

Meaning, Medicine and the Placebo Effect

by Carol O'Connor

Introduction and Definitions

This report is a review of the book Meaning, Medicine and the 'Placebo Effect' by David Moerman, Professor of "unhyphenated anthropology" at the University of Michigan - Dearborn. I include only brief descriptions and results of drug tests detailed in the book, leaving out the statistics and specific methods which are available in the book's body and end notes. This is a fascinating and engaging read.

Professor Moerman focuses on the problem of understanding what is popularly called 'the placebo effect'. Commonly viewed as trickery towards the patient, Moerman sees this effect as a phenomenon that engages the biological consequences of experiencing knowledge, symbol and meaning. Meaningful events in our lives, medical and otherwise, affect us for better or worse. For Moerman, the placebo effect is not the patient being deceived, but responding to meaningful events and creating a "meaning response": healing himself with a pill filled with nothing at all.

When drugs are tested there are usually two active drug groups and one control group - the placebo group. When the results of a study come back, only the apparent effectiveness of the active drugs is studied, with the control group acting as a "no effect" group. For instance, two ulcer drugs were tested for effectiveness in allowing painful stomach sores to heal over. While Zantac did well at 65%, Prevacid won out at 88%. In the placebo group 19 out of 44 had their ulcers heal over during the course of the experiment. The drug companies are not generally interested in this group, but Moerman wants to know what has happened to these people. *Almost half* of this group had scorching stomach pain recede and tissues regenerate, closing the wound in a very difficult (acidic) environment.

Pausing for a few definitions, we find that the word placebo comes from a mistranslation of Psalm 116 v. 9 which comes to us from Hebrew through Greek and into Latin, *Placebo Domino* translated as "I shall please the Lord". (More modern translations of the Hebrew text indicate that "I shall walk with the Lord" is more accurate.) Medical dictionaries in 1811 defined placebo as "an epithet given to any medicine adapted more to please than benefit the patient". By the mid 19th century the description developed into "just a divertissement to cheer the spirits and assist the effect of the waters". Our modern definition emerged in 1938, identifying "a second sort of placebo, the type which the doctor fancies to be an effective medicament but which later investigation proves to have been all along inert". We see, then, that for at least two centuries in the West, doctors have been aware that sick people get better after taking inert drugs.

While the placebo effect has been defined here as a "meaning response", we should note that a placebo itself is an "inert drug". Placebos do not cause the placebo effect. Placebos are inert. That which is inert does nothing, and can have no effect. Changes occur, nonetheless.

Most illness are described as "self-limiting", that is, if the body is strong and otherwise healthy enough, the illness will go away 'by itself' (the body takes care of it). The purpose of taking drugs is not to heal or cure but generally to make the experience of illness less uncomfortable. Even the most powerful

antibiotics are not given with the intention to heal, but to kill an invading organism and to assist the body in defeating an enemy. Healing is done afterwards by the body and only by the body.

We further define three responses to injury:

Autonomous response, which the body invokes to regain equilibrium. This can be seen with an every day cut. The body mounts an immediate response; blood trickles or gushes out flushing the wound, lymphatic fluid is sent to the site carrying phagocytes to eat up any bacteria that might be getting in, there is swelling and redness as the site is nourished while the edges of the wound begin to approximate (pull together) and either the tissues begin to regenerate, or if the cut is deep, collagen develops to close the wound with scar tissue.

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Meaning response, which is our interaction with the *context* in which healing occurs. (We all know that the Band-Aid you cover a child's cut with works much better with a picture of Snoopy on it than if it is plain.) Thus, the healing process seems to embody both autonomous and behavioural components.

Symbolic Medicine; Exploring Context

Branding

These three (autonomous, specific and meaning) responses to injury are intertwined with one influencing the other. Exploring the context of taking drugs we see the effect of branding. In an Aspirin study by Braithwaite and Cooper in 1981, patients were given either a branded Aspirin tablet or a generic ASA tablet of equal strength. The placebo group also received either a branded or generic inert tablet. In both the drug and placebo groups the branded tablet outperformed the generic. Meaning appears to make your aspirin work better - and it makes your immune system work better too.



What Your Doctor Knows

One study of wisdom tooth extraction and pain relief divided patients into two groups who might receive either powerful and effective pain relief or a placebo by injection. The dentists were not to divulge to the patients what they were getting. As the study began the dentists were informed that the test group would receive a less effective drug for the first while as there was an "administrative problem" getting the really good one. Soon, though the 'problem' was solved and these patients could now be getting the better drug.

Both groups were actually given an inert substance but the perception of pain relief was dramatically different after the "more effective drug" had arrived. Here it was not a brand that made the difference but the doctor's knowledge, which was unconsciously being conveyed to the patients.

