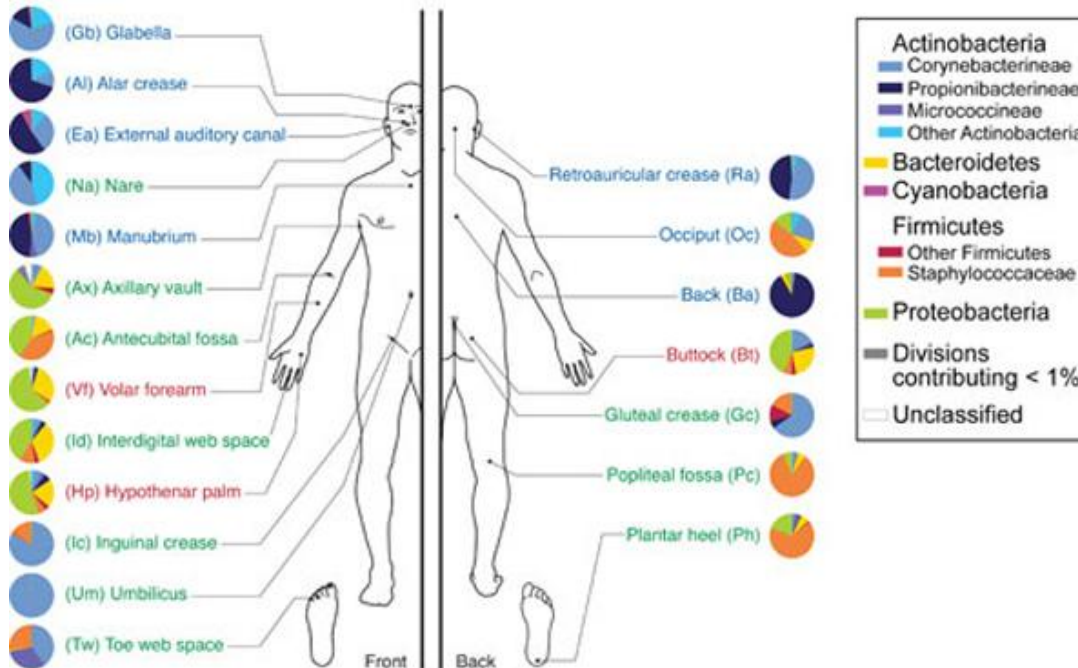
Niggli et. al *INDIAN JOURNAL OF EXPERIMENTAL BIOLOGY* 2008, VOL 46; NUMB 5, pages 358-363

Microbes emit 100 times more light than humans

- The number of photons emitted seemed to be linked to the organism's position on the evolutionary scale -- **the more complex the organism, the fewer photons were emitted.**
- Humans emit only **10 photons/cm²/sec** at a wavelength of 200-800 nm.
- Rudimentary animals and plants tended to emit **100 photons/cm²/sec** at a wavelength of 200-800 nm, corresponding to a very-high-frequency EM wave well within the visible range
- **Microbes emit over 1000 photons/cm²/sec , and drastically increase their ability to emit biophotons when in growth phase at a low (10⁷) concentration.**



Biophotons (1998) by Jiin-Ju Chang, Joachim Fisch, Fritz Albert Popp, pg. 19



**Guess What:
Our bodies are crawling with
microbes**

<http://blogs.discovermagazine.com/notrocketscience/2010/08/08/an-introduction-to-the-microbiome/>

Our bodies are healed by Light **2**



NASA engineers found that external LED light heals

- NASA found that, in space, wounds are slow to heal, bone atrophied and minor injuries did not heal until landing on Earth.
- Light-emitting diodes (LEDs), developed for NASA Space Shuttle plant growth experiments, are being used in the treatment of wounds. <http://sbir.nasa.gov/SBIR/successes/ss/8-035text.html>



- Doctors at the Medical College of Wisconsin have examined how LEDs can help heal oral mucositis (severe oral sores caused by chemotherapy and radiation),
- diabetic skin ulcers
- serious burns
- **LED usage has been approved by the Naval Special Warfare Command**

Light heals SAD (Seasonal Affective Disorder) & Jet Lag

Brain Stimulation Headset

Valkee substitutes the mood-elevating effects of the sun, by channeling safe bright light directly to photosensitive regions of the brain through the ear canal. That's why Valkee increases energy, and can act as a preventative or treatment of mood swings.

Valkee has CE Class II(a) medical device certification and is clinically tested.

[Buy Valkee](#)



edhealth
healing products

all natural • high frequency • body regeneration

But our body produces its own light to heal (internal light)

Photorepair Phenomenon

- Blast cells with UV rays so that 99% are killed, but wait an hour and then apply 380 nm light at a VERY LOW intensity, the cells will autorepair and HEAL.
- Patients with xeroderma pigmentosum [right] eventually die of skin cancer because their photorepair system can't repair solar damage.
- When Dr. Fritz Popp analyzed various chemicals, the ones that **scrambled UV light at 380nm** turned out to be **carcinogens**
- If the chemical allowed 380 nm light to pass through unchanged, it was not.
- He was also struck by the fact that **photorepair works most efficiently at 380 nm** - the same frequency that the cancer-causing compounds react to and scramble
- If this light was blocked in the body by chemicals, cancer ensues.
- **Where did the healing light come from?**



From our own damaged skin cells emitting Biophotons

F. A. Popp C.W. Kilmister (ed.), *Disequilibrium and Self-Organisation*, 207-230. 1986 Reidel

What are the differences between healthy
and diseased cells in terms of Biophotonic emission?

3

Diseased plant cells emit less chlorophyll, but more biophotons

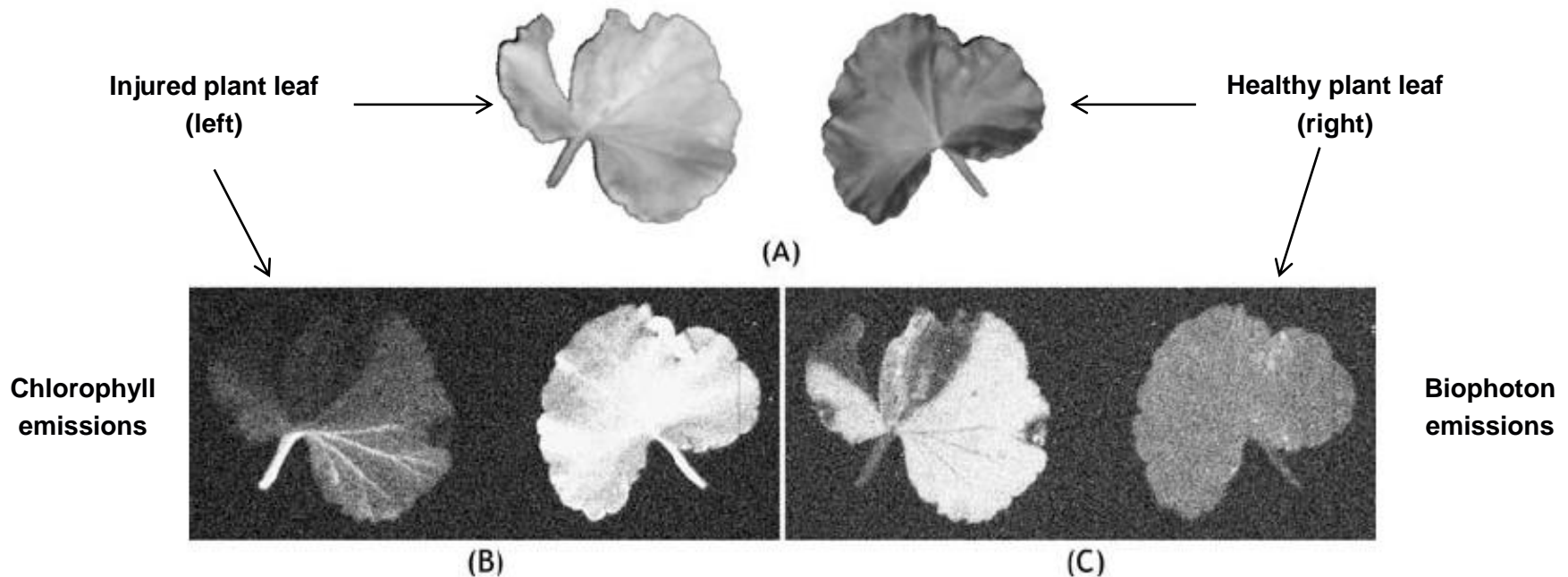
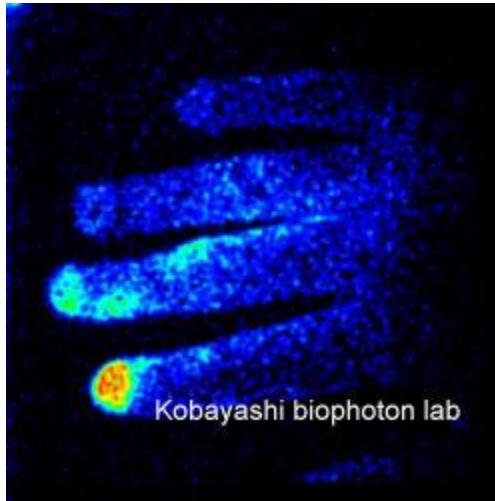


