**Homeopathy – how does it work?**

One of the most frequently asked questions of homeopathy is how it works. This document summarises existing and ongoing research into the mechanism of action of homeopathy - that is the principles behind the effect of homeopathic medicines. It looks at both theoretical models and experimental approaches.

1. **The mechanism of action: explanatory models and theories**

**1.1** **Lenger**[[1]](#endnote-1),[[2]](#endnote-2),[[3]](#endnote-3)assumes that the effect of homeopathic dilutions is based on the **release of biophotons from the parent drug**, whose strength increases with increasing dilution. This leads to a resonance (vibration amplification) phenomenon between the biophoton frequency of the drug and the frequency in the body made out of balance by an illness.

**1.2** An ongoing scientific debate focuses on the **memory of water**. According to **imprint theory** by **Barnard and Stephenson**[[4]](#endnote-4), long polymer chains (chain-like chemical compounds), which come from the starting substance, form in the dissolution medium in a specific manner depending on the particular parent drug despite increasing dilution. This may explain the memory of water (or of the homeopathic dilution medium such as a water alcohol mixture or lactose). Likewise, **water cluster formation** assumes water molecules form larger clusters which may be responsible for the storage of information.

**1.3** There is also discussion of the relevance of **quantum theory**, which goes beyond the conventional ideas of classical physics, with mathematical formula systems developed by **Atmanspacher**, **Römer** and **Walach**[[5]](#endnote-5).However, experimental implementation of these ideas continues to fail.

**1.4** There has been in-depth discussion about whether, despite the many dilution steps for homeopathic high potencies, one can assume that there is actually a remaining concentration of the starting material. Studies using methods developed in the context of **nano research**[[6]](#endnote-6),[[7]](#endnote-7) may show that above a certain dilution step, a relatively constant concentration of the starting material in the form of nanoparticles (particles in the range of about 1 to 100 x 10-9 m) is established.

1. **The mechanism of action: experimental research**

**2.1** **Van Wijk** and **Wiegant**[[8]](#endnote-8) worked on **scientific evidence of the similarity principle**. They examined the recovery process of cell cultures previously exposed to different cell toxins (arsenic and cadmium) or damaging heat and were able to show that previously damaged cell systems recover faster when they are again confronted with the harmful substance in an attenuated form.

**2.2** Numerous **experiments** have been conducted to **decode homeopathy’s physical mechanism of action**. High-potency medicines have been compared with placebo mainly using standard spectroscopic methods, to draw conclusions about physical differences. The meta-study by **Witt**[[9]](#endnote-9) provides a detailed overview of the different **experimental physical studies**.

**2.3** Statistically significant results were obtained with **test systems that work with plant, animal and cell systems**: **Endler**’s research seeks to determine whether the administration of homeopathically prepared thyroxine cancels the accelerated transformation from a tadpole into a frog through material thyroxine. Endler et al.[[10]](#endnote-10),[[11]](#endnote-11),[[12]](#endnote-12),[[13]](#endnote-13),[[14]](#endnote-14) were able to show that the tadpoles treated with a homeopathic high potency actually developed more slowly than those treated with placebo.

**2.4** **Baumgartner’s** research focuses on ultra-high dilutions[[15]](#endnote-15),[[16]](#endnote-16),[[17]](#endnote-17),[[18]](#endnote-18): Very plausible results that **support the impact of highly potentized homeopathic preparations** were obtained with a test system consisting of duckweed cultures, a standard system in ecotoxicology (research on environmental toxin).

2.5 **Bellavite**[[19]](#endnote-19) shows that mice treated with homeopathic high

potency gelsemium showed significantly more active behaviour than placebo-treated mice.

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15. Jäger T, Scherr C, Simon M, Heusser P, and Baumgartner S: Effects of homeopathic arsenicum album, nosode, and gibberellic acid preparations on the growth rate of arsenic-impaired duckweed (Lemna gibba L.). ScientificWorldJournal 2010;10:2112-29 [↑](#endnote-ref-15)
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