

THE STORY OF PHOTON PLATINUM

The revolutionary new material for life enhancement

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A biologist explains how the remarkable properties of Photon Platinum can change the way we live, improve our health and well being, give us youthful looks, and help protect us from infection.

Introduction

My name is Roger Coghill, and I am a professional biologist with degrees from the University of Cambridge, the University of Wales, and Surrey University. For over ten years I have been studying the effects of electricity and magnetism on all forms of life, a science known as bioelectromagnetics. During that time I have built a technical laboratory for this specialist purpose, and to judge from the numbers of journalists and media people who phone me, I suppose that I have, by assiduously reading all the available scientific studies in the field, become rather well versed in understanding this new science.

Mostly the journalists call because of the public interest in such things as ill health effects from power lines or mobile phones, or electrical sensitivity, or because of the increasing public interest in using magnetism for healing purposes. Magnets have been used for healing such things as gout or headaches for thousands of years.

The first time someone told me about a startling new material based on bioelectromagnetics which could at one stroke help my complexion look younger, diminish cellulite, boost my immune system, keep me warmer at night than a duck down duvet, and improve my blood circulation, (amongst other things!), frankly I was more than skeptical. Someone gave me a sample of the material, which looked like cotton wool or medical gauze, but I put it to one side and soon forgot about it in my busy bioelectromagnetics laboratory.

The producers were claiming that the basic mechanism involved with their "wonder product" helped nutrients and waste products pass through the walls of organic cells. It occurred to me that one test to see if it worked would be its effect on cut flowers: the treated flowers would last longer. I chose daffodils.

It was spring time in Wales, I recall, when each year all the hills and valleys are incandescent with this bright yellow flower, - not for nothing is the daffodil the national flower of Wales. In an idle moment I tried it out, and sure enough there was a startling difference between the treated stems and the controls. Thus began my relationship with Platinum Photon. But how did it work, and were all those claims really true? This book describes the interesting adventures and pathways down which Platinum Photon took me during the next few years, from Brazil to Bangkok, Spain to Osaka, and the experimental results from my investigations into this incredible but effective twentyfirst century material.

First beginnings...

a host of golden daffodils.

Scientific proof of an experiment is often underlined when the researcher makes an initial mistake. Sir Alexander Fleming made the "mistake" of leaving his culture dishes unwashed, which led to discovery of penicillin, thereby saving millions from death during the Second World War and subsequently.

In early Spring the hillsides of South Wales are covered in verdure and daffodils, - splashes of yellow underlined by a darker green - blending later with the saffron of the gorse bushes long before light green leaves make an appearance on the deciduous trees, - oaks, elders and of course the famous Welsh ash trees, so celebrated in their folksongs. In my case, the first time I tried out Photon Platinum on the daffodils I had carefully gathered, there seemed to be no difference between those whose stems were wrapped in Photon Platinum and those wrapped in ordinary cotton wool. Only then did I realise that in my efforts to be careful I had used distilled water in the flower vases. This meant in turn that there were no nutrients for the flower stems to absorb, so naturally both samples withered at the same rate.

When I corrected this however, by adding a proprietary fertiliser to all the flower vases, and repeating the study, the effect was amazing: the Photon- treated daffodils were still alive and glowing with life long after the untreated sample had turned a dusty brown colour and decayed. It did not take me long to realise that florists all over the world would be interested in the commercial possibilities of this effect!

It was this unexpected finding that made me start to consider by what mechanism the effect was produced, and so only then I started seriously for the first time to read the scientific literature sent me by the producers.

Cause and Effect

How could a material looking like nothing more than medical cotton wool or gauze significantly affect the length of time that cut flowers stay fresh?

To understand this, let me first remind readers about that other miracle of this century, the amazing phenomenon of radio. We all take radio and TV for granted these days, even though many including me can still remember times before TV broadcasts, and my father can remember days before the advent of radio. If someone had told my grandmother when she was young that one day not only would she be able to hear a person's voice calling by telephone from Australia simultaneously, but she could also via television actually see his mouth moving as he spoke the words, I am sure she would have thought him absolutely mad.

