

1. Introduction

- There is evidence, though contentious that human thought impact on other living organisms and also inanimate matter and in particular water. These could have many potential applications in many fields including water resources management.
- Short descriptions of some of the studies confirming this effect including one recently conducted by the authors are presented. The potential applications of these in water resources planning and management are then discussed.

2. Ability to alter the pH of water

Reference: Tiller W A, Dibble W E and Kohane M J (2001) *Conscious Acts of Creation – The Emergence of a New Physics*, Parvior, 418 pp.

- Four experienced meditators imprinted the concentrated thought (intention) to either reduce or to increase the pH of water by 1 unit into an electrical device (IIED) at Stanford University.
- The devices were stored in electrically grounded Faraday cages and water samples were then placed in the cage 2 feet from the water sample and the IIED was activated (Figure 1).
- Figure 2 shows the increase in pH for purified water. By using a IIED without imprinting the intention, the changes in pH were irregular oscillation about 20 smaller.

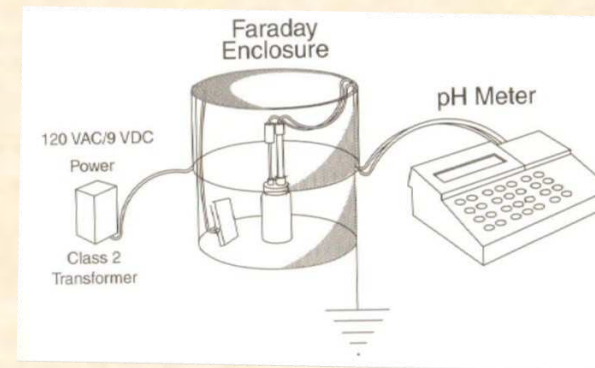


Figure 1. Set up for P^H alteration experiments (Tiller et al., 2001)

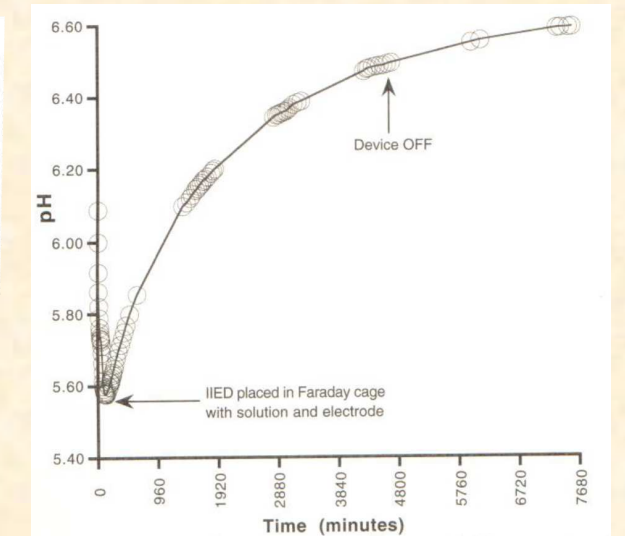


Figure 2. Increase of P^H due to intention (Tiller et al., 2001)

3. Ability to alter water crystal formation

References: i) Radin D, Lund N, Masaru E & Takashige K (2008). *Effects of Distant Intention on Water Crystal Formation: A Triple-Blind Replication*, *Journal of scientific Exploration*, Vol. 22, No. 4, pp. 481–493, 2008. ii) <http://www.masaru-emoto.net>

- Four bottles of water were placed inside an electromagnetically shielded room in California. Two of these were known to the group sending the intention while the remaining two acted as proximal controls. Two additional bottles placed in the same building served as distant controls.
- Over 3 days, 1900 people in Austria and Germany focused their intention while seeing photos of the two treatment bottles and knowing their location via Google Earth.
- All 6 bottles were then sent to Japan and 50 ice crystals formed in petri dishes from water samples from each bottle and then photographed with a magnification of 100 or 200.
- The photos were then assessed for aesthetic beauty by 2500 independent judges on a scale of 0-6). Each assessed 50 randomly selected photographs. Figure 3 shows the comparison of the average beauty rating. The crystal images from water samples of the intentionally treated water were marginally aesthetically better than the proximal control ($p = 0.03$).
- Figure 4 shows the results from a different experiment by one of the researchers (ME) showing the change of ice crystals from plates to dendrites after meditation on mineral water.

