

No 5 THE PLACEBO EFFECT (I)

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1. This morning I would like to talk about *placebos* and the “*the placebo effect*”. I looked at this about three years ago and I have been thinking about it ever since.
2. The introduction to one of the books I have read said:
*Placebos are the ghosts that haunt our house of biomedical objectivity, the creatures that rise up from the dark and expose the paradoxes and fissures in our own self-created definitions of the real and active features in treatment.*¹
3. That makes the subject sound as though it is a threat but I am increasingly convinced the better we can understand the subject the more relevant and rewarding it is to us as AT teachers.
4. There is a lot of material available about it and the subject is getting larger all the time. Today I am going to fill you in on the basics of the subject and the next time, I am going to see what we can extract from it that is particularly relevant to our own work.
5. As usual I will tell you my sources. I have mainly used three books which come at the subject from different directions.
6. My favourite one is called *Meaning, medicine, and the placebo effect* by Daniel Moerman which was published by the Cambridge University Press in 2002. Moerman is an anthropologist and has been studying the placebo effect since the mid-1970s. This is a very literate, good-humoured and generally engaging book.
7. The next is *The placebo effect: an interdisciplinary study* which is based on a three-day conference at Harvard University in 1994. It is edited by Anne Harrington who is Professor of the History of Science at Harvard University.
8. The third is *The placebo effect and health* by W. Grant Thompson who is Professor Emeritus of Medicine at Ottawa University. He brings a very broad breadth of medical experience to the subject. He has been a general practitioner, gastroenterologist, medical researcher and medical educator. He says he first became interested in the placebo effect in

¹ Harrington (1997)p1

1970 and since then has ...*come to understand its great relevance to medical care.*²

9. So let's start with some definitions. In modern medicine a placebo is usually a pill made of some substance which has no known active effect on pain or illness. A typical placebo pill contains a little starch and perhaps some sugar and colouring.
10. We are talking about half a cornflake or a piece of bread moulded into a pill. We can be pretty certain that if any effect is observed after taking one of these it is not a result of any active therapeutic ingredients in the pill. If there were, could you imagine how powerful a full bowl of cornflakes or a slice of bread would be.
11. Nowadays, the main use of placebos is in the evaluation or testing of new drugs or medical treatments.
12. They are used in what is called a Randomised Placebo Controlled Trial – this is also known as a double blind trial. In one of these, a number of people, the large the better, suffering from whatever problem the treatment is supposed to deal with – blood pressure, depression, back-ache, dandruff, not being able to stop smoking, or whatever - is selected.
13. The trial subjects are divided into two evenly matched groups. One group gets the treatment, usually a drug, and the other gets a placebo. The doctors or researchers take great care to ensure that neither the patients nor the those administering the drug know whether the drug or the placebo is being given. Hence the term “double blind”.
14. The symptoms of the ailment are measured in all the participants in the beginning of the trial. The treatment is given and the symptoms are measured again. There is often a follow-up some time later to see whether the effects have lasted.
15. The effectiveness of the drug is measured against the effect of the placebo. Only if the drug produces a significantly better effect than a placebo will it be accepted as useful.
16. That seems perfectly logical and reasonable. But once we start to look into it a bit more deeply things become a lot more complicated and the creatures begin to rise up from the dark and expose the paradoxes and fissures.

² Thompson (2005)p14

17. We begin with some background. The word placebo began to acquire its modern meaning in the 19th century.
18. The fact is that until the invention of modern antibiotics in the 1930s, the medical cupboard was fairly bare. Apart from setting bones, lancing boils and a few surgical operations there was very few effective remedies for most of health problems that afflicted people.
19. As a result, doctors often gave patients medicines which they knew had no therapeutic ingredients. In my own lifetime many doctors, including my own father-in-law, used to make up their own bottles of medicine to give to their patients. They would use sugar or syrup and colouring and perhaps add in some alcohol, chloroform or opium.
20. The doctors gave them to please the patient. Hence the name placebo which is Latin for *I will please*.
21. But the fact is that despite their lack of therapeutic ingredients, patients generally found these medicines did them good. The doctors who were administering them knew from experience that patients would feel better after taking them.
22. The fact that people often feel better as a result of placebo treatment is called *the placebo effect*.
23. Not surprisingly doctors and medical scientists have tended to be dismissive of placebos. They would commonly refer to a treatment which did not contain what they recognised as an active curative ingredient as "*a mere placebo*".
24. The placebo effect is often dismissed by saying "*It's only in the mind*". It is as though, in some sense, people are mistaken in thinking they feel better.
25. But that view was undermined as early as 1955 by an article quoted by Harrington which
...made it clear that placebos could cause objective (structurally and functionally measurable) changes in physiological functioning some of which (as the researchers of the time marvelled) could "even exceed those attributable to potent pharmacological action".³

