



*"To facilitate & disseminate high quality homeopathy research."*

**Welcome to the first newsletter of the Homeopathy Research Institute, a quarterly newsletter for everyone who wants to understand and support scientific research into homeopathy.**

## It's not 'just' water

It is hard to realise just how complex a substance water really is. Water is everywhere; it covers 2/3 of the earth's surface and makes up 60-70% of the human body. In our daily life, we only know water as either a liquid, ice or vapour. However upon closer inspection, scientists have catalogued 15 different types of ice<sup>1</sup>, which can be admired in the intricate designs of snow flakes and the amazing pictures of water crystals taken by Dr Emoto<sup>2</sup>. This complexity is due to the precise structure of the water molecule, making water one of the most complex substances known to science<sup>3</sup>.

Opponents of homeopathy often refer to the simplicity of the water molecule as a key argument why homeopathy cannot work. "It's just water!" they say. However this is not the case as has now been shown by several fields of science outside of homeopathy<sup>4</sup>.

In the field of toxicology there is a known and documented phenomenon known as 'hormesis'<sup>4</sup>. A substance showing hormesis has the property that it has the opposite effect in small doses, than in large doses. This supports the use of tautopathy, where homeopathic doses of a toxin are given to accelerate the detoxification of that same toxin (e.g. Arsenic).

Furthermore, in the field of material sciences, there is a phenomenon known as 'epitaxis'. This phenomenon is used in the industrial manufacture of semiconductors for microprocessors. Epitaxy refers to the transfer of structural information from one substance to another, which can happen at the interface between the two substances. This transfer of structural information can remain after the original substance has disappeared from the system. This is very similar to the theory of homeopathic dilutions, the only difference being that epitaxy is known to happen in crystalline materials but not in liquids such as water<sup>5</sup>.

More recently, experiments using the light emission spectrum (Raman and Ultra-Violet-Visible spectroscopy) of homeopathic water vs normal water have shown that homeopathically prepared water has a different molecular structure than normal water<sup>6</sup>. Although these are preliminary results they do indicate that homeopathic remedies are not 'just water', something has remained of the originally diluted substance.

Finally, I want to return to the work of the late Dr Benveniste (1935-2004). Benveniste's original publication in 1988 in *Nature*<sup>7</sup> – science's most prestigious journal – created outrage in the scientific community all over the world.



Photo of a water crystal by Dr Emoto ©

It showed that dilutions beyond Avogadro's number (beyond which there is no trace of the original substance left in the solution, corresponding to ~12C) have a reproducible biological effect on living cells. The scandal eventually led to Benveniste having to resign from his position as director of the CNRS, France's main governmental science agency. It is reassuring that his results have since then been reproduced and confirmed, showing that indeed highly (homeopathically) diluted substances retain a biological activity akin to that of the substance in its crude form<sup>8-9</sup>.

In this brief overview of the science of water I hope I have managed to convey some of the strong scientific arguments that support the theory of homeopathic dilutions and thus the validity of the homeopathic principle of potentisation.

1. <http://en.wikipedia.org/wiki/Ice>
2. <http://www.masaru-emoto.net> and his books such as 'Messages from water'
3. <http://www.lsbu.ac.uk/water/anmlies.html>
4. Mastrangelo D., (2007) '*Hormesis, epitaxy, the structure of liquid water, and the science of homeopathy*'. *Med Sci Monit* **13**(1):SR1-8.
5. Roy R. *et al* (2005) "The Structure of Liquid Water; Novel Insights from Materials Research; Potential Relevance to Homeopathy," *Materials Research Innovations*, **9** (4), pg. 577-608
6. Rao ML *et al*. (2007) "The defining role of structure (including epitaxy) in the plausibility of homeopathy". *Homeopathy*. **96**(3):175-82.
7. E. Davenas & J. Benveniste *et al* (1988), "Human basophil degranulation triggered by very dilute antiserum against IgE" *Nature* **333**, 816 – 818
8. Belon P *et al* (1999), "Inhibition of human basophil degranulation by successive histamine dilutions: results of a European multi-centre trial.", *Inflamm Res*. **48** Suppl 1:S17-8
9. Belon P *et al* (2004), "Histamine dilutions modulate basophil activation", *Inflamm Res*. **53**(5):181-8.

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## Who are we?

