

## POTENTISING AND SCIENCE

*By Mark Moodie*

Potentising, to awaken potential dormant in substances, is common to homoeopathy and biodynamic agriculture. However, it is generally regarded as unreliable at best, and more widely as a total waste of time. It seems unlikely that such a practice will be widely embraced as a science. The following recent agricultural work may provoke caution in drawing such conclusions too early.

The members of the Pipfruit Growers Association of New Zealand sought relief. The capital-intensive but lucrative kiwi and apple orchards serving Japan and the UK supermarkets had lost 80-100% of the year's crop to the late frosts of 15<sup>th</sup> and 25<sup>th</sup> September 2002. This was compounded by the deeper frost of October 5<sup>th</sup> during the vulnerable flowering stage. The Association commissioned HortResearch, the laboratory used by the major pack-houses, universities and the Government, to evaluate frost protection measures. Although there are huge fans<sup>i</sup> and helicopters for hire that blow the cold air away from the orchards, these pass on the problem and require a lot of energy and cash. The industry is already set up for spraying so the association asked for sprays to be evaluated. One member's sprayed orchard had come through these frosts relatively unscathed, so he sent his remaining 'Warmth Spray' to be one of the products for evaluation.

The sprays were applied with a backpack sprayer to the point of leaf wetness onto 'Royal Gala' apple trees on M9 rootstocks growing in pots. On the afternoon of October 23<sup>rd</sup>, 2002, six trees were sprayed for each of the three products and the water control.

On the following day the treated batches of trees were divided equally into two climate rooms at HortResearch's NZCEL facility in Palmerston North. The temperature was reduced to a minimum of -2°C in one room and -4°C in the other over the night of 24/25 October. (Thus, the treatments were applied approximately 26 hours before the 'freeze event'.) Air temperature was logged within each room to record actual temperatures.

The spray which enabled the most fruit to develop was the 'Warmth Spray' which is a potentised mixture of biodynamically prepared chamomile, dandelion and valerian, known to biodynamic growers as the compost 'preparations 503, 506 and 507'. 'Warmth Spray' was rebranded as 'ThermoMax' and is currently applied to over 1000 hectares of orchards in New Zealand alone. Of further interest is that only a small proportion of these are biodynamically or organically tended.

The independent and unsolicited testing has proved useful for business and has prompted the makers, BdMax, to have similar successful independent evaluations performed on other potentised sprays from their range. Reports of all these tests are available from the BdMax web site<sup>ii</sup>. All of the above is – within my ability to investigate such matters – accurate and factual, and suggests that further investigation and contemplation could be fruitful.

## POTENTISATION AND SCIENCE

Potentisation is usually associated with homoeopathic remedies for humans and animals. One part of a substance is finely ground if it is not already soluble, and then diluted and shaken ('succussed'<sup>iii</sup>) in 9 or 99 parts of solute. This dilution and succussion can be repeated many times so that treatments are often administered when there is a vanishing probability of there being any of the original substance left. This contradicts the common

experience of, for instance, leaving a tea bag to brew longer for a stronger cuppa, or purifying and concentrating an active ingredient for greater control and effect. It also clashes with some fundamental premises of the dominant school of science.

Indeed, homoeopathy is vulnerable to three main charges. These are that the result is not repeatable and predictable as double-blind trials would reveal, that there is no known or possible mechanism for its action, and that the huge number of anecdotal reports of assistance are almost certainly just the result of placebo.

Do the agricultural results suggest that reasonable responses can be made to these charges? Certainly, the results seem to be repeatable and predictable as demonstrated by independent and unsolicited expert testimony, and by the open wallets of businessmen year upon year. And one would have to embrace greater heresies if one were to suggest that plants are susceptible to placebo.

Perhaps we should be satisfied to leave it there – potentiation could lay its claim for scientific legitimacy at the door of the Academy. Trumpets sound, press releases fly, and we stride purposefully into a properly funded research programme towards a non-toxic future for agriculture .... or we could leave potentiation lingering in the queue a little longer pending further investigation into some of the more complex textures of this field of endeavour. Of the many possible starting points on this adventure let us pursue the question of the mechanism.