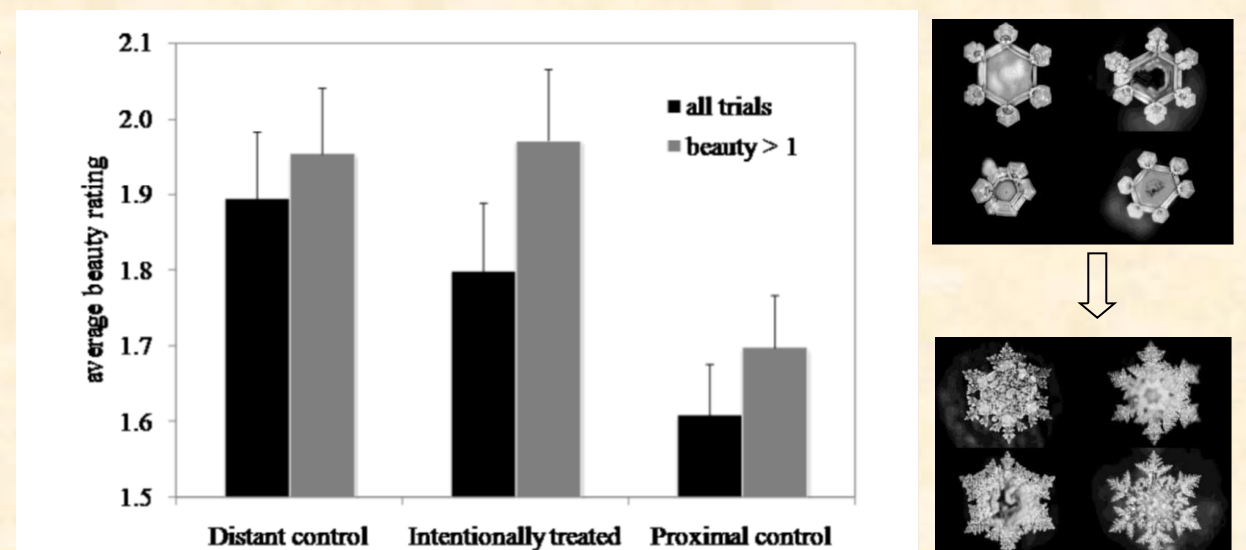


Figure 3. Average beauty ratings (Radin et al., 2008)

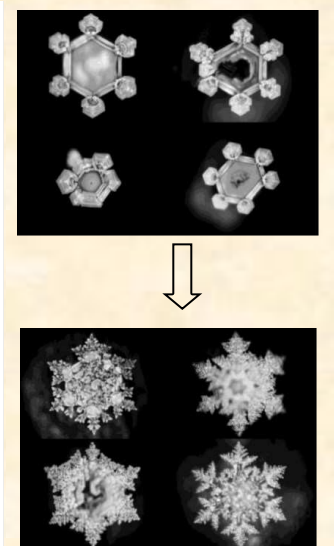


Figure 4. Effect of meditation on water crystal type (<http://www.masaru-emoto.net>)

4. Ability to enhance yield and health of crops

Reference: Roney-Dougal, S.M., Solfvin, J., 2003. *Field Study of an Enhancement Effect on Lettuce Seeds: A Replication Study*. *The Journal of Parapsychology*, 67-2, 279-284.