Photon Platinum uses exactly the same physical principles as radio transmission to produce its effects. In a radio broadcast what happens is that a metal rod known as an antenna or aerial is energised so that electrical energy in the form of electrons runs up and down it at a specific frequency. If that frequency happens to be more than about 30 kiloHertz (30,000 times each second) then some of the electrons will be returning when others are ascending the rod. This results in electrons becoming unable to keep pace and they form closed loops of flux outside the aerial. These flux loops are propelled or propagated into space at the speed of light away from the aerial and vary depending on the variations in amplitude (or frequency) of the current being applied to the rod.

At the radio receiver there is another aerial, so designed to resonate at the same frequency bandwidths and the electrons in the second rod are thereby induced to flow up and down this aerial. When these movements are amplified they can be transduced by means of a loudspeaker's magnet into audible sound. Thus our familiar radio and TV broadcasts depend transmission and action at a distance of electromagnetic energy, and their effects on "tuned" aerials and their associated amplifiers.

This over-simplified explanation of radio transmission also happens with Photon Platinum. Platinum is a metal more conductive than most, so it is often used in electrical circuits when conductivity is important. In Photon Platinum the rods or "aerials" however are extremely small and thin, (only some 4-14 millions of a metre long). A millionth of a metre is called in science a micron, so the Platinum rods embedded in the polymeric fibres of the material are 4-14 microns in length.

Of course in a normal radio transmitter energy in the form of electricity has to be applied to the aerial to make it transmit or radiate some of that energy. But electrons are caused to move or vibrate in many other ways. One way is simply to heat the material, and another way is to shine a light on its surface, since light is itself an electromagnetic energy with its own frequency. Since all human beings are essentially warm-blooded creatures, even the skin surface of a human being can heat other things, as anyone holding someone else's warm hand will know!

So putting Photon Platinum material in front of a light, even sunlight, or simply wearing it will cause some of the electrons in the rods to start moving up and down the rods. Because the rods are made of Platinum the electrons find this an easier road to travel than through the plastic polymer, and in consequence they concentrate in the rods. The length of the rods determines the frequency at which they oscillate: obviously the longer the rods the lower the frequency.

In a secret process, by choosing the rod-length hence the frequency carefully the producers of Photon Platinum have so arranged things that the rods radiate at frequencies giving rise to wavelengths half the diameter of most organic cells. This sounds a bit complicated, so let me explain it better.

All electromagnetic waves are related to specific frequencies by the fixed formula $f = c/\lambda$, where f stands for the frequency, λ ("lambda") is the wavelength, and c means the speed of light (from the Latin word *celeritas*, meaning speed). This means that if you know the frequency of an alternating electromagnetic wave, then you can calculate the wavelength.

Let's do an example with a surprising answer. The mains electricity (alternating current) frequency in British homes is 50 cycles per second (50Hz.), so how long is its wavelength? Taking our formula $f = c/\lambda$, and the speed of light as 3×10^8 metres per second, then

$$50 = 3 \times 10^8 / \lambda$$

so $\lambda = 3 \times 10^8 / 50$, which is 6,000,000

so the wavelength of ordinary 50Hz. British mains electricity is 6,000,000 metres or 6,000km.!

The same calculation applied to a wavelength of say 4-14 microns (that given off by Photon Platinum is in the far infra red region. Most people associate infra red with the signal used to control your TV monitor and infra red generally is associated with the sensation of heat (hairdressers use infra red hair drying lamps, for example).

There is a good and now obvious reason for this: it is because our body's cells have diameters of around 10-20 microns. So waves of this length will vibrate them, in the same way as an opera singer can vibrate a distant glass with a specific note, an effect

known as resonance. In this case the glass might be said to be "tuned" to the note or *vice versa*.

Therein lies the secret of Photon Platinum: its gentle radiations can delicately vibrate the surfaces of body cells by means of resonance. But why should this be good for the cells? To understand why you must try to imagine for a moment that you are a cell.

As an organic cell you no longer have a mouth, nose, eyes, limbs or digestive system. All you have around you is a membrane made of plasma, - in fact it is a double membrane and it is partly made of fat or "lipid" to keep out water. Biologists therefore call it a "lipid bi-layer". This membrane is double and its two leaflets are lipid (i.e. water-repelling) on their outside and water-attracting on their inside. Through this lipid bi-layer must come all the nutrients you need, and through the same membrane must go out all the waste products of your metabolism. The same membrane must act as eyes, ears, and nose and tongue: - your sensors to tell you what is going on in the outside world. It must let oxygen in so you can breathe, and it must be able to expel carbon dioxide so you don't choke. It is a pretty important part of you, exquisitely fashioned, and I could spend a lot of time extolling Nature's brilliant engineering design.