Even these noteworthy results do not take us any closer to establishing how a potency can effect anything. Under physical and chemical investigation ThermoMax, for example, is a dilute mix of alcohol in water. As a pure logic problem, we would have to conclude that if 250 ml of this mix works on a Hectare of land then the response is not due to the physical properties of what is sprayed.

This leaves an educated modern mind in an uncomfortable limbo, with no progressive route to take apart from belief ('it's all energy') or disbelief ('it's all rubbish'). There is no mental traction available to enable us to move on in a reasonable way. How does one grapple with the proposal that water and alcohol treated in this way have a predictable and repeatable effect, and simultaneously embrace the finding that there is no measurable aspect of this alcohol and water that has induced this resistance to frost?

What follows is intended to enable purchase on this slippery situation by re-evaluation of the fundamental assumptions that are brought into relief by such a quandary.

## **THE HEART OF MATTER**

For all of our life times it has been taken as read that matter (and all that proceeds from matter such as electromagnetism, gravity etc) is the only real active element in the universe. Even as investigation into the heart of (the) matter has passed beyond billiard ball analogies, to electrons and nuclei, neutrons and protons, quarks and beyond – our search has continued into what we still call 'matter' for the fundamental cause of all life's enigmas. Ultimately and in theory, we assure ourselves, everything could be explained by physics alone. And let us not deny that this search has been very fruitful. (And let us also assume for now that it is just a coincidence that the deep wounds in Nature have shadowed every step of this project's short history.)

Historically, one can see how this investigation of matter might have seemed attractive as a route out of the confusion when religious dogma lost its appeal and science came out of the

closet. Our senses give us so much information about matter and there's so much that everyone agrees upon in this realm. As a basis from which to launch unbiased enquiry it is unparalleled.

But it seems that the trajectory was hard to adjust after this launch. The enthusiasm for such materialism has carried the project on beyond its legitimate bounds. For instance we assume we have explained away our inner experience of ourselves as 'epiphenomena' or 'emergent properties' of the real stuff. Like colour and life, love, grumpiness and sacrifice, our musings are now considered to be 'secondary qualities' of the one true physical-chemical actuality.

Logically then, Richard Dawkins might seem right – that we are all temporary spume on the surging ripples off the original big bang; Freedom is an illusion; That which we call 'I' is like a flame that can have no existence after the candle is snuffed. In the shallows of this debate it is clear that if potentisers think they have something real in their dilutions they cannot be other than wrong.

Is there an alternative position to take – preferably a more productive (and more cheerful) one?

## OTHER MODELS

What about the 'It's all energy' one? There is some momentum behind this because as we open up 'atoms' energy seems to be a reasonable analogy for what we find. But this characterisation is next to useless in this crude form. There's little we can do but lose mental focus in the face of a statement like this. We need modifiers to explain why this 'energy' has such various manifestations – sometimes as thought, matter, or a homoeopathic remedy, at other times the smell, touch and taste of everyday experiences and so on.

Wouldn't it be wonderful if there were already a tradition that brings the rigour, scrutiny and clarity of the material sciences to this debate! Readers of *New View* will probably be most familiar with the Western esoteric tradition and particularly Rudolf Steiner's Anthroposophy.

We can characterise assertions of this for our present purposes by saying that what is not simply inanimate matter (minerals, rocks, dust etc) such as life, feelings, self-direction etc, betrays the presence of other principles just as real as matter. Whilst the rules of physics remain valid for mineral qualities, when matter is incorporated in an organism, those same rules do not have the field to themselves. They lose their sovereignty. An organism is not just a complex mechanism. The independent principle that manifests as growth and vitality in organisms is called the 'etheric'. Further, our feeling life is the result of a third principle known as the 'astral', and our ability to get traction on our inner world and not to be determined by it is the result of a fourth sovereign principle known as the 'I'.

This quick and crude characterisation is insufficient to satisfy clear thinkers on its own. Many questions inevitably arise as one mulls over the implications of this point of view for the first time. So it is presented as a lightly sketched heresy for individual scrutiny<sup>iv</sup>. But the present argument must press on to ask whether we can work directly with these 'other real principles' when they are not (or are no longer) engaged in matter? If so, how? What are the rules?