Fig. 7. Unhealthy (left) and healthy (right) geranium leaves. (A) Digital camera photograph. (B) Chlorophyll fluorescence (1-minute exposure) in darkness. (C) Biophoton image (10-minute exposure) after 27 minutes in darkness.

- A plant's response to injury is to emit more biophotonic light – plant on Left in (C)
- Note that the HEALTHY plant on the right in (C) has less of a biophotonic light emission

Creath & Schwartz, Journal of Scientific Exploration, Vol. 19, No. 4, pp. 531–550, 2005
Center for Frontier Medicine in Biofield Science, University of Arizona

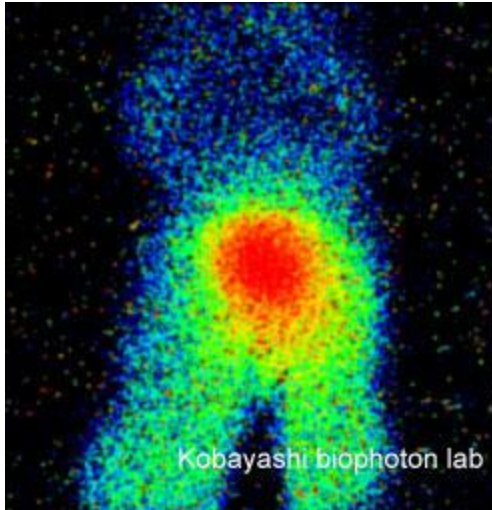
Diseased Human cells also emit more light than healthy cells



Biophoton image of human subjects can be also detected.

- Photon emission on the finger tip of this subject would be due to the effect of cigarette smoking.
- Biophoton imaging on human bodies has potential to offer the method determining the oxidative damage of skin

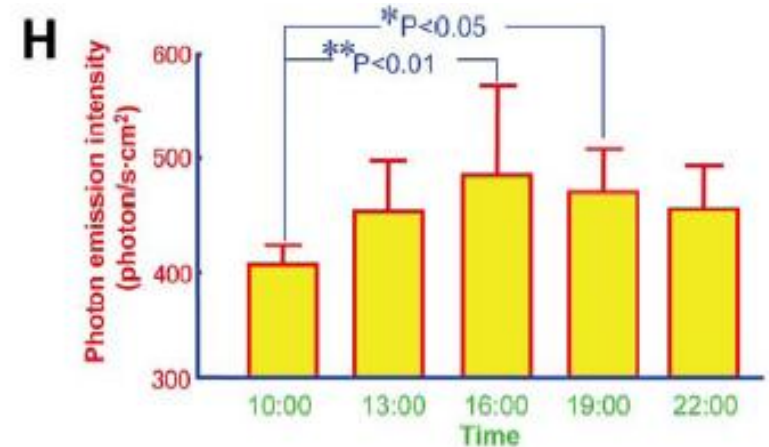
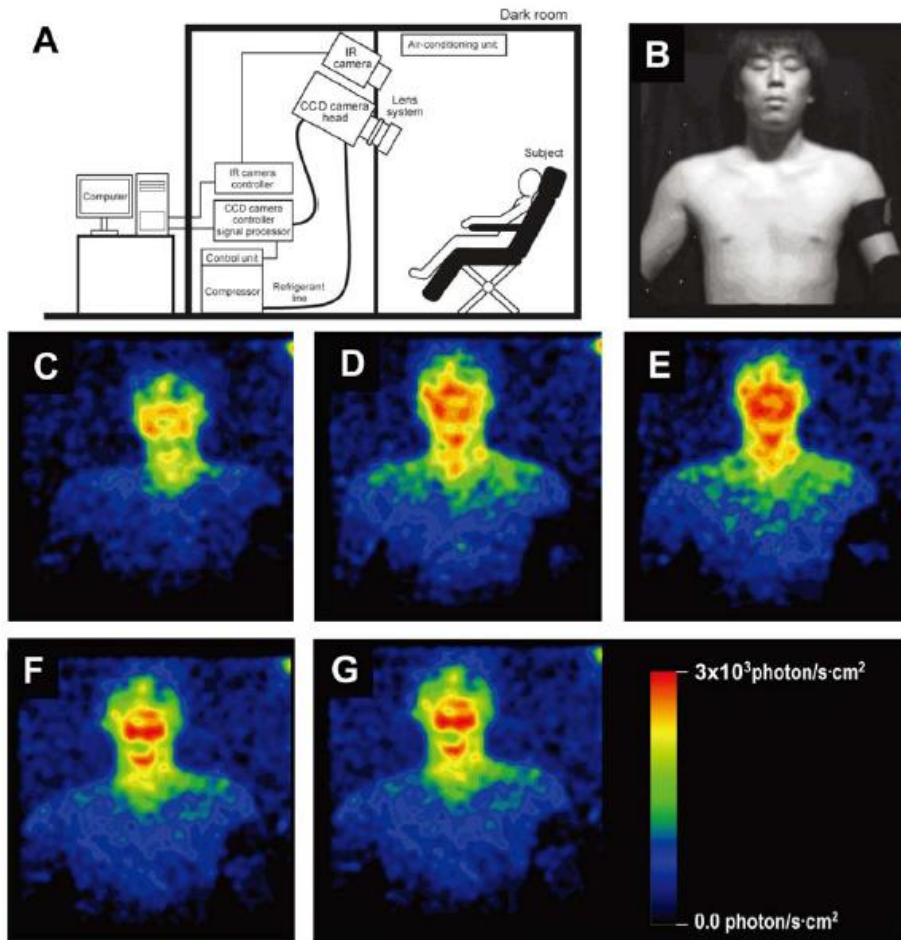
http://www.tohtech.ac.jp/~elecs/ca/kobayashilab_hp/BiophotonGALLERY.html



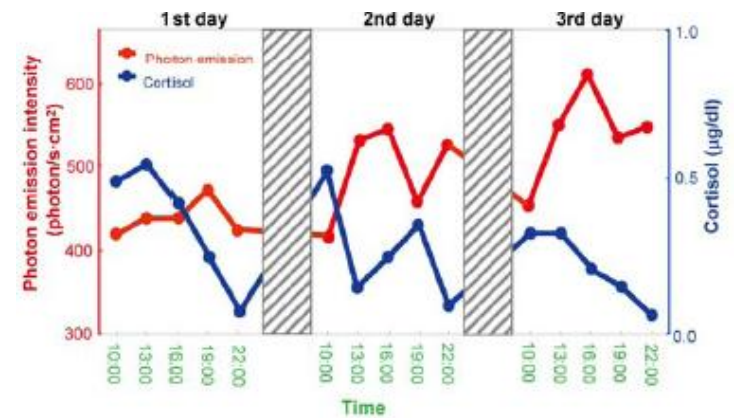
Biophoton image of a cancer transplanted mouse.