In today's technological world we have introduced many new chemicals for which arguably even the organic cell is not prepared by evolution. These chemicals can build up in the saline aqueous solutions (or actually in the cells as with cellulite) which permeate our bodies. Some of these new-fangled molecules are polar, that is to say they are charged differently at each end, just as are some of our own amino-acids. For this reason such chemicals can stick to other molecules, or to the water in our bodies, (- remember we are about seventy percent made of water!) causing it to form bound molecules much larger than normal.

The effect of this chemical pollution is to make it more difficult for cells to take in and eject nutrients and waste products through the lipid bi-layer. By its gentle vibratory action however, Photon Platinum assists cells to carry out these functions and this is basically how it works. As a first practical demonstration when you feel the material it always seems warm to the touch, an indicator that infra red radiation is at work.

One question arising is that the energy (power flux density) of Photon Platinum radiations is obviously dependent on the incoming light or heat, so how could such weak energy possibly affect cells deep inside the body?

The answer is that the effect is dependent on frequency not on energy. Moreover these (and any other) frequencies can be carried almost losslessly through the body's saline aqueous solutions, because they are also extremely conductive. This sensitivity might even be a deliberate by-product of evolution.

While we are dealing with the physics of Photon Platinum it is worth digressing to explain how body-water can be so conductive and so sensitive to exogenous influences.

Everybody knows that water (H₂O) is composed of two hydrogen atoms and one oxygen atom. Not everyone understands why water molecules form in that way however, so here is a very simple explanation. Outside every atom electrons are present. Because the negative charge of each electron is attracted by the clump of positively-charged protons in the atomic nucleus, they jostle to be as near as possible to the nucleus. But electrons also repel each other, being of the same polarity (like charges repel). The result is that the electrons soon settle down to take up stable positions in tiers or "shells" as they are known, around their associated atoms. Imagine them in rings like the successive peels of an onion.

The outer shell of simple atoms holds up to eight electrons, but sometimes as in the case of oxygen, there are only six electrons there. This leaves space for two more electrons to make a stable molecule, and because hydrogen atoms have only one electron there is therefore space for two hydrogen atoms to bond to the oxygen. Water is therefore formed.

But that isn't the end of the story, because each of the hydrogen atoms has "lost" its sole electron, and so its proton will strongly attract any other electron in order to achieve a stable situation. This process is constantly happening in water, so any electronic influence will be transmitted through the entire liquid as the hydrogen atoms constantly find new electron partners. When this picture is further complicated by the presence of ions such as sodium (Na: positively charged) and chlorine (Cl: negatively charged) the conductivity of electronic influences becomes even more sensitive.

NaCl is the formula for salt, and our aqueous solutions and blood are salty because they contain these ions in solution. So our aqueous saline solutions are exquisitely sensitive to electric field influences, and the water around cells is liable to be altered or polluted by any other chemicals in the saline solution. That is where Photon Platinum comes in, to clear these adverse influences away by its vibrations.

The early research: effects on immunity

I wasn't the first scientist to discover Photon Platinum. It was only natural since the material was invented in Japan (By Dr. Takio Komuro, about whom more later) that Japanese scientists should investigate it. Research by a scientist named Yuki Niwa was in the mid 1980s being directed towards the effect of the material on the immune system, with surprising results.

Remarkably, the importance of our immune system has really only been discovered by medical scientists since the 1960s. Immunology really only began after the Second

World War, to some extent stimulated by the large victims of leukaemia following the atomic explosions of Hiroshima and Nagasaki. Indeed, at the beginning of the 20th Century leukaemia was a medical rarity in children, and most medicine was still battling against cruel infectious diseases like smallpox, or tuberculous, and later poliomyelitis. Today leukaemia is the most important killer in childhood, and one in seven children have asthma. Such conditions as cancer, arthritis, multiple sclerosis, and AIDS are all immune-related diseases, underlining why immunology has come to the forefront of medical science.

Dr. Niwa's interest lay in the effect of Photon Platinum on certain white blood cells called lymphocytes and neutrophils. Neutrophils are by far the commonest of our white (immune system) cells, since lymphocytes, though vital for detecting microbial or other insults to our bodies, are only perhaps one tenth as common as neutrophils in the bloodstream.