## RULES OF A DIFFERENT APPROACH

For the principle of Life, the etheric, it seems that the rules are fundamentally concerned with rhythms; overlaying and interacting patterns in time. Adept investigators of these rhythms

suggest that they are marked out by the movements of the Sun, Moon, and planets against the 'fixed' stars.

Let us see how these astronomical considerations work with, say ThermoMax. How was this particular product developed? Glen Atkinson, the main mover in BdMax, is an experienced astrologer and a trained gardener, who worked for some years at a homoeopathic pharmacy called Weleda in New Zealand.

In the 1970s Glen drew a schema of the tools used by astrologers. Any living thing can be considered as a unity but also as a polarity, and polarities manifest a dynamic balance so there is the three-fold aspect; the 'cardinal' and 'fixed' mediated by the 'mutable'. Further, one can see all manifestation, as the Greeks did, in terms of the four classical elements, and so forth.

Glen then drew a second schema of a remarkable series of lectures presented to farmers by Steiner in 1924, which is now commonly known as 'The Agriculture Course'. With further hints from Steiner's medical lectures about the qualities of different potencies (1 – 10X is cardinal or metabolic, 10-20X is mutable or rhythmic etc) his tool kit was nearing readiness. With specific agricultural goals in mind he was able to aim his first shots using these guides<sup>v</sup>. After testing and refining, the product range began to come together.

Glen has achieved his successes using Weleda's potentiation technique. He considers that the result brings the benefits of these preparations to the first world agriculturists with whom he deals. The users do not need to bother their heads about when to use them or how they were made. They pour them into the spray tanks, mix them with local water, and spray them when they can. It seems to work most of the time. When a probe is put into the plants sprayed with ThermoMax they are up to 2°C warmer than unsprayed neighbours.

## USING THE RULES

Recently, another worker in this field has introduced himself to the English speaking world. Enzo Nastati began working in his native Italy, also in the 1970s. He reckons to have read Steiner's agricultural lectures over 200 times, penetrating ever deeper into its enigmas and adjusting his own experimentation in line with growing understanding.

Enzo has worked on so many aspects of his trade. The materials – mainly the biodynamic preparations but also others such as gold, clay, bone, mother of vinegar, iron etc – are made or selected with the greatest of care and, crucially, with conscious reverence. His potentiation methods are particularly elaborate. Preparations are mixed with spring or rain water (depending on the intended role) in carefully calculated proportions and succussed with a definite ratio of the mixture and air in the mixing vessel. The succussion is undertaken for specific lengths of time and at times calculated by reference to the starry heavens. The gesture or movement by which the shaking takes place is also chosen to encourage certain properties. Enzo uses 25 different movements for his succussion over 200 different durations to achieve his goals.<sup>vi</sup>

The state of mind of the person undertaking this process is deemed crucial. Not everyone, it seems, can make equally effective preparations. Throughout the making of his preparations, ethical and moral issues are paramount and at least as important as the technical aspects. Those who apply his preparations are trained in their use and made familiar with the background from which they spring. The preparations are applied at specific times to

resonate with the rhythmically surging and receding influences throughout the days, weeks and seasons

So what does Enzo claim to have achieved by spraying these potentised preparations? Frankly, things that are not possible in the materialist's world view. Heavy metals have been removed from roadside verges between his Italian hometown of Trieste and the Slovenian border. Chichory has survived a  $-13^{\circ}\text{C}$  frost. Corn has been protected from dominant GM genes. Extreme soil salination has been dispersed with one spray. Diesel has been removed from sub-soils without aeration. Soil organic matter has increased by 1.2% in 3 years from an exhausted and polluted soil without the addition of manure or compost<sup>vii</sup>. The list is long and includes many positive interventions in more common agricultural problems including slug relief (!), ripening fruit in dull autumns and many more.

Given these remarkable claims we may be stimulated to ask if those 'secondary qualities' of the materialist universe, which Enzo considers fundamental to the efficacy of his preparations, might better be considered as primary, and if the physical is sometimes better seen as the result and not the cause of processes of life and consciousness. Could it be that far from life being a special case of matter, that matter is a special case of life and of higher functions?