- Cancer transplanted mouse shows the enhancement of biophoton emission along with the growth of tumor.
- The correlation between biophoton intensity and growth rate is observed, representing the higher metabolic activity of cancer cells and the state of oxidative stress in cancer cells

Healthy cells also exhibit a Coherence to Earth's rhythms...



Pattern of diurnal circadian rhythm



By third day, cortisol levels show a negative correlation when rhythmic patterns emerge

Ultra-weak biophoton emissions of a person over 24 hours.

Kobayashi M, Kikuchi D, Okamura H (2009) Imaging of Ultraweak Spontaneous Photon Emission from Human Body Displaying Diurnal Rhythm. PLoS ONE 4(7): e6256. doi:10.1371/journal.pone.0006256

....While Cancerous cells & autoimmune disorders do not

Dr. Fritz Popp also showed that healthy cells show a coherent circadian rhythm:

- a 27-year-old healthy young woman -- sit in the room every day for nine months while he took photon readings of a small area of her hand and forehead.
- Popp then analysed the data and discovered, to his surprise, that the light emissions followed certain set patterns -- biological rhythms at 7, 14, 32, 80 and 270 days -- and similarities were also noted by day or night, by week and by month, as though the body were following the world's biorhythms as well as its OWN. Popp Fa. (2003). Properties of biophotons and their theoretical implications. Indian J Exp Biol. 41-5

Cancer is a LOSS of coherent light (chaos)

- Popp tried out his machine on a series of cancer patients. In every instance, these patients had **lost natural periodic rhythms as well as their coherence**. The lines of internal communication were scrambled. They had lost their connection with the world. In effect, their light was going out. Popp Fa. (2003). Properties of biophotons and their theoretical implications. Indian J Exp Biol. 41-5

Multiple Sclerosis is a state of TOO MUCH coherent light (order)

- Patients with this disease are taking in too much light, thereby inhibiting their cells' ability to do their job. Too much cooperative harmony prevented flexibility and individuality -- like too many soldiers marching in step as they cross a bridge, causing it to collapse.

Perfect coherence is an optimal state between chaos and order

- With too much cooperation, it is as though individual members of the orchestra are no longer able to improvise. In effect, MS patients are drowning in light.

Take Home:

Healthy cells emit Coherent light



Coherent light

- exhibits a constant phase relationship during the course of time (**LASERS**)

Unhealthy cells emit non-Coherent light



Non-Coherent light

- exhibits a non-constant, diffuse phase relationship during the course of time (**LIGHT BULBS**)

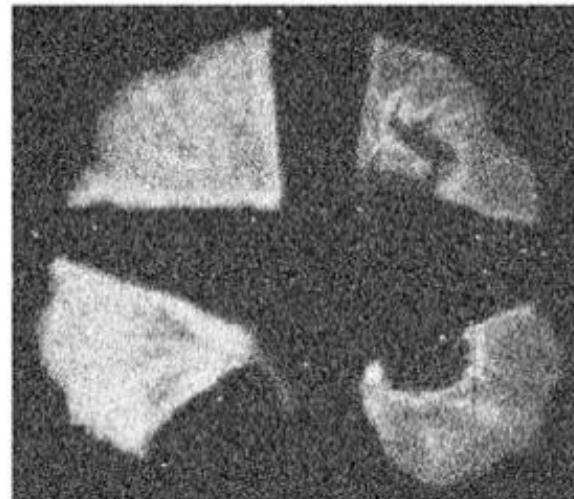
Real-time Picture



Healthy
Leaf

Injured
Leaf

Biophotonic Emissions



Healthy
Leaf

Injured
Leaf

Creath & Schwartz, Journal of
Scientific Exploration, Vol. 19, No.
4, pp. 531–550, 2005
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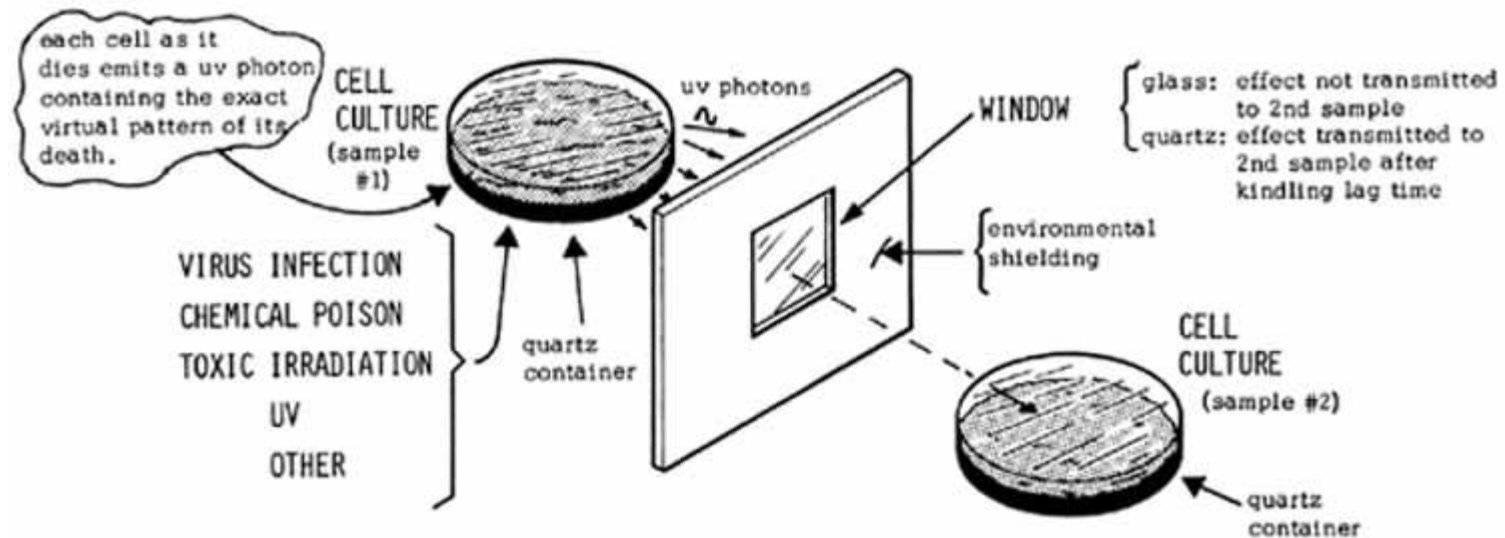
Can the light of living cells affect other living cells?

4

Yes - Proof that cells can communicate to each other via light

- In the 1970s, A Russian scientist showed that dying cells can transfer death to healthy cells through a quartz window, but not glass.

V.P. Kaznachejev et al, "Distant Intercellular Interactions in a System of Two Tissue Cultures," Psychoenergetic Systems, Vol. 1, No. 3, March 1976, pp 141-142



- Since quartz allows for UV and IR transmission, but glass does not, this light was in one or both ranges. It was not in the visible range.
- Cells, upon death and birth, are now known to elicit an ultra-weak photonic frequency that can pattern nearby cells to either illness or health.

Biophoton Light is also transferred from one organism to another

- Popp discovered in his experiments that **bacteria, sunflowers, fleas and fish “sucked up” the light emitted by other living organisms in their environment.** He concluded that this exchange of photons, or wave resonance, was a form of communication, even a means for living organisms to influence the health of each other. This may especially be the case when healers use their hands in touch or near-the-body healing. Benor, D. J. (January 2004)
- From his study of illnesses, Popp hypothesized that **illness results from incoherence**, in the form of either too little or too much light. **“Perfect coherence is an optimum state just between chaos and order.”** Popp also believed that biophoton exchange might explain “how schools of fish or flocks of birds create perfect and instantaneous coordination.” McTaggart, L. (2002, p. 51).
- Stuart Hameroff also found that living tissue emits photons.¹ In addition, he discovered that **microtubules** inside cells² conduct photons. In collaboration with other researchers,³ he realized that microtubules help create coherence of waves (“superradiance”) in the body.
- **This allows photons to “communicate with other photons** throughout the body, causing **collective cooperation of subatomic particles** in microtubules throughout the brain.”⁴
- Superradiance may account for the tendency of the brain toward EEG synchronization, and may provide another basis for **field effects between living organisms.**⁵

(1) Hameroff, S. R. (1987). Ultimate computing: Biomolecular consciousness and nanotechnology. Amsterdam: North Holland. Cited in L. McTaggart (2002, p. 92).

