Light, Cancer and Fritz-Albert Popp

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What makes some substances carcinogenic and others benign, even though they are chemically similar? In 1970, Fritz-Albert Popp, a German theoretical biophysicist, discovered that benzo[a]pyrene, a potent carcinogen, absorbs ultraviolet light at one wavelength and emits it at another. Yet, benzo[e]pyrene, a benign compound that is nearly identical to benzo[a]pyrene, absorbs and reemits the same light at its original wavelength. Popp tested 37 different chemicals. The carcinogens "scrambled" light with a wavelength of 380 nanometers. The benign chemicals did not. That finding in itself is fascinating. Using ultraviolet light, the EPA could target which of the thousands of chemicals used by industry are most likely to be carcinogenic. However, Popp's work with light and carcinogens led to momentous findings about cancer and about light's role in biology, as Lynn McTaggart explains in her book The Field.

During his work with chemicals, Popp learned that 380 nanometers, the wavelength altered by carcinogens, is also the wavelength that cells prefer to use to repair themselves. After exposure to intense UV light, cells quickly self-repair when they are exposed to very weak UV light, particularly that with a wavelength of 380 nanometers. Popp hypothesized that cancer results from a disruption of cells' photorepair system. His hypothesis raised a question: what in the body produced this very weak light that powered the repair system? Popp and his student Bernard Ruth found that all living systems store light energy (photons) acquired from the sun and from plants consumed as food (photosynthesis), in DNA. This stored light is released as very weak, extremely coherent biophotons. "Photons switch on the body's processes like a conductor launching each individual instrument into the collective sound," explains McTaggart. "At different frequencies they perform different functions."

Over the years, Popp found that biophoton emissions from healthy humans display rhythmic patterns. He also observed that the coherence of the emissions, the intensity, and the rhythmic patterns varied in people with different illnesses. People with multiple sclerosis, for example, absorb too much light and their photon emissions display too much order. Biophoton emissions from cancer patients lack coherence and fail to follow natural rhythmic patterns. Also, tumors emit high amounts of photons: an average of 300 [or -] 90 photons/cm per minute compared with normal tissue that emits an average of 22 [or -] 6 photons/cm per minute. Popp and colleagues at the International Institute of Biophysics have discovered that surface tumors and tumors excised during surgery respond to remedies with changes in photon emissions. Most possible treatments have no effect on the tumor's high emission rate. However, when the tumor responds to a nontoxic remedy with decreased emissions, the agent will likely improve the patient's condition and may even promote a cure. Rather than killing tumor cells, the beneficial agent appears to stimulate the normal cells to overcome the cancerous ones.

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