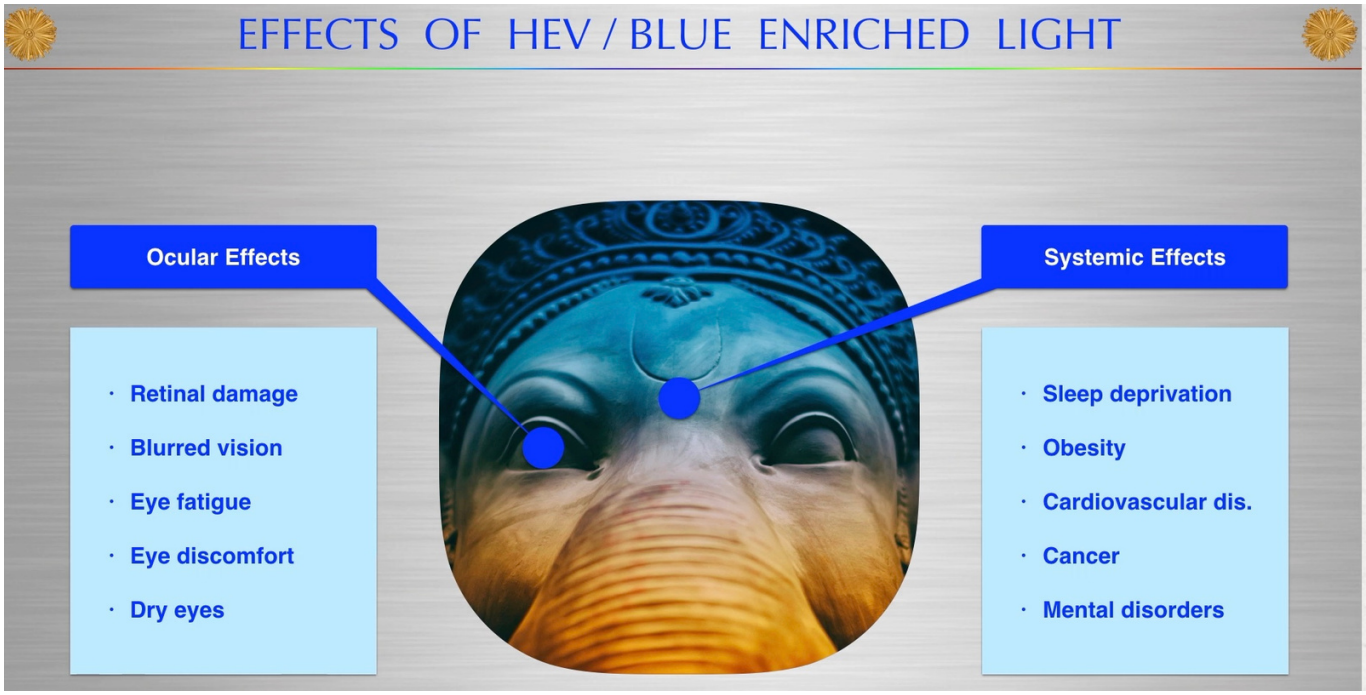
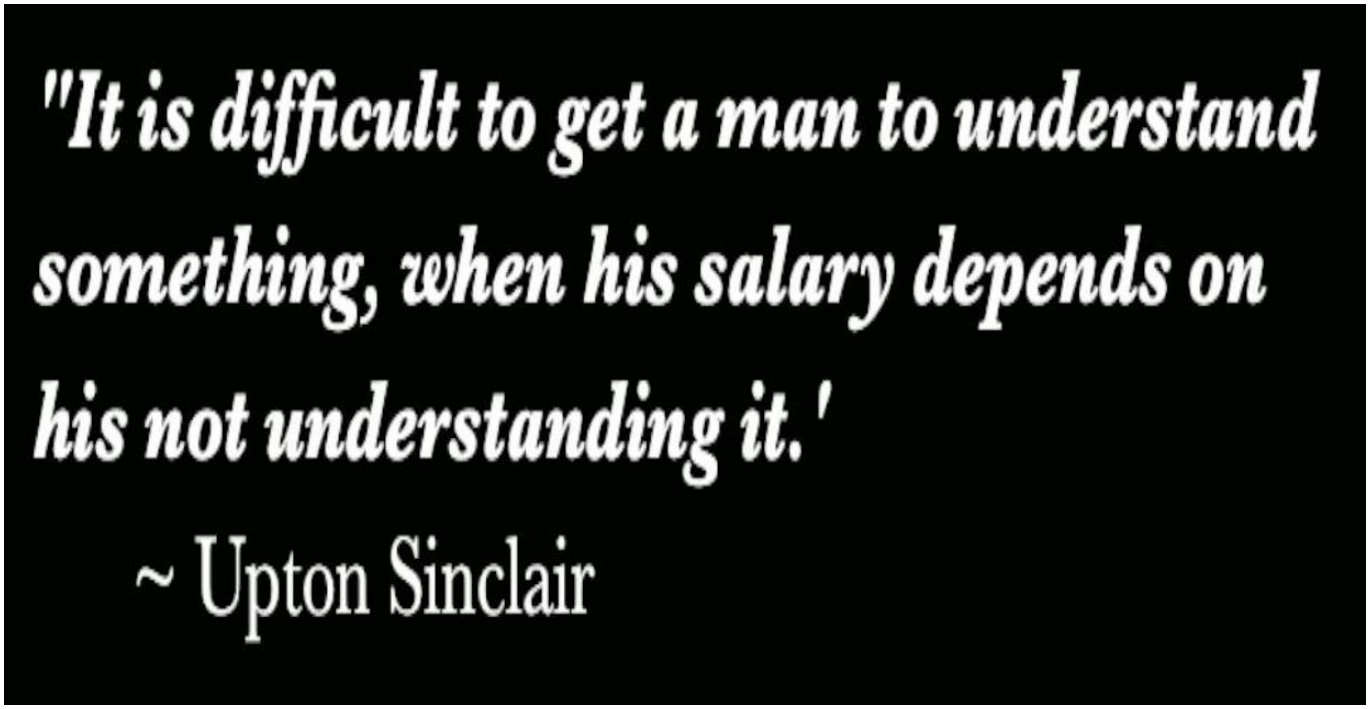