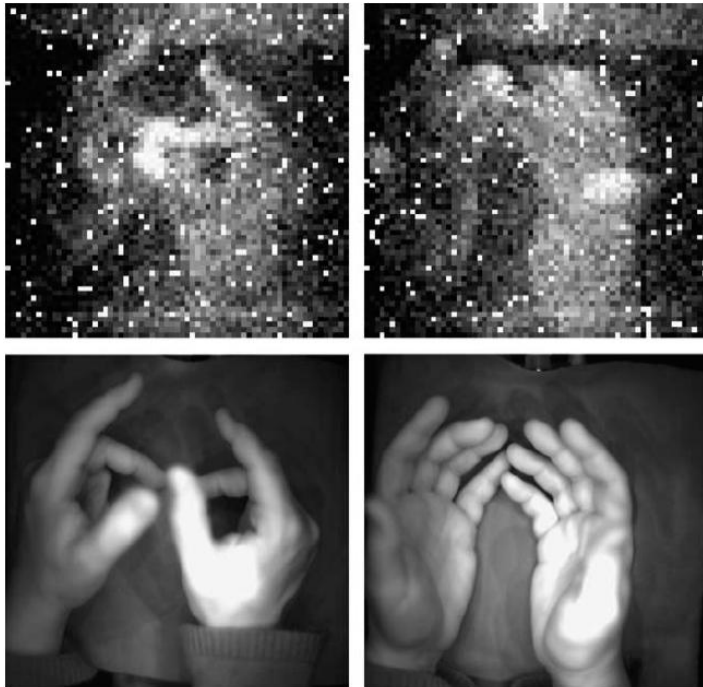
(2) Microtubules are tiny hollow cylinders made of “microscopic hexagonal lattices of fine filaments of protein, called tubulins.” McTaggart, L. (2002, p. 92).

(3) Karl Pribram, Kunio Yasue and Scott Hagan.

(4) McTaggart, L. (2002, p. 93).

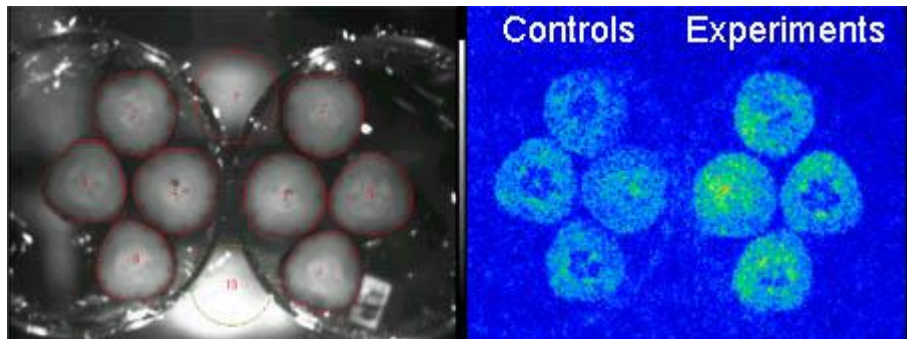
(5) Zohar, D. (1991, p. 70). The quantum self. London: Flamingo.

Can “healing hands” show biophotonic energy transfer to injured plant cells?



- Reiki , Vortex and Barbara Brennan healers subjected themselves to heal the injury sites of a cut plant leaf with hand placement 3” – 10” away from the plant
- These pictures show the biophotonic emissions of their hands

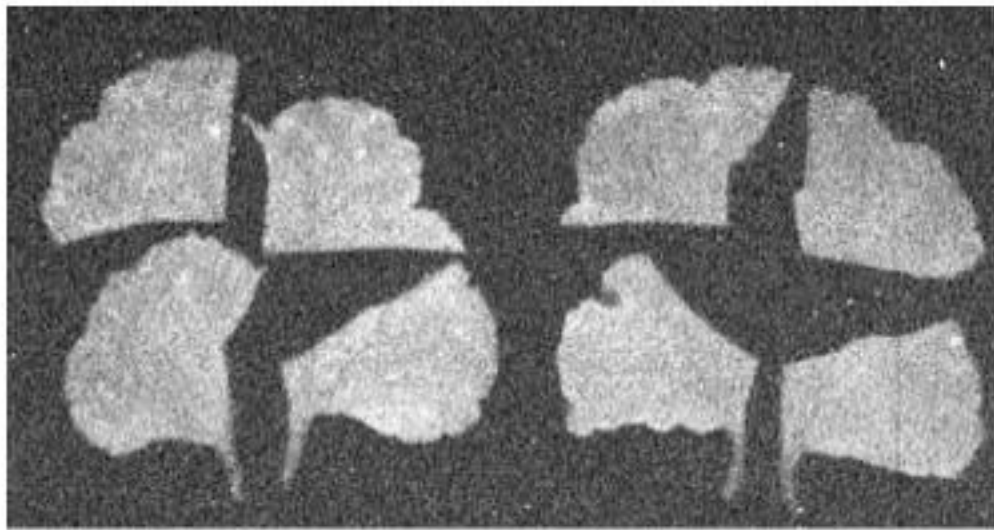
Creath & Schwartz, Journal of Scientific Exploration, Vol. 19, No. 4, pp. 531–550, 2005



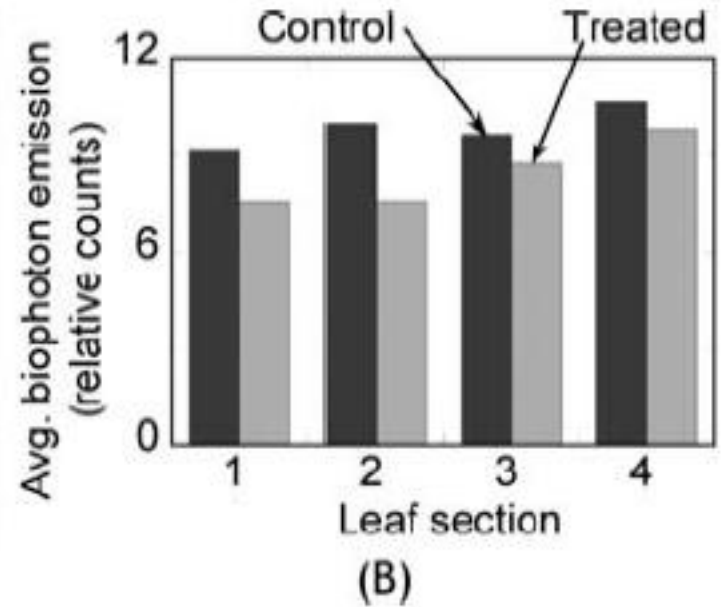
- Healing Hands on Cucumbers
- **Cumulative intensity of biophotons for 18 hours**

<http://www.parapsych.org/users/kokubo/profile.aspx>

Yes – healing intention shows a marked decrease in Biophotonic emissions from injured plant cells



(A)



(B)

Fig. 11. (A) Biophoton image (10-minute exposure) of geranium leaves in darkness for control (left) and VH treatment (right). (B) Comparison of average relative gray scale levels in each leaf section.

- The **untreated injured leaves on the left show a higher amount of Biophotonic emissions** than the **treated leaves on the right**.

Creath & Schwartz, Journal of Scientific Exploration, Vol. 19, No. 4, pp. 531–550, 2005

Conclusion:

Cells talk to each other using **LOW LIGHT INTENSITY biophotons**



- When you get a cut or scratch on your skin, the cells that are injured somehow signal the surrounding healthy cells to begin reproducing copies of themselves to fill in and mend the opening.
- When the skin is back to normal, a signal is sent to the cells to tell them to stop reproducing. Scientists have wondered exactly how this works.