The team at the HRI consists of a unique group of homeopaths and scientists headed up by - Dr Alex Tournier & Clare Relton who are both homeopaths and scientists. Dr Alex Tournier is a physicist working at Cancer Research UK with degrees in physics, maths & biology. Clare Relton works at the University of Sheffield as a Department of Health Research Fellow in the field of Health Services Research. She is currently writing up her thesis on trial designs appropriate for homeopathy. Alex & Clare are backed up by directors and a team of scientific advisors in the fields of homeopathy, medical and health research (see our website for more details).

## Frogs show X-rays don't harm remedies!

Austrian researchers have shown that homeopathic dilutions of thyroxine have a measurable effect on the developmental stages of amphibian larvae<sup>1</sup>. In more recent experiments the remedies were exposed to various forms of electromagnetic radiation before being administered to the animals. The Austrian experimenters were thus able to show the influence of the different electromagnetic radiations on the homeopathic dilutions. Unsurprisingly microwave ovens and mobile phones were found to destroy the effect of the homeopathic thyroxine. On the other hand standard airport X-rays did not affect the homeopathic thyroxine<sup>2</sup>.

1. <http://www.inter-uni.net/amphibia>

2. Weber S *et al.* 2008 "The effect of homeopathically prepared thyroxine on highland frogs: influence of electromagnetic fields." *Homeopathy* 97(1):3-9

## Homeophobia?

Discussion of homeopathy and its 'evidence base' has been a lively topic in the popular media and the scientific press over the last few years and has included claims as to the 'end of homeopathy' from Lancet editor Richard Horton<sup>1</sup>. 2007 saw articles published in the medical journal the Lancet<sup>2</sup>, the international scientific journal Nature<sup>3</sup>, the Times & the Guardian, as well as Radio 4 interviews and a Channel 4 programme featuring popular scientist Prof Richard Dawkins.

The "excoriating" nature of the discussion prompted Rustom Roy (Professor of Material Science, University of Arizona) to name a new social disease, 'homeophobia' – that is, a phobic reaction (mainly by scientists) to the word homeopathy<sup>4</sup>.

1. Horton, R. (2005), 'The end of homoeopathy', *Lancet*, 366, 9487, 690.

2. Goldacre B (2007), 'Benefits & risks of homeopathy', *Lancet* 370,1672-1674

3. Goldacre.B (2007), [www.nature.com/news/2007/070319/pf/446352a\\_pf.html](http://www.nature.com/news/2007/070319/pf/446352a_pf.html)

4. Roy (2008), [www.guardian.co.uk/comment/story/0,,2229446,00.html](http://www.guardian.co.uk/comment/story/0,,2229446,00.html)

## Important recent publications:

### I Research about Homeopathic principles

#### Test tube trials of homeopathic potencies:

Witt et al<sup>1</sup> published a systematic review of 67 in vitro (test tube) trials of homeopathic potencies – mainly conducted with basophils (white blood cells). 73% of trials reported an effect of high potencies.

### II Research about Homeopaths' practice

#### Trigeminal neuralgia

An uncontrolled study<sup>2</sup> of individualised homeopathic treatment prescribed for trigeminal neuralgia reported a 60% reduction in pain intensity and attack frequency after four months of treatment by a homeopath.

#### Society homeopaths

A pilot observational study of homeopaths registered with the Society of Homeopaths<sup>3</sup> highlighted both the wide range of conditions that patients seek homeopathic treatment for and the increase in the proportion of patients seeking help for mental problems – anxiety, depression, lack of confidence.

1. Witt C.M et al (2007) 'The in vitro evidence for an effect of high homeopathic potencies – a systematic review of the literature' *Complementary Therapies in Medicine*, 15, 128-138

2. Mojaver, Y.N et al (2007), 'Individualised homeopathic treatment of trigeminal neuralgia: an observational study', *Homeopathy*, 96,2, 82-6

3. Relton, C., et al (2007), 'Patients treated by homeopaths registered with the Society of Homeopaths: a pilot study'. *Homeopathy*, 96, 87-89

## Studies in the pipeline:

Researchers at Southampton University are currently conducting a trial of homeopathic remedies for **rheumatoid arthritis**.

Bristol University Veterinary School are studying a clinical outcomes study of the effects of homeopathic management in **canine atopic dermatitis**.

Two randomised controlled trials (RCTs) have been conducted at University of Sheffield looking at the effectiveness of treatment by a homeopath for **Fibromyalgia Syndrome (FMS)** and the effectiveness of treatment by a homeopath for **menopausal hot flushes** (publication expected late 2008)

**NEXT EDITION: April 2008**

This newsletter was written and edited by Alexander Tournier and Clare Relton.

## The HRI needs your support

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