Several of my members went to a bio-hacking conference in California and were told blue light exposure during the day was NOT harmful at all in 2016, and quite helpful for the human eye. This was probably the most damaging advice ever given at any event I've heard. Now two years later we have many PEER reviewed article pointing out just how bad manmade blue light from screens are for the human retina.



One of the things that many of the people in the conference did not put together at the time was the event organizer has a serious vested interest in selling endogenous glutathione. It turns out the more blue light you allow in your life the more you destroy endogenous glutathione cycle. So this is an example of how a wise biohacking marketer can create a market with bad advice and sell into it in a big way hoping to get bought out by even more clueless rich angels.

Bilirubin and glutathione have complementary antioxidant and cytoprotective roles in humans. Glutathione (GSH) is water-soluble compound made out of sulfated amino acids and

primarily protects water-soluble proteins, whereas the lipophilic bilirubin protects lipids from oxidation. It turns out that when the sun shines on us the red portion of the spectrum is dominant. It makes up 42% of sunlight. Red light from the sun is the antidote to blue light damage. When red light hits our skin it makes more ATP and antioxidants like these two chemicals. Blue light creates more free radicals than any other form of light man uses in his light bulbs. There must be a balance of free radical production to keep balance of autophagy and apoptosis in a cell. Blue light destroys that balance because it lowers glutathione by destroying the sulfated amino acid cycles that work with other metabolic cycles in cells.