Given that positive answers to these questions are the least fashionable option, the onus is on those who consider these questions seriously and who hold up hope that such an attitude, carried through into our activity, can guide us back from the brink – the onus is on us to demonstrate the practical potential.<sup>viii</sup>

## THE FUNDAMENTAL OBJECTIONS REVIEWED

So should we press the case for potentisation to be considered a legitimate science at the doors of the Academy? What about those three fundamental objections we mentioned earlier?

First, is the result predictable and repeatable? Yes, it would seem so. But the rules are still being clarified. My current impression is that these things work – often, but not always. There is more to do to discover the rules that seem to embrace attitudes, timing, site, intent and other intangibles of our relation to Nature. The single isolated variable of the materialist's imagination may not be viewed as such in a more comprehensive survey.

What is not yet likely is that this research will be funded by Randi<sup>ix</sup>, who has offered a big cash prize if such hocus-pocus can be demonstrated to be effective. It would seem that the double blind can be a barrier to effectiveness. Is this a cop out? A double-blind trial is designed to negate any relationship between those who apply the preparation or spray and its recipient. It is intended in this way to avoid favouring an outcome at whatever level of consciousness, to minimise the likelihood of 'micro-managing' trials, and to ensure that evaluation can be impartial. However, it is already clear that such a relationship may, in fact, be necessary.

The mechanism? If reality is 'ultimately' and 'in the final analysis' only physical, then there can be no hope of identifying the mechanism. To make progress we have to turn this objection on its head a little and say that since the idea of a mechanism already assumes a physical model of reality, logically and in the face of this evidence we should re-examine what we conceive reality to be. Instead of thoughts and intentions and life being secondary to the real phenomena of matter, the postulate would necessarily be that such subjective phenomena

are actual effective levers on the world process in their own right (or the intrusion of realities into our awareness). With them things can happen that cannot happen without them. They are necessary to explain phenomena in front of us.

Given this re-evaluation, we can now talk reasonably of the means by which a non-physical entity can affect a physical one. That's a radical overhaul of recent trends but, once the shock is absorbed and one gets ones bearings, we find that the door it is not *de facto* open to intellectual anarchy and slovenliness. Indeed, it offers hope for greater clarity, effectiveness and understanding.

For one small example, we can see that the decision to ban subjective impressions from scientific evaluation is not itself an objective decision! (And it is also one which is not obeyed!!) Whilst such an approach is methodologically valid and can be offered as a postulate about reality, to carry this over to the objects of investigation without further consideration is not scientific or consistent. This assumption is all the more powerful for being overlooked by so many in our culture.

A science that really understands itself, one that can throw off some of its internal inconsistencies, would need to re-evaluate this part of its heritage. I feel confident that this will bring about a more comprehensive understanding of the enigmas that face us, and I truly hope that it may provide us with some tools to bring some healing to Nature.

Back to the objections: are the many reports of the efficacy of potencies just a collection of anecdotes best dismissed as placebo effects? We have already wondered aloud if plants can be susceptible to placebo. But even for humans, 'placebo' is an interesting idea. Usually it is pejorative when applied to homoeopathy and is used to contrast any such perceived changes with 'real' measurable physiological changes.

Dispassionately and logically, we must agree that potentised remedies do not always work on everyone. Partly I consider this to be because of the extra challenges in choosing the right remedy or preparation. If we consider a germ to be the causative organism we can kill it and thus 'cure'. That is relatively simple, both conceptually and practically, compared with the challenge of making a host organism unreceptive to the pathogenic germ. Since remedies are considered to do the latter it is likely that success will be relatively infrequent.

In part it may also be because the person coming for treatment, or the land which needs to be brought into good heart, is not the only aspect to be considered. The farmer, gardener or doctor that considers the timing of the intervention has a yet more complex task ahead.