Biophotonic Theory of Cell Communication (Dr. F. A. Popp)

- With biophoton emissions, inter-cellular coordination and communication could only occur in a holistic system with one central orchestrator.
- Popp showed in his experiments that these weak light emissions were sufficient to orchestrate the body's repairs. However, **the emissions had to be low intensity** because these communications took place on a very small, intracellular, quantum level.
- Higher intensities would have an effect only in the world of the large and would create too much "noise" to be effective.

Microbes and their influence to our health **5**

Surprise: 90% of our body is NOT human – it's microbes

- Humans are supra-organisms, composed of **10 times** more microbial cells than human cells. This means that **90% of our body is NOT HUMAN!**
 - > "In your guts, you have about 1.5 kilograms (**3.3 pounds**) of 1,000 different species of bacteria,"
 - > "If you include all the genes from bacteria along with your own, **only about 10 percent of the genes in your body are human**, with the rest from the gut microbes. And what bacteria you have can be quite different from person to person."

Jeremy Nicholson, Imperial College London (Nature, April 2008)

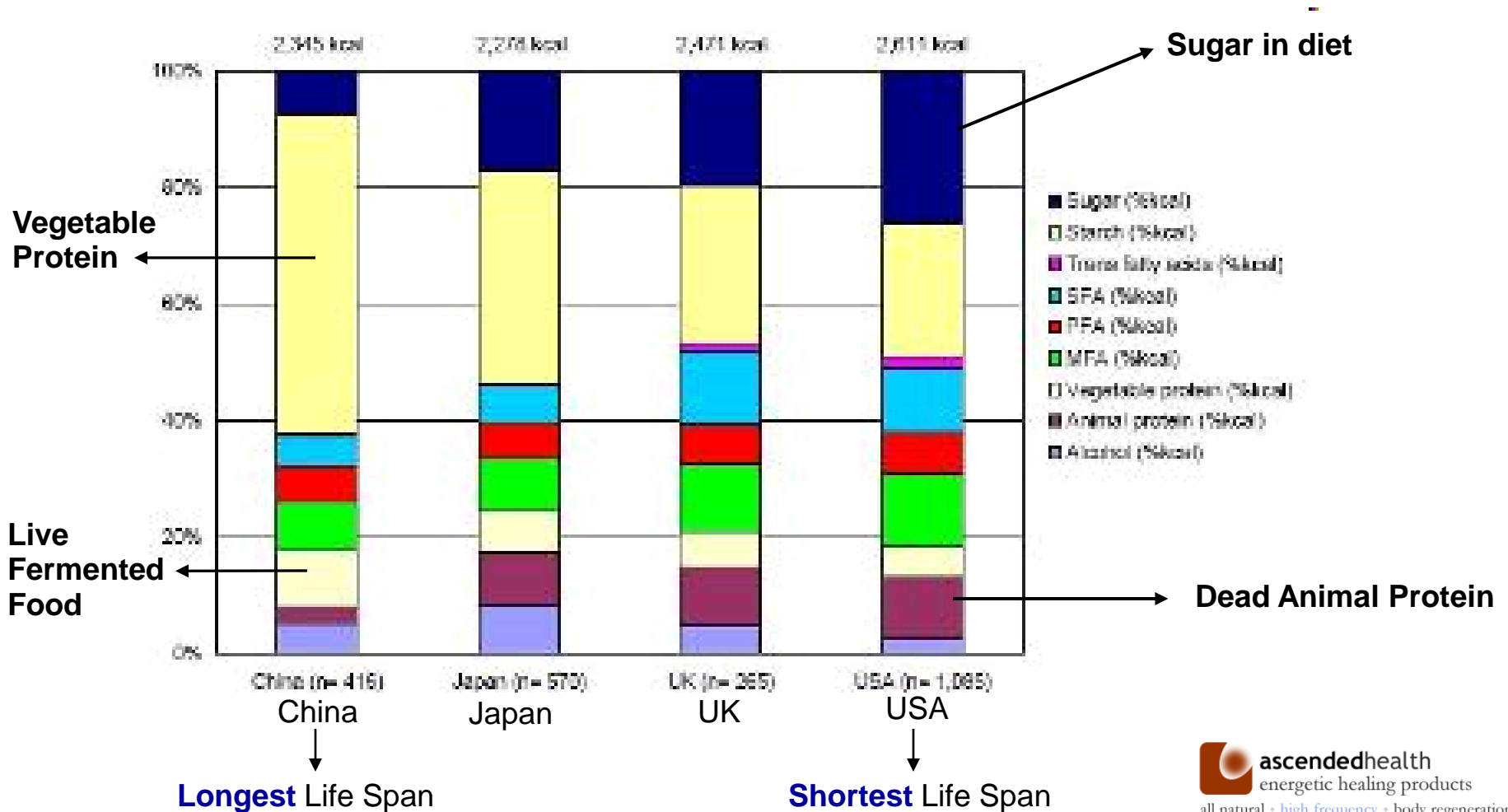
- Our intestine is home to our largest collections of microbes: bacterial densities in the colon (up to **1 trillion cells/ml** of luminal contents) are the highest recorded for **any known ecosystem**.
- Changes in these microbial communities may be responsible for **digestive disorders, skin diseases, gum disease** and even **obesity**.
- Thus, without an understanding of our microbiota and microbiome, it not possible to obtain a complete picture of our genetic diversity and of our normal physiology.

108th General Meeting of the American Society for Microbiology, June 2008



Eating fermented foods (microbes) will increase life expectancy

- Scientists analyzed urine samples from 4,630 people in the United States, Britain, Japan and China to find some surprising new links to blood pressure differences.
- Those with high amounts of metabolites linked to fermented foods and a plant-based diet healthier
<http://www.nature.com/news/2008/080418/full/news.2008.767.html>



FACT: Bacteria greatly influence how we live, heal and age

- Gut Bacteria from Children with Autism different from Children without Autism

University of Tennessee at Knoxville (2010, January 14). Bacteria are more capable of complex decision-making than thought

- The metabolism of Autistic children can't break down opiate-like casein peptides <http://www.espa-research.org.uk/urine.html>

- Changes in gut bacteria affects fertility and longevity

Disruption of the Termite Gut Microbiota and Its Prolonged Consequences for Fitness. *Applied and Environmental Microbiology*, 2011; 77 (13): 4303

Bacteria foster long life in young flies *Sci. Aging Knowl. Environ.*, Vol. 2004, Issue 34, pp. nf78, 25 August 2004