The depth of a doctor's convictions conveys to the patient the power of their treatment. The nature, personality, behaviour and style of a doctor all influence human response - not only to inert but to active medication. It is as if the physician's demeanour activates the medication.

This is true in other traditions too. The personal experience of a shamanic healer is in itself proof of the power and usefulness of their healing techniques. One of the ways that a shaman is called to their practice is having recovered dramatically from an illness themselves. This provides undeniable

evidence that they received and will now be giving is effective, and it allows them quite naturally to pass on powerful conviction to their patients.

Evidence and conviction in Western bio-medicine is often based more on clinical experience than scientific data or personal experience (it is unlikely that your oncologist came to the field having had cancer). For example, there is little support to show that antibiotics should be given to children with sore throats in the absence of active bacteria. Studies of 10,484 cases showed that antibiotics shortened the duration of the symptoms over a 10 day period of illness by 8 hours. Despite the evidence, as we are sadly aware, antibiotics are handed out like candy.

But, what seems important is that healers of all traditions are convinced that their techniques are powerful, useful and backed by solid evidence, whether it comes from gods, spirits or professional experience. The strength of the healer's conviction is integral to the process of healing.

What the Patient Knows

We know stuff. Even without studying, we know things about medicine. We know that if Mommy kisses it better it's going to get better, and that the Snoopy Band-Aid is helping the cut get better too. We know that red pills are stimulating and blue pills are calming, and that big multi-coloured capsules are more powerful than round white tablets. We know that two round white tablets are more than one, and that one tiny coloured pill, which must be small because it contains powerful medicine, is more than two round white tablets. We know that injections are stronger than any sort of pill and we know absolutely that surgery is the most powerful intervention of all.

Ritual and Symbolic Medicine



Surgery as a ritual contains its own very potent symbols. All but the most rudimentary cutting is performed by a Surgeon, who creates a certain amount of respect and awe around himself (for he is almost always a man) and who may not be contacted by you or me except by very special appointment. The patient is taken to a special place forbidden to all but the Surgeon and his assistants. The patient is rendered unconscious, surrendering completely, while the Surgeon enters his body. Blood is shed (or sacrificed). The procedure is in its very nature a dangerous one, even for a relatively simple operation.

Ethical questions must be addressed when conducting experiments with people, especially really sick people, but on occasion surgery is performed on those with all of the appropriate symptoms, only to find on opening the body, that the suspected disability does not physically exist. This was the case with "sham surgeries" that were conducted on patients with suspected degenerative disc disease. 346 patients out of 2503 procedures in one study had all of the symptoms but none of the disease, so they were simply closed up again. They were sent home with the usual instructions on post-surgical care. Six months after surgery 37% of these patients had complete relief of their sciatic pain, and another 38% had partial relief. Three quarters of these patients with faked surgeries improved.

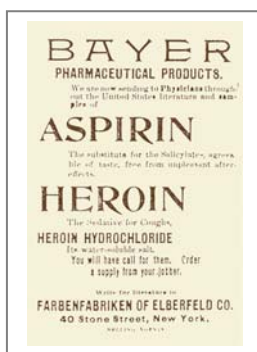
Angina Pectoris is a grave symptom of a serious underlying pathology. Luckily, it is highly responsive to nitrates and beta blockers. Surprisingly, it responds well to inert treatment as well. This seems odd, given our theories of sclerotic or plaqued arteries and dangerous blood clots. In a group receiving experimental laser heart surgery, patients were randomly assigned to one of three groups; a high-dose group receiving 20 - 25 laser punctures, a low-dose group receiving 10-15, and a mock procedure

group receiving simulated laser treatment. All three groups displayed similarly impressive improvement six months after surgery on all objective and subjective measures observed. Exercise tolerance increased, frequency of angina and disease perception declined and overall physical functioning improved - *in all three groups*. These were all seriously ill people, many in their 50s or younger, all of whom showed remarkable improvement, whether there were channels placed in their heart muscles or not.

As we also considered in the Tao Magic paper (pp. 101-111), the rituals observed in the course of treatment are an essential component of the healing process. In Navajo cultures a person who is ill, depressed or unlucky is understood to have lost their sense of beauty and integration with the universe. Healing this person involves collecting a large set of specific and very beautiful things - plants, songs, paintings, etc. and bringing them to the person over several days of dancing and ritual. This "Blessing Way", involving medicinal plants, meaningful chants, rituals and complex social activity resonates not only with the patient but with the whole community in its shared meaning and expectation.

Knowledge, Information and Awareness

Much of our knowledge of the world is shaped by things we grow up with. Our learning and attitudes towards one another, what is appropriate or correct and what is not, come to us as a matter of training in our parents' version of right and wrong. Our understanding of who we are and who others are is coloured by this upbringing and by the world of our parents' generation. What is edible, how it should be prepared and what time of day is appropriate to eat it is different if you live in Hong Kong than if you've been raised in rural America.