- In Scotland, five double blind trials each consisting of 3 controls and 1 enhanced group were conducted with each group consisted of 100 seeds. After enhancement, the seeds were planted in a polytunnel and after 3 weeks, the seedlings were planted on the fields in an organic farm.
- They were harvested after 10 weeks and 3 measurements were then taken; the weight of the lettuce, the fungal damage (number of slimy leaves) and slug damage (number of holes in each leaf).
- Figure 5 shows the results of the cumulative yields from the 1st to the 5th trial. Enhancement resulted in a 16% increase in average yield, a 10% reduction in fungal damage and a 5% reduction in slug damage.

5. Ability to alter the growth of seedlings

- This experiment was conducted at the University of the Witwatersrand, in December 2013 by the authors. Lettuce seeds were selected as they grow fast and develop only a single root and shoot.
- The tests consisted of a single control with 120 seeds and 3 treatments; intention to i) germinating water only, ii) to seeds only and, iii) to both seeds and water with each having 160 seeds.
- Intention to seeds and to water was given by one of the authors (JN who is an experienced meditator) for 7-10 minutes every morning for 7 consecutive days. They were kept in a room where only meditation happens over the 7 days and were then given to the other author (RS) to conduct the growth experiments. Figure 6 shows results for treatment iii and Table 1 summarizes the main results. These are in agreement with those obtained in section 4 and from other studies.

6. Discussion

These studies (and many others) reveal that it is hardly disputable that human thoughts impact on both living things and inanimate matter—a finding that is in agreement with the well known placebo effect. The marginal effect observed in Figure 3 (where experienced meditators were not involved unlike the other studies) suggests that applying the methods requires training and consistent practice. The significant improvement in crop growth, yield and quality (Section 4 and 5) could lead to large water savings as there is better use of each unit of water. Thousands of farmers in India (e.g. Figure 7) have adopted a combination of organic farming and the use of meditation and as a healthier, more sustainable and better socio-economic alternative to chemical fertilizer-based farming. The reflective properties of clouds are dependent on the crystal formation¹ and Figures 3 and 4 show that human thought impacts on these. This subtle technology could therefore have potential applications for managing climate change.

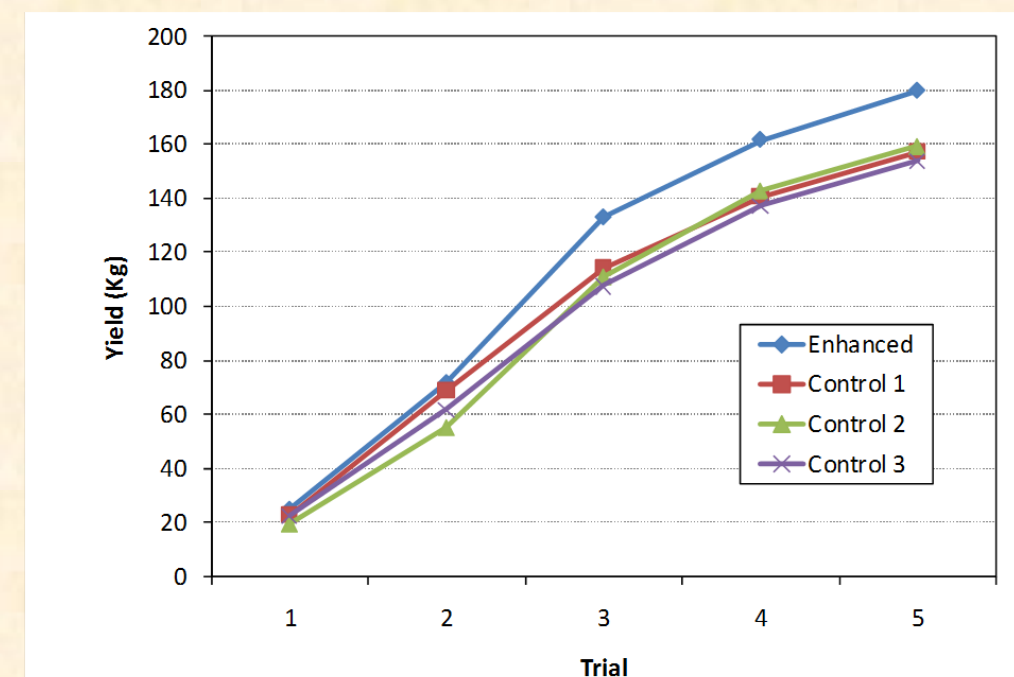


Figure 5. Lettuce yield from enhancement and controls (data from Roney-Dougal, S.M., Solfvin, J., 2003)