Nevertheless neutrophils are also very important: they are the infantry of the immune system, armed with a variety of nasty chemical weapons to kill offending pathogens. (Pathogens are so called from the Greek words for suffering and generation, because they cause diseases). One of these is the superoxide anion (O_2^-) which is a free radical capable of destroying anaerobic bacteria. Another way that neutrophils attack their enemies is by simply gobbling them up! This is called *phagocytosis* (literally: "cell-eating"). Finally the neutrophils can use chemical means to direct themselves towards toxins of interest, and this mechanism is called *chemotaxis*. So there are a number of ways in which neutrophils react to dangers, and these also provide a way to assess their competence. A fourth test is to see how much intracellular calcium $[Ca^{2+}]_i$ has been mobilised inside the cell, since this kind of ionic calcium acts as a second internal messenger for external signals to cells, so its elevated presence inside a cell suggests that there are important activities in progress.

What Dr Niwa and his colleagues did was to study the effects of Photon Platinum on neutrophil competence using the first three benchmarks. They exposed the normal neutrophil cells in test tubes wrapped round with Photon Platinum material, for periods between 5 and 120 minutes. after 60 minutes they saw a significant difference in the first three benchmarks compared with unexposed controls, though when the period was extended further to 120 minutes the effect gradually receded again. They did not however see any differences in the intracellular ionic calcium levels with normal neutrophils.

The group presented their findings in a non-peer reviewed paper at the Menarini Foundation's 2nd. International Congress on Advances in Management of Malignancy, which took place at Ascoli Piceno in Italy in June 1990. I have not yet however seen the paper in the peer reviewed literature, possibly a pointer to the incredible nature of the results.

Of course this is good when the cells are normal, but what happens to cells which are cancerous? Increasing their performance would clearly be a bad thing. Fortunately when the Niwa team tested the effect of Photon Platinum on cancer cell lines such as HL60 leukaemia cells they found no effect.

What can one conclude from the Niwa research? It would be true to say that Photon Platinum has important beneficial effects on the competence of an important part of our immune system *in vitro*. The question remains whether the same effect can be achieved *in vivo*, that is in the living body.

In discussing his findings Dr. Niwa said:

"In contrast to other infra red materials or products such as ceramic disk and granite stone which increased Fura-loaded fMLP-stimulated $[Ca^{2+}]_i$ of normal human lymphocytes, Platinum electromagnetic wave fibre did not elevate it".

He continued: *"In clinical trials we have experienced marked effectiveness in the treatment of various disorders such as rheumatoid arthritis, PSS, Raynaud's disease, hemiplegia followed by apoplexy etc."*

I would very much have liked to see the full reports of these important clinical findings.

Body of Evidence

About the time I was getting interested in Photon Platinum a young and brilliant physicist was working in my laboratory on sabbatical from Lviv State Medical Hospital. I must confess I had never heard of Lviv before I met Dr. Sergei Gerasimov, at the European Bioelectromagnetics Association Congress in Bled, Slovenia in 1993. He told me that he came from the Ukraine where Lviv is an important town several hundred kilometres from Kiev. People are probably more familiar with the name Chernobyl, whose still functioning nuclear reactors are situated nearby. So impressed was I with the young and enthusiastic man that I invited him and his family to spend a few months working in our laboratory. He readily accepted, though the visa formalities delayed for some months his final arrival at Heathrow one warm autumn day.

Not surprisingly Sergei was more than interested in the effects of radiation, both adverse and beneficial, and already knew enough bioelectromagnetics to be selected to present one of his studies at Bled, paid for by the Cooperation on Science and Technology Programme (COST 244). He told me many things about the accident and its aftermath. For example most people in his town had a weekly blood test to see if their white blood cells were acceptably high. Another possible effect of the nuclear meltdown was that children in the region now had an abnormally high level of asthma.

When the Photon Platinum management asked me about testing the effect of their material on childhood asthma, I immediately thought of Sergei, and arranged for him to carry out a full scale clinical trial with the approval of his University.

Our plan was to supply sixty T-shirts made of Photon Platinum material to children with a proven record of asthma, and a similar number of T-shirts made of ordinary cotton and indistinguishable from the first type. The children would wear these for three months and then change them for the other type. This is known as a double blind cross-over trial. The ordinary treatment being given the children for their condition was not interrupted in any way, so that no child suffered from any lack of medication during the trial.