Whilst the label of 'placebo' may be used to attempt to discredit potentised interventions, it also implies that non-physical interventions can work too. If we take the spin in a different way from that intended, we can suggest that what we do improves the standard placebo. A placebo is considered functionally inert because it has no pharmacological impact. However, if we consider that the intentions and attitude of the maker and those who administer these sugar pills as valid 'ingredients' we have to recast the question: can we make a better sugar pill and thus a better remedy by working on our subjective world?

I emerge from these unconcluded contemplations wondering how humans should be and act around plants and soils so that they flourish best. I suggest that we remain open to the suggestion that the rules at least include timing our interventions very carefully. Perhaps when we have done this we will show that the preparations are regularly able to demonstrate

effectiveness beyond statistical chance. This is another responsibility upon those of us wishing to carry this discipline.

## THE GOAL REVISITED

For this discipline to be embraced by the Academy in its current state, without any changes in the Academy itself, would be a hollow victory. It would mean that we would have to hide our methods and understanding of the bigger picture.

A greater gain would be to sharpen our common understanding of what is meant by 'science' since this defines the Academy. This would move the established view along and I believe that the living core of Science is always open to this.

In the light of this emerging understanding, it is a less surprising opinion that considering everything to be ultimately reducible to the effects of lifeless matter raises the risk of making the world lifeless and soulless. Scientists of the current orthodoxy may consider the ecological crisis, let alone the crisis of respect and love for each other, is coincidental to the rise of this orthodoxy. Indeed the assumption remains that we just need to get better at such orthodox science to sort out these current, pressing issues. But I would like to suggest that the seeds of the current state of affairs were sown with the unbridled rise of this attitude.

Currently, our scientific culture continues to disapprove of subjective evidence when judging what is real. With such a fundamental stricture, we were set on course to end up with the science we have with all its triumphs and shortcomings. A more comprehensive science would secure these gains whilst learning what can be improved in its foundations. This would describe a proper arena for subjective aspects to be honed with the same discipline as external investigation. Scientists, to excel, would then have to work upon themselves just as much as on the external world.

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## Endnotes

<sup>i</sup> For instance see - <http://www.orchard-rite.com/wind.cfm?m=92>

<sup>ii</sup> <http://www.bdmax.co.nz>

<sup>iii</sup> Succussion is the name used by Samuel Hahnemann, the father of homoeopathy. He banged his remedies onto a leather bound book before diluting and beginning again. Other potentisers swing the mixture from side to side. Potentisation of the biodynamic field sprays is done by stirring the mixtures in a vessel for an hour. The stirring creates a vortex that is interrupted when it is fully formed by creating a similar vortex in the opposite direction. Enzo Nastati has developed the largest range of potentisation variations of which I am aware – see note vi below..

<sup>iv</sup> See especially 'Truth and Science', and 'Theosophy' by Dr Rudolf Steiner.

<sup>v</sup> Full details are available for free download from the site in note ii above. See especially, 'Spiral Astrology', and 'Biodynamics Decoded.'

<sup>vi</sup> 'Le Basi per una Nuova Omeopatia' ('The basis for a new Homœopathy') Available in Italian from L'Albero della Vita – <http://albios.it/en/pages/matdiv/matdiv.htm>. An English translation is in progress.

<sup>vii</sup> A farmer who increases soil organic matter by 1% in a full working life on a piece of land, even with the addition of composts and manure, has done very well. To do this in three years without the addition of manure or any other organic matter is remarkable.

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<sup>viii</sup> To this end I would like to encourage people to join in the study of the work of these pioneers (and the others not mentioned in this article) all of whose work I have put together on a website called Considera – <http://www.considera.org>. There one can view more of the research and keep abreast of courses given by these two great educators. (Glen Atkinson is due in the UK in November 2007. Enzo Nastati is giving an introductory course in the UK in January.) The site is also a route to obtain and try some preparations and to submit your findings – both successful and unsuccessful – to hone this discipline.

<sup>ix</sup> James Randi offers a ‘Million dollar challenge’ to anyone who can demonstrate ‘under proper observing conditions, evidence of any paranormal, supernatural, or occult power or event’. He investigated Jacques Benveniste’s research into infinitesimal doses with ‘Nature’ magazine. See <http://www.randi.org/research/index.html> .