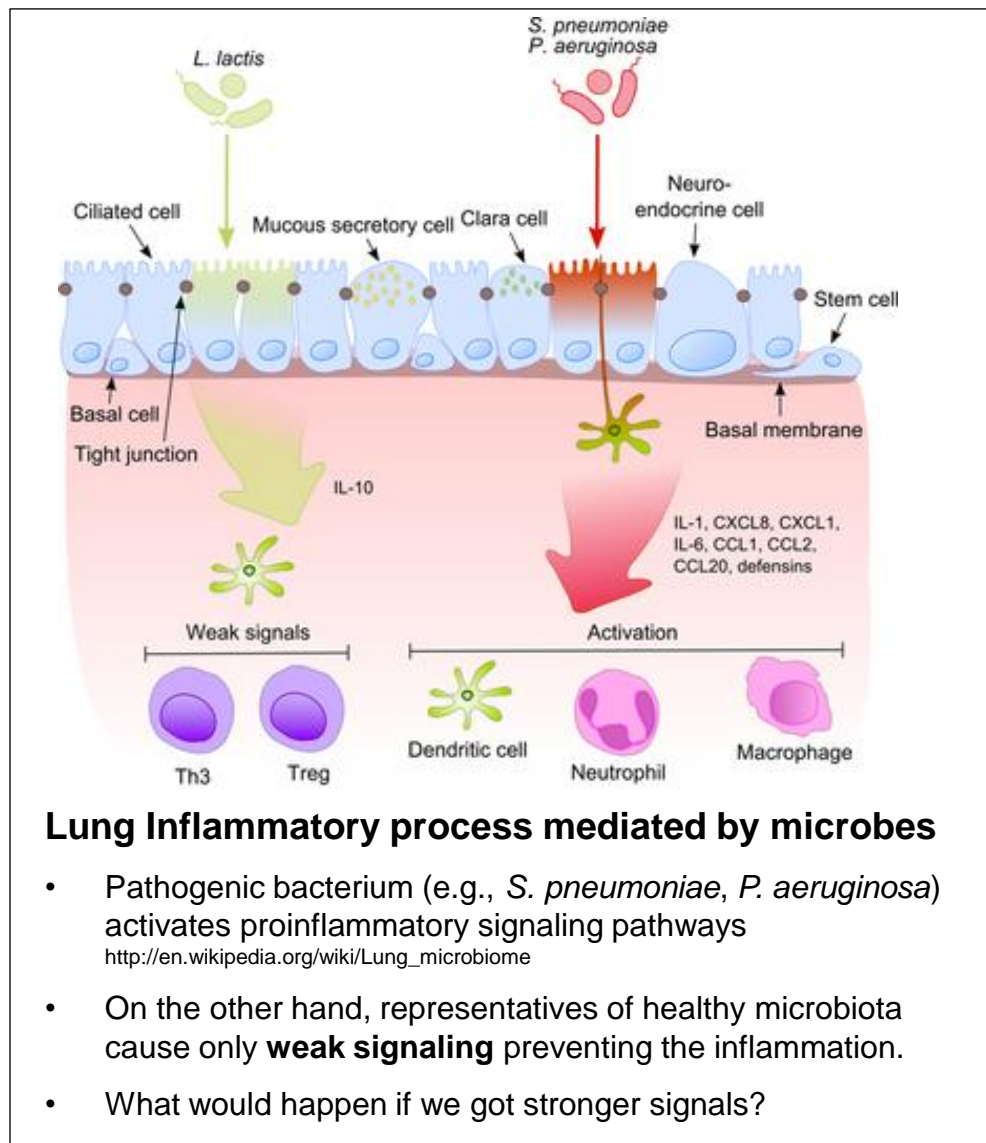
- Gut Bacteria from people in Longevity Zones different from those in Low life expectancy Zones <http://www.nature.com/news/2008/080418/full/news.2008.767.html>

- Gut Bacteria can control Obesity and Diabetes

<http://www.nature.com/nature/videoarchive/gutmicrobes/index.html>

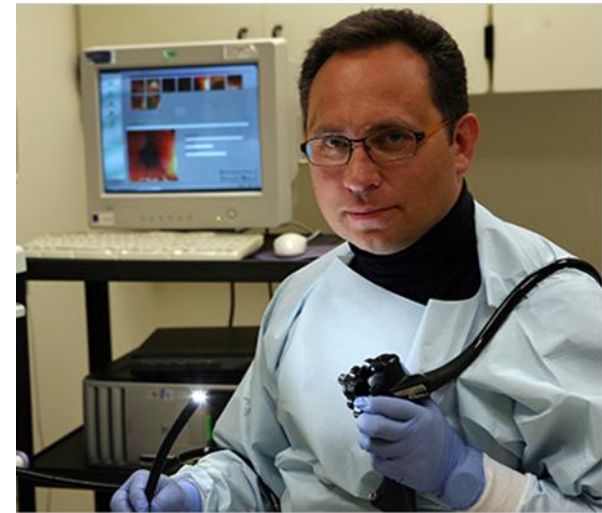
- Gut Bacteria can control emotions and cravings

Gut Pathog. 2009; 1: 6. Published online 2009 March 19.



No Gene Therapy needed: Microbes transferred from a healthy person can make a sick person well

- University of Minnesota Physician Dr. Alexander Khoruts and his U of M team have performed 16 successful colonic bacterial transplants to combat refractory *Clostridium difficile*
Borody TJ, Khoruts A. Fecal Microbiota Transplantation and emerging applications. Nat Rev Gastroenterol & Hepatol Published online 20 December 2011
- This was done via “Fecal Matter Transplants” from healthy Wife → sickly Husband
- Bonus: 6 months later, he was non-diabetic and “craved” “healthy food”



The map of our microbes is called our Microbiome

- Researchers in the **Human Microbiome Project** are sampling and analyzing the genome of our microbes.
- Change your gut microbes → Change your life outcomes
- **What they aren't mapping:** the Biophotonic strength and identification of the “influential microbes” based on actual physical results, like Navy Seal training
- **We need to identify which microbes are stronger** in being able to inhibit pathogenic microbes in vivo as opposed to researching for better antibiotics. Genomics will not do this.

Why our obsession for Antibiotics is doomed to fail: **Microbes are dynamically capable of complex decision-making to evade drugs**

- It's not thinking in the way humans, dogs or even birds think, but new findings from researchers at the University of Tennessee, Knoxville, show that **bacteria are more capable of complex decision-making than previously known.**

- The study found that bacteria can dynamically react to environmental conditions and physically move to areas that have better living conditions
- This may include knowledge of when microbes form spores and cysts to evade antibiotics

- The discovery sets a landmark in research to understand the way **bacteria are able to respond and adapt to changes in their environment**, a trait shared by nearly all living things, and it could lead to innovations in fields from medicine to agriculture.

- *E. coli* has only five receptors that direct its decision-making process about movement, while the nitrogen fixing soil bacteria *Azospirillum brasilense* has 48 receptors, making it comparatively much "smarter" in its ability to detect changes in its environments and as a result, to make complex decisions regarding where to move.

University of Tennessee at Knoxville (2010, January 14). Bacteria are more capable of complex decision-making than thought

- This may be why **soil bacterium from Blue Zones** around the world, found in fermented foods seem so good at **conferring longevity in the Human body.**

<http://www.scientificamerican.com/article.cfm?id=jeremy-nicholsons-gut-instincts>

Regulatory players involved in *R. centenum* encystment

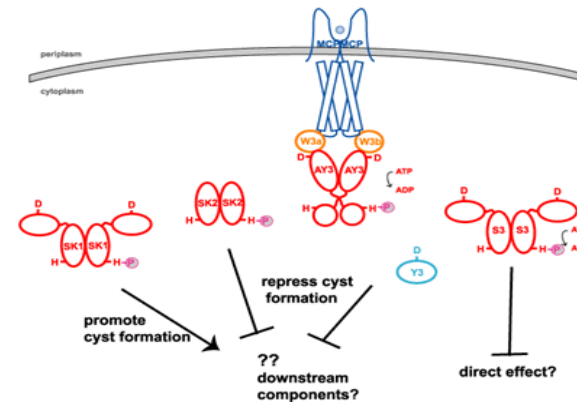


Fig. 4. Regulatory components controlling cyst formation in *R. centenum*

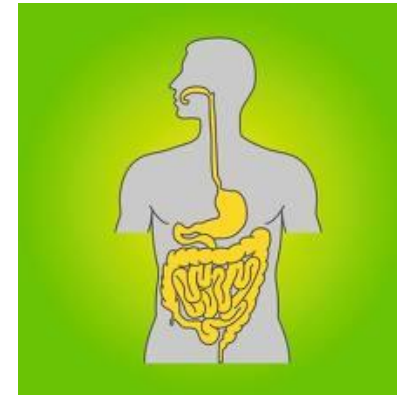
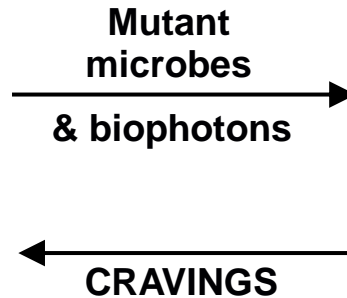
**Microbes emit more Coherent healing light
than plants or humans**
- and ingesting them will have an effect on us