We monitored their progress in several ways, including peak flow meters, and a subjective questionnaire to be completed on a regular basis by their doctor and by their parents indicating the extent of any improving or adverse change.

After what seemed like an interminable delay and complete loss of contact by fax or even by E-mail one April morning a datapost item arrived at the door, containing a thick black A4 book. It was a detailed description of the trials and their results, countersigned by what appeared to be half the Lviv Hospital management. I felt a little guilty to see myself and my laboratory's name proudly listed as co-author, since really we had not had much to do with the hard work of the research itself except to set out the study design.

I opened the pages and began reading some of the 103 pages of the report, excluding 20 pages of appendices.. It was immediately apparent that Sergei's work was very careful and painstaking. Moreover there were actual infra red photographs of the Photon Platinum T-shirts being worn and showing the temperature improvements in the childrens' chest region before and after one month's use. Then came the graphs showing how the questionnaires had turned out.

The results were spectacular: the parents global assessment of the Photon Platinum T-shirts was that they were responsible for a 22.2 percent improvement in their child's condition, compared with only 11.1 percent in the placebo-exposed group. The patients with Photon Platinum T-shirts moreover showed a significant improvement in peak flow scores when measured in terms of their peak flow meters compared with controls, whose performance deteriorated over the study period. Finally the patients needed to take bronchodilators less, and their coughing, breathlessness, and wheezing lessened significantly, whilst their sleep quality improved.

Bearing in mind that this was a double blind trial, so neither the doctors nor the parents nor the patients knew when the children were wearing the Photon Platinum T-shirts, this result made me very happy, because I knew that one child in seven in Britain suffers from asthma at one time or another.

I began to marvel all over again at this new material, even though all the time it made sense in terms of what I already knew. Even though it is based on what is generally accepted by biologists and physicists, the actual proof of its efficacy still came as a shock to me.

Feelings in the blood

When anyone first feels Photon Platinum material they are surprised at how warm it is. I expect that many people would deduce from this sensation that the material works simply by warming up the body temperature. Indeed most of us only associate infra red with heating anyway, and forget that it also acts just like any other electromagnetic waves.

One claim that needed investigation however was that the material improved blood circulation. If it did do this then one could be reasonably sure that it would also be anti-inflammatory, and also would improve the ability of cells to generate the energy they always need to stay alive and do their job.

I gave some thought to how I might demonstrate this effect on the body's blood circulation, and recognised at the outset that this would not be so easy as at first seemed possible. This is because our bodies are marvellously adaptive.

It is well known that if you put one hand in cold water, the blood vessels of that hand swell to allow more blood to enter and thereby keep the hand warm. Physicists calculate that in a circular tube (like an artery) in order to avoid sudden changes in heart rate variability however, and to maximise the effect, the blood vessels in the other hand contract a little, and this homeostasis occurs all over the body surface. As a corollary to this effect, it is also well known that heart rate variability is a good measure of health, and very old ill people often show a very low heart rate variability. When one tries to measure the blood circulation therefore one has to be aware of these homeostatic changes and make allowance for them.

The scientific literature abounds with studies claiming that magnetic fields affect and improve mass blood flow in the living body. When William Harvey (1587-1657) first discovered that blood circulates in our veins and arteries he was greeted with incredulity and derision by the medical establishment. "*People thought him crack-brained*" wrote a friend, "*and his medical practice fell off mightily*".

It was left to Michael Faraday to discover that dried blood is paramagnetic, and wrote a note in his book to remind him to investigate whole fresh blood, but he never got around to it. Only in 1936 did Linus Pauling, one of the few to win the Nobel prize twice, report his discovery that venous whole blood was paramagnetic whilst arterial blood was not. Of course all haemoglobin molecules contain iron atoms, so that is not unduly surprising.

These iron atoms are very important because it is to them that the molecular oxygen we breathe attaches, and the entire haemoglobin complex is so designed to be able to pick up and discharge this oxygen easily in the appropriate environments of our bodies. The competence of the blood to deliver molecular oxygen and to remove it again in the form of carbon oxides depends on the state of magnetism in its haem groups. Blood also is the main vehicle for cooling us down.

So does the ease with which it flows. Studies of this are called rheology, from the Greek word to flow. Poor circulation can lead to impoverished oxygen delivery and consequent loss of energy, faulty immune response, and the danger of cardiac infarction.

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