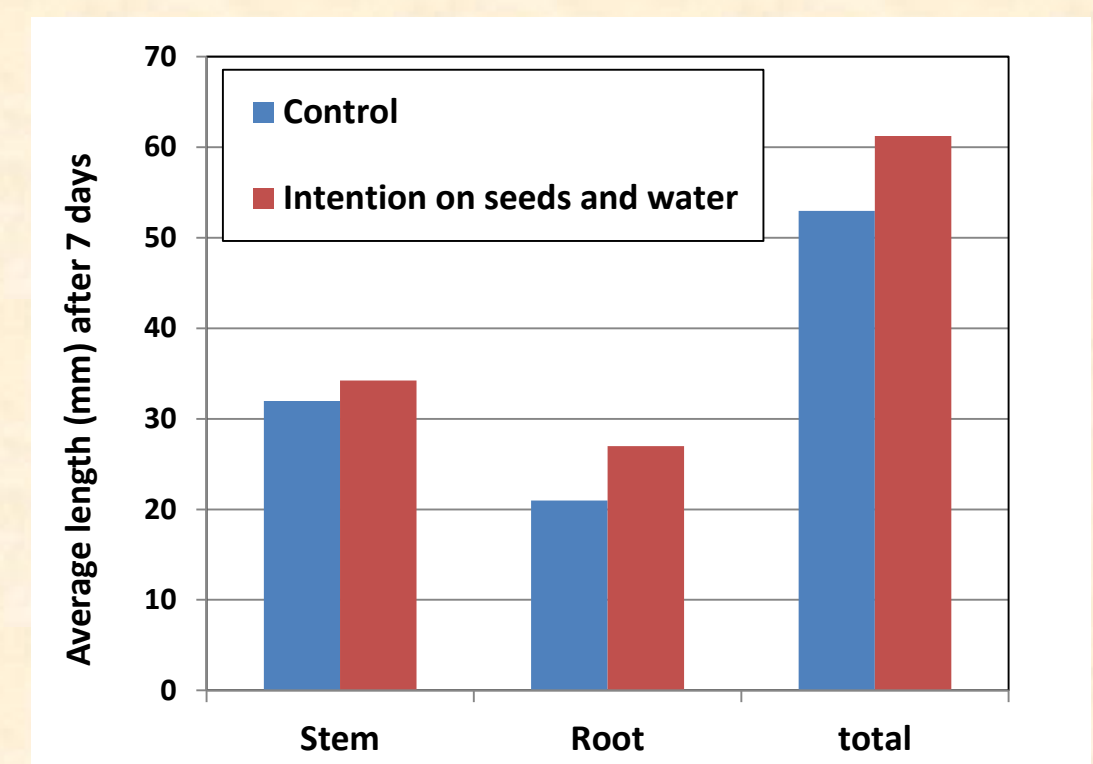


Figure 6. Average increase in length of seedlings

Table 1. Average increase in seedling length and significance test results

	Enhancement on:	Stem	Root	total
Average % increase in length after 7 days since planting.	Water only	-0.4	19.2	7.4
	Seeds only	10.8	20	14.4
	Water and seeds	7.1	28.6	15.6
T-test results (p)	Water only	0.87	0.0010	0.017
	Seeds only	0.0000022	0.00025	0.0000007
	Water and seeds	0.0049	0.0000045	0.0000031



Figure 7. A family providing enhancing intention to crops (<http://yogickheti.com>)