I've decided to share a few things with you over the last few years that challenges this very bad idea of using manmade blue light indoors for any reason. People have no idea that blue light can affect their baby born with jaundice in the hospital. Did you know that jaundice comes from a child born of parents who are blue light toxic? It is true. That jaundice comes from the early breakdown of the child's porphyrins in RBC's called hemoglobin. That process is controlled by circadian cycles. Their creation is controlled in the mitochondria. Did you know in healthcare that the light they specifically use to eliminate the yellow pigments from RBC's breakdown is artificial blue light? Jaundice, left untreated, can cause brain damage in infants called kernicterus. I am not advocating non-treatment of jaundice, I just want you to know in the past UV light of the sun was used to reverse and protect children's brains in hospitals. Why has the process changed, with respect to the light used?

Bad science tied to UV light in the 1950's. So, why did they choose blue light as a replacement? The reason is simple……yellow is the color of jaundice and blue is its complementary color, therefore, phototherapy using these wavelengths. What is not well known is that blue light in children stimulates melanogenesis and hyperpigmentation that lowers the ability to handle UV light. It is even associated with more nevi and more melanoma risk longer term. This information is rather new and clearly was not presented of known at this "biohacker" event. Phototherapy induces isomerization of bilirubin rendering it extractable because it becomes water-soluble by altering the charge in the kidney's basement membrane allowing its easy clearance via the urine and hence it is used as a

routine treatment of neonatal jaundice. What the article does not tell you is that pre-1950's full spectrum light was used and it was more effective. Then in 1959 a paper on retrolental hyperplasia of the eye showed up in the literature and caused all pediatricians to begin avoiding UV light for this reason. They linked the two incorrectly. This one paper is why today modern medicine universally thinks UV light is always toxic. It is not when it is buried with the other frequencies in sunlight.

John Ott talked about this paper in his book "Heath and Light". You might want to read the paper and his book. Today's literature links uveal melanoma (eye) to early blue light exposure in life. Nothing is earlier than a jaundiced baby. That child came from germ cells that were already affected by blue light before their parents even had sex.

These kids, when they are born today, are all baked under blue light to avoid kernicterus. Ultraviolet radiation does not figure prominently among the risk factors for ocular melanoma, but blue light IS deeply linked to this new fast-growing cancer of the eye. Eye melanoma is the fastest growing cancer of the eye today. Guess why? The picture below contains the answer.

Blue light is behind its cause. My latest Quantum Thermodynamics #9 blog explains to you why it is happening all around you today.

If you look at the above picture you might understand now why we are seeing jaundiced babies grow up to face precocious puberty with early menarche in girls with early fertility damage in their germ lines, poor sperm development, boys become more like girls, and girls developing bad cramping during periods with heavy bleeding as they grow into women. Both wind up needing glasses for myopia before too long too. As they age they get proliferative diseases of their eyes and skin as a long term result. No one sees where the pieces fit until they understand how they fall apart.

This interesting observation of blue light effects to ocular melanocytes was followed up by a study that sought to mimic the effect of blue light on UM cells within the context of the mammalian eye. Human UM cells were xenografted into the eye of an albino rabbit model of ocular melanoma and subsequently exposed to blue light showed enhanced proliferation upon removal and recapture, compared with control samples protected from blue light. The significance of this finding is that the UM cells were exposed to blue light while residing within the choroid, effectively demonstrating that blue light affects uveal cells and can enhance their mitotic ability. This is a crucial step in linking blue light to malignant changes within uveal melanocytes in vivo. The final confirmation of the link between blue light and UM in vivo came from a study in Long Evans rats, a strain with pigmented eyes in which there have been no reported cases of intraocular melanoma. This study described the development of an ocular tumor in one animal following blue light exposure (434–475 nm). This is the range of the melanopsin receptor in the eye known to control melatonin production in the eye to control the entire central retinal pathways to the SCN. You'll be hearing a lot about that receptor next week in Vermont.

CITES:

ttps://www.ncbi.nlm.nih.gov/pmc/articles/PMC2664041/#!po=75.3012

http://www.sciencedirect.com/science/article/pii/S0306987716304169