³ Harrington (1997)p2

26. In recent decades it is coming to be accepted by medical scientists that the placebo effect is both real and interesting and as a result, it is getting increasing scientific attention.
27. The effects of receiving a placebo can be quite remarkable. Here are some examples which Moerman mentions in his book.
28. One was a trial of a new ulcer drug called Prevacid in 1994. A total of 300 people participated in the trial. All were suffering from ulcers in the stomach which had been identified by examination using an endoscope.
29. The patients were divided into three groups. Some were given the new drug, Prevacid, some were given the old drug, Zantac, and some were given a placebo.
30. The result of the trial was that 88 percent of the people who got the new drug were cured of their ulcer compared with 66 percent who had been given the old drug. This was rightly regarded as proof that the new drug was more effective than the old one. The result was written up in the scientific and medical literature and scientists produced explanations for how the improvements had been brought about.
31. What interested Moerman was the fact that 44 percent almost half of the people who got the placebo were also cured of their ulcers. He says this was not mentioned in the scientific write-up.⁴ Medical scientists do not like the placebo effect.
32. Another study described by Moerman was in Italy in which groups of men and women were given different colours of placebos but were told they were sleeping pills.
33. The researchers found that orange placebos had very little effect but that blue ones were effective. The problem was that the blue ones were much more effective in women than in men.
34. Moerman suggests that one way of making sense of the results is that blue is the colour of the Madonna and is reassuring to women. But blue is also the colour of the national football team which is anything but consoling to men since they worry so much about it. As he says:
Since the Virgin is always thought of in blue, and since the mother of God is a very reassuring and protective

⁴ Moerman (2002)p10

*figure for Italian women, it seems reasonable that blue sleeping should be effective for them...Blue is the colour of the Azzuri, the national Italian soccer team. So it is at least plausible that blue sleeping tablets would work less well for men than for women. Orange, by contrast, is a color without strong meanings in Italian culture.*⁵

35. It has also been found that it is important to stick to your placebo medication. Trials of a heart drug showed that those who stuck to their prescribed medicine did better than did not. But. *...it made no difference whether the patients took the active drug or the placebo.*⁶
36. I could give you dozens of other examples of placebo effects but there is only time for a couple. Some blood pressure drug trials in Australia found that all groups, whether given placebos or drugs, showed reductions in blood pressure – including those who received no treatments but simply had their blood pressure measured. Having your blood pressure measured, in other words, has a placebo effect.
37. But while that is true, it is also true that there are plenty of examples of people whose blood pressure goes up when they go to the doctor to get it measured. This is an example of the opposite to a placebo and is called a nocebo effect.
38. Another example of the nocebo effect comes from reading medical textbooks. Other examples of the nocebo effect are the various stories of witches or voodoo priests killing or sickening people by putting a curse on them. This was widely believed in until relatively recently. Legislation against witchcraft was only repealed in Europe at the end of the 18th century and still, apparently, exists in Saudi Arabia.
39. These are examples of how people at the receiving end of the placebo or nocebo are affected. But the attitude of the people on the delivery side, the doctors, is also important.
40. Moerman recounts the case of some drugs for angina pectoris – the heart problem which causes severe pain – that were commonly used in the 1940s and 1950s. These were generally agreed to be effective and doctors and patients were reasonably happy to continue using them.