6

When we eat food, we ingest light and biophotonic frequencies

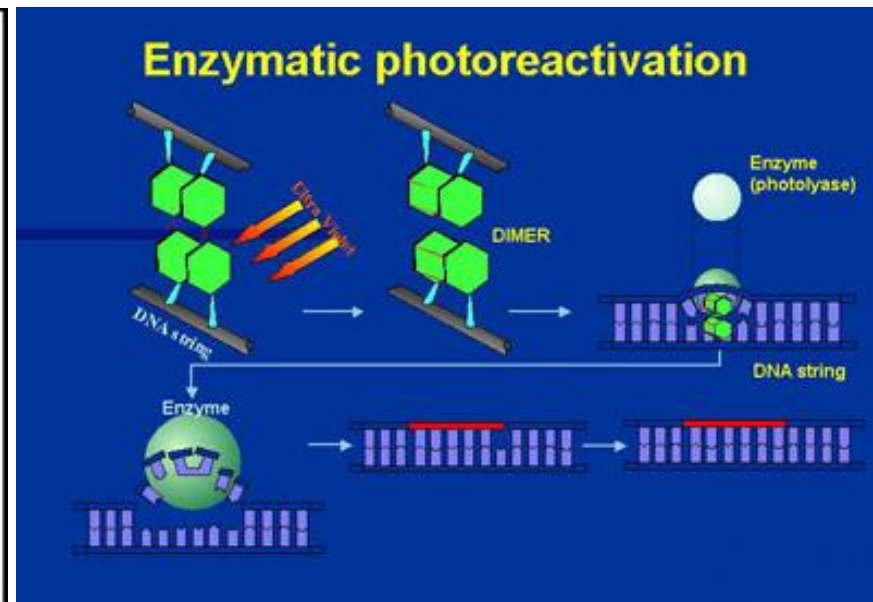
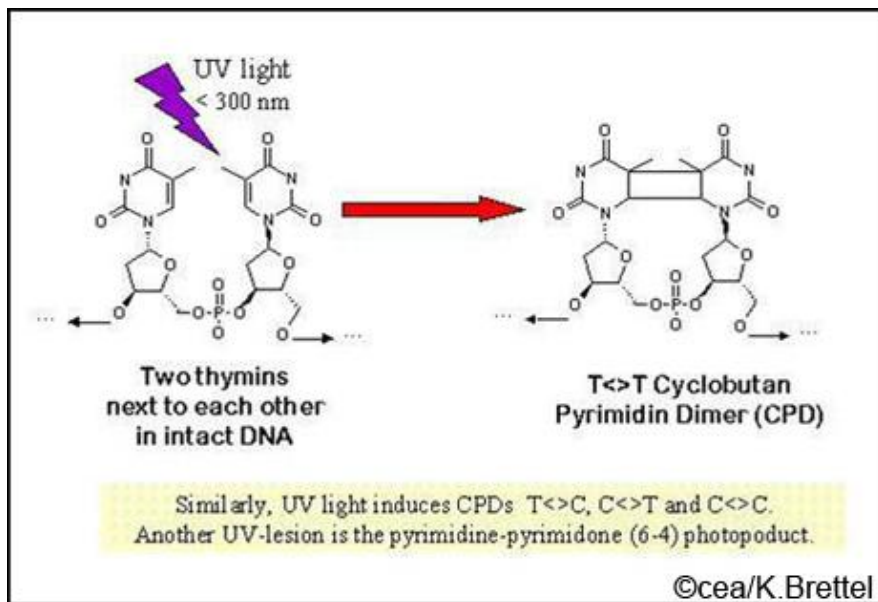
- Dr. Popp tested the photon coherency of free range eggs as opposed to those produced in a battery pen. The results showed that the **free range eggs had far more coherent light emission** than those produced indoors.
- He then proceeded to examine different food types and found the foods considered **the healthiest foods were found to have the lowest and most coherent intensity of light.**
- It is Popp's belief that **when plants are consumed, the body breaks it down and then utilizes the energy or light present** in the eaten plant and distributes it throughout the entire range of electromagnetic frequencies. This then becomes the driving force of the cells of the body (McTaggart, 2001).
- **Therefore, when microbes are consumed, we utilize their light as well.**

The food we eat is not sterile – we also eat millions of microbes with each bite, along with their biophotonic light emissions



- Microbes found on **fast food** include **mutant** species of **pathogenic bacteria and fungi**, including *E. coli*, *Pseudomonas*, *Clostridium*, *Salmonella*, *Yersina* and *Aspergillus Niger*
Microorganisms Found in Fast and Traditional Fast Food Journal of American Science 2010;6(10)
Distribution of Escherichia coli O157:H7 in beef J Food Prot. 2004 Feb;67(2):246-51.
- **Cravings** are due to gut microbes. **Eat unhealthy food – you crave unhealthy food. Eat organic food – you crave healthy food.** Ingestion of *Lactobacillus* strain regulates emotional behavior and central GABA receptor expression in a mouse via the vagus nerve Bravo et. al : 10.1073/pnas.1102999108 *PNAS* August 29, 2011
Proc Nutr Soc. 2000 Aug;59(3):373-84.
- Also found are **Casomorphins** and **Gliadomorphins** (peptides from microbial digestion of cow's milk and gluten). They both have an opioid effect. *International Dairy Journal* Volume 19, Issue 4, April 2009, Pages 258–263 Volume 6, Issue 4, April 1996, Pages 383–397
- **One of the strongest opiates, β -casomorphin, is found on American cheese fermented by a mutant of *Lactobacillus helveticus*** *International Dairy Journal* Volume 6, Issue 4, April 1996, Pages 383–397
- **Microbes are a prime determinant in how our body functions and heals/destroys itself**

Microbes ability to Photorepair much more powerful than humans



Sancar, A. (2003) Chem. Rev. 103, 2203-2237

Microbial Biophotons from Photorepair can affect neighboring microbes

- Experiments show that **microbes can repair themselves hours after 99.99% of them are “killed” via UV light**. This is called Photorepair, mediated by the Photolyase enzyme

Water Res. 2007 Jun;41(12):2832-8. Epub 2007 Apr 27.

- Microbes heal themselves this way through Biophotonic Light by emitting at 380 nm.**

F. A. Popp C.W. Kilmister (ed.), Disequilibrium and Self-Organisation, 207-230. 1986 Reidel

Ascended Health's position on wellness

Heal our Microbes, heal ourselves.

Microbial biophotons are influential. We believe that they can affect the microbes in our bodies to heal their home – our body.

We believe that we can affect our own Microbiome through Light.

- 90% of all the living cells in our body are microbes
- We are living in our own private Apartheid. The sooner we acknowledge that majority of conscious sentient inhabitants in the ecosystem we call our body, the better off we will be. It's their body too.
- We should be EMBRACING MICROBES, not killing them off
- **Antibiotics and the violent patterns of our approach to health care is, at a fundamental level, against the laws of nature**
- Nature works in community, not in isolation. Monocrop farms NEVER work. The plants, trees, microbes, insects, fungi all work to create an environment that works for everybody. The same thing with our body.

Our Question: **7**

Can Microbial extracts full of healing Biophotons transfer to humans?

Emission of Coherent Light is a key to healthy cell growth

- In the 1980s, Popp found that **two cells separated by an opaque barrier release biophotons in uncoordinated patterns**. Remove the barrier and the cells soon begin releasing photons in **synchrony**. The cells, Popp concluded, were communicating by light. http://www.tohtech.ac.jp/~elecs/ca/kobayashilab_hp/NewScientist.html



Esmeralda

Daisy

Who's got your Goat?