⁵ Ibid. p49

⁶ Spiro (1999)p42

41. But then some research studies showed that these drugs were no more effective than placebos. This caused doctors to lose confidence in them and the effectiveness of the drugs fell by half down to a baseline of 30-40 percent – which was the same as the placebo effect.
42. The only thing that had changed was that the doctors had become more sceptical about the efficacy of these drugs. They were, in effect, placebos and their efficacy depended on the attitude of the doctor who was administering them. As Moerman puts it, “...*in these grave conditions, skeptics can heal 30% to 40% of their patients with inert medication, while enthusiasts can heal 70% to 90%.*”⁷
43. You might say that contradicted what I said before that when doctors gave placebos even though they knew they were more or less inert, the patients tended to feel better. In that case, the doctors were confident that would happen.
44. In an even more complex study done in France,⁸ some patients suffering from cancer pain were divided into two groups. The first group were subjected to a standard medical trial in which some were given a painkiller called naxopren and others a placebo. This trial uncontroversially showed that the painkiller worked better than the placebo.
45. But then the researchers talked to the other group of patients about the trials and explained that some would be getting painkillers and some would be getting placebos.
46. The really surprising thing is that both the naxopren and the placebo worked much better in this group. In fact, the placebo worked better in the informed patients than the naxopren did in the uninformed patients.
47. As Moerman puts it:
- In this case, a discussion about the fact of getting drugs, and even the possibility of getting an inert drug, increased the effectiveness of both the drug and the placebo. Knowing what’s going on, experiencing treatment both physically and verbally, makes a difference.*⁹

⁷ Ibid.39

⁸ Ibid.71

⁹ Ibid.72

48. We are beginning to see some kind of pattern here. Placebos or nocebos can have an effect depending on the attitude of the doctor and the patient to them. But it is essential that people think they are getting something for the placebo effect to work. You will not get a placebo effect if you slip a placebo pill into someone's food. The thought that you are getting something curative is an essential element in the placebo effect.

49. As Moerman puts it

Placebo treatment can dramatically reduce pain compared to no treatment, but only if the subjects know it is happening. It is not the placebo itself that reduces the pain, which makes perfect sense since it is inert. It is the knowledge of the placebo that does the trick.¹⁰

50. If we look at the history of medicine in the light of modern knowledge, it is evident that many of the commonly-used remedies have little or no curative effect. Some weird and wonderful remedies like crabs eyes, swallow's nest, cast-off snake skin, powder made from precious stones and wood lice. In modern times they include bits of tigers and rhinoceros horn.

51. These junk remedies worked, in so far as they worked, because people believed in them. Thompson says:

By far the most common category of placebo use is the deployment of treatments that are erroneously believed to be effective by both healer and patient. This practice is as old as healing itself.¹¹

52. Another study says

...physicians continued to be respected and honored because they were the therapeutic agents for the placebo effect.¹²

53. It goes on to say that until recently, the history of medical treatment is essentially the history of the placebo effect.¹³

54. It is even odder that some of the things that doctors commonly did were extremely harmful. Bleeding, for example,

¹⁰ Ibid.106

¹¹ Thompson (2005)p23

¹² Shapiro (1999)p15

¹³ Shapiro (1999)p13

was widely used for two thousand years but is now recognised to be a very bad idea and caused the death of George Washington. As Moerman says, he was bled to death by his doctors in 1799.¹⁴

55. Doctors also used blistering and purging and fed their patients remedies based on arsenic, mercury, sulphur and various other noxious substances. There is no way these would be administered as medicines nowadays. But for hundreds of years doctors and their patients were convinced they were useful.
56. I could go on giving examples but I have said enough to make you think there is something really odd about the placebo effect.
57. You can see why drug companies and medical researchers hate it. It prevents them getting a firm grasp on what is happening. If, for example 80 percent of people experience a reduction in pain with a placebo, it becomes more difficult to prove it is worthwhile taking an expensive painkiller.
58. It is also why you find there is a considerable amount of hostility in many people, not just doctors and drug companies, Practitioners of alternative and complementary medicine and sellers of different kinds of “natural” remedies also tend not to want to get into discussions of the placebo effect.
59. Next time I am going to try to wrestle some sense out of all this. And I am going to see how it fits in with what we do as AT teachers.

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PS A website <http://www.aplacebo.com/> offers placebos for sale. It includes travel placebos, gold and platinum placebos and homeopathic placebos for £14.99 per 100ml.

¹⁴ Moerman (2002)p11