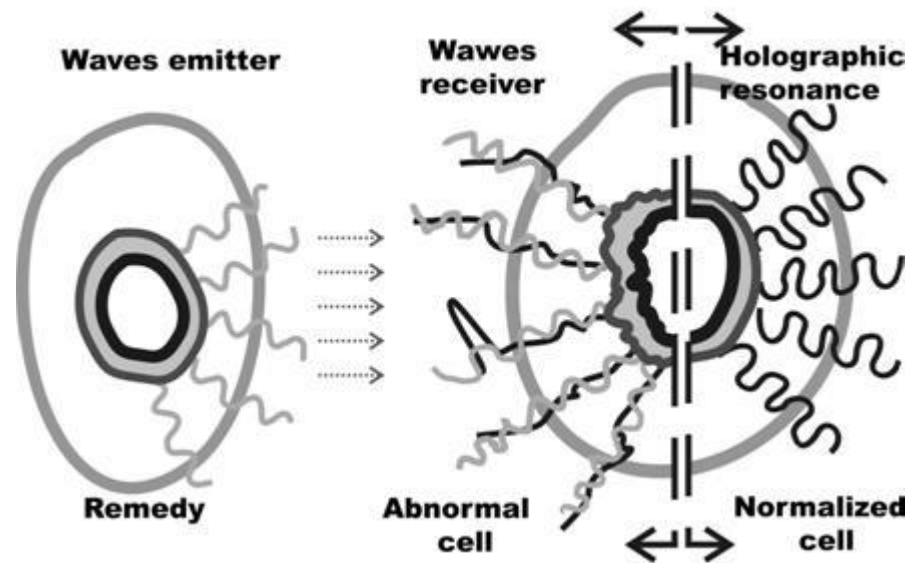
- In horse racing, skittish race horses are calmed down via synchrony by goats.
- If the goat disappears, the horses go crazy <http://sportsillustrated.cnn.com/vault/article/magazine/MAG1004875/2/index.htm>

If goats can calm down horses, can “trained” microbes calm down other “distressed” microbes in the human microbiome?

- If these microbes were from **longevity zones**, then they would impart further intelligence to the microbes in the body
- Based on results, the people in these zones are calm and youthful
- These microbes, over the ages of time, demonstrate “Perfect Coherence” that balance between Chaos and Order

Hypothesis: Trained, Intelligent Microbes from Longevity Zones around the world can emit calming and coherent Biophotonic light and affect the microbes that live within us.

- Similar to homeopathy, we believe in the ability for microbes to communicate to human cells, but in a live, dynamic and complex way, via biophotonic light emission:



- Therefore, it only makes sense to choose the microbes wisely
- **Based on results and logic, the healthiest microbes will be found in the healthiest people**
- These microbes can be found in their food and their gardens

Strategy to select and train intelligent microbes for Biophotonic Potential

8

Criteria for identifying Intelligent Microbes

Choose microbes in fermented foods and wild medicinal plants from **Longevity Zones around the world**

- Costa Rica, Vanuatu, Andorra
- Wild native plants have more biophotons and soil microbes have been shown to be more complex than other microbes.

Choose microbes in fermented foods and wild medicinal plants from **Cold Spot Regions around the world**

- Copper Canyon, Mexico & Kamkatcha Peninsula, Siberia
- These regions have microbes that have survived millions of years and have high innate intelligence

Bhullar K, Waglechner N, Pawlowski A, Koteva K, Banks ED, et al. (2012) Antibiotic Resistance Is Prevalent in an Isolated Cave Microbiome. PLoS ONE 7(4):e34953.

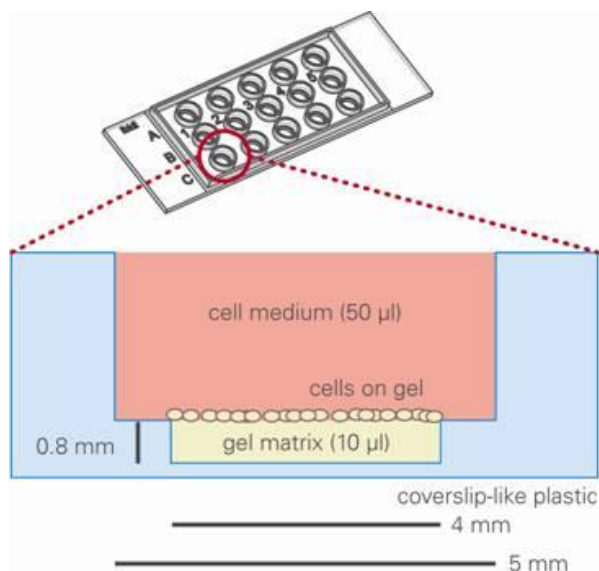
Find **Fermented or Ripened Foods and Tonics that have a reputation for longevity and wellness**

- Pu-erh Teas from Yunnan, China & Kefir Grains from Eastern Europe
- People who drink these beverages are functional well past 100 yrs age

Strategy for training & selecting Intelligent Microbes

Put them under stress conditions (and see who comes out the other end)

- Similar to **boot camp** for Army Rangers and Navy Seals
- **Stresses:** UV light, Pathogenic Bacteria, Environmental Toxins
- **Microbial Remediation:** A recently published article in Environmental Microbiology reveals that indigenous microbiota of the Galician shore is readily able to degrade crude oil.
- If Microbes can degrade (metabolize) oil, they also degrade each other & toxins



Well within a well concept

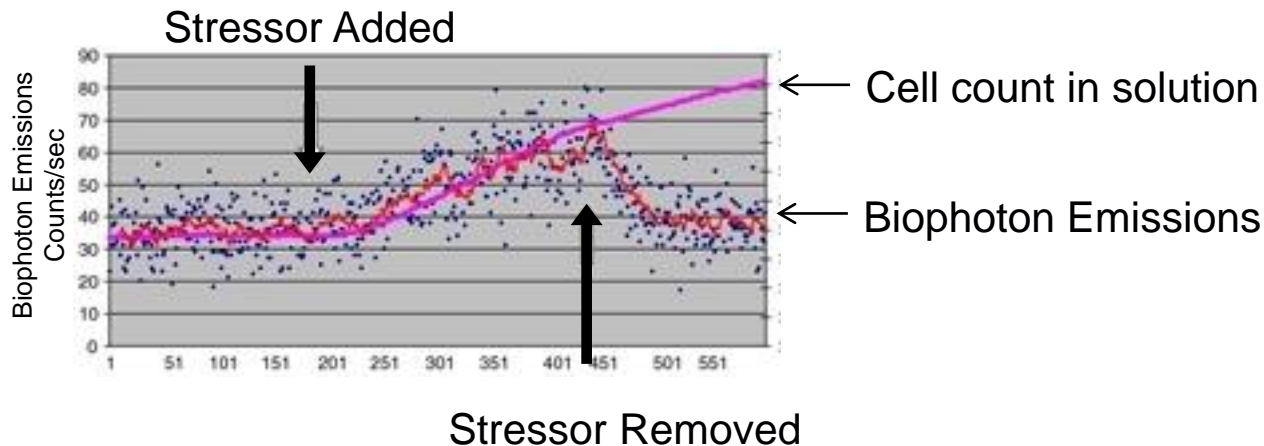


Assay tray to optically select and measure successful microbe cultures

Measuring the Biophotonic strength of Trained Intelligent Microbes

Measure their biophotonic output in growth solution

- After training, the growth of **these microbes will emit biophotons** in their culture medium and solution, which can be measured
- Because of the availability of Information-packed Biophotons, liquid probiotics of trained microbes are preferred over dried probiotics in capsules.
- Dried Probiotics in capsules are dead and like raw army recruits. They really don't know how to defend their territory and take over.
- **Biophotonic measurement is a new way to measure Probiotics**
- CFUs (colony forming units) alone is not enough.



Conclusion:
These microbes are now “trained” and are proven to emit biophotons in reaction to a particular stressor.

Hypothesis:

When a stress is added to solution (e.g. Mercury), the well with the microbes that can break it down and eat it will grow full of microbes. When the toxin is fully broken down, the Biophotons will also decrease. These “trained” Probiotics should do the same thing in vivo, training other microbes in the body.

Examples of Trained Probiotic Solutions

Immunity boosting Liquid Probiotic (ProAlive™)

- Microbe species (*L. casei*, *L. rhamnosus*) trained to digest ds DNA virus protein coat (e.g. Herpes, Influenza)

Detoxifying Liquid Probiotic (Active Detox™)

- Microbe species (*L. plantarum*) trained to use toxic heavy metals (e.g. Hg, Pb, As) as cofactors in metallo-proteinases, thereby excreting them from the body

Dental Probiotic (Oralive™)

- Microbe species (*S. salivarius*) trained to counteract *S. mutans*, plaque and manage inflammatory response

Skin Probiotic (DermAlive™)

- Microbe species (*B. laterosporus*, *S. epidermidis*) trained to help counteract the proliferation of candida, staph, yeast and other fungi on the skin and in the body cavities

Ascended Health

Thank You.