What are appropriate drugs to take is coloured by both place and time as each culture's research and experience forms opinion. Who is really sick and why is another matter of professional opinion. If we believe we are ill, we are often urged to seek a second or third opinion. Professional opinion changes from doctor to doctor and it also changes over time. For example, the DSM (The Diagnostic and Statistical Manual for Mental Disorders - the bible for psychiatrists to help them decide who's normal and who's nuts) is now in its fourth edition since 1952 with DSM V scheduled to appear in a few years. But has mental illness changed this much in 50 years? The difficulty is that the *definition* of mental illness keeps changing. Before the DSM a woman in a middle-aged crisis could well have been diagnosed as hysterical, neurotic or insane and either heavily sedated or locked away. A gay man was simply a criminal. Groups may be pathologized simply because those in power say they should be. Women, gays, lower socio-economic groups and geriatric populations are among those most frequently declared unfit in some way and most often committed to institutions.

Reality, then, is a metaphor, a construct projected onto the world around us, rather than a true observation of what is. "Nothing is real," a cultural professor will insist, "Everything is a construct." Everything, even our state of health as we see it, is as we suppose it to be, not as it actually is.

Knowledge, information and awareness, however, are vital to our response to illness and treatment. Being armed with information is in most cases critical to the outcome. In a study of cancer patients receiving medicine for moderate cancer pain, 20 received Naproxen (similar to aspirin but stronger) and an identical looking placebo alternate mornings for the study period. Nothing was told to this group about the drug or the experiment. Another 24 were given detailed information about the experiment and the drug. Of these, 6 declined to participate as they didn't want the chance of getting a placebo, leaving 18 to proceed. The results were fascinating. In both groups the Naproxen worked better than the placebo. However, the Naproxen and the placebo both worked substantially better in the informed group than the among the uninformed participants. Most interesting though, is that among the informed group, the placebo outperformed the Naproxen in the uninformed group.

Awareness is also important. In a study on acupuncture what seemed most important in the effectiveness of treatment was the awareness of the patient receiving it, whether he was well informed of meridian theory convinced of its efficacy. In the study they found that if a patient got acupuncture but didn't know it (for example, before waking in the recovery room) it was ineffective. If the patient was aware of receiving it but it was a sham procedure (the needles were misplaced, or the wrong needle types were used) it was also ineffective. Only the proper procedure with the patient aware of it was effective. Here, Moerman says, the placebo effect is 0%. Awareness, he states, helps to activate real acupuncture but does not activate fake acupuncture.

His argument breaks down a little within the context of the book, but it is an interesting addition demonstrating a couple of remarkable things. With a placebo effect at a steady mean of about 35% over all drug experiments conducted, here we have one of 0%. What is also interesting is that the "meaning response" isn't happening here when the needles are misplaced. This would mean that the body is not responding eagerly as it might like to, even if the patient is fully convinced of the effectiveness of the procedure.

The perception of self makes a difference in other matters concerning us. Our state of mental and emotional health affects how we feel pain - if you are depressed it hurts more and the healing time will be extended. Are we behaving in a way that corresponds to the amount of pain we have - are we hypochondriac, do we battle cancer courageously, do we handle pain with stoicism? The perception of our symptoms is affected by the meaning we place on them. Fifteen hours of labour pain may be accepted differently than suspecting a fractured pelvis.

The "Locus of Control" in our lives, that is, whether we feel basically in control of our lives or if we feel that fate subjects us to whimsy, is important in deciding the amount of worry we build as we face life. Perhaps the most interesting perception affecting us is our own rating of our overall health. This is especially true in the elderly. Studies done in the 70s revealed that those rating their health as "excellent" were almost three times more likely to be alive 6 years later than those rating themselves as "poor", despite their objective state of health. Studies continuing into the 80s further showed that the individual's own (subjective) assessments were much better predictors of mortality than were the doctors' (objective) assessments.

Meaning and Biology

Diagnosis as treatment is a double-edged sword. The naming of a disorder can exercise a therapeutic effect as it provides an acceptable explanation for the patient's behaviour or pain. Names are powerful and the act of naming is thought to influence the nature of the thing or person so named. Having recovered from a life-threatening childhood disease, one might now be "immune", however scarred. Having recovered from cancer, one is forever onward a "cancer survivor". In this case, a constant

threat is invoked to describe a cured state, the patient never regaining the innocence embodied before the diagnosis. How do these names affect the future of an individual's health?

Sometimes it is more reasonable to continue being sick for a while. Pain, for example, has the effect of making us "lie low" for a time so that an injury (a sprained ankle, for instance) has the time and rest to heal itself. If we take strong pain relief at this stage and wrap it tightly to limit swelling and aid stability, we may start walking on it before we should. If we kill a fever when we have the flu so we can continue going to work we are not listening to the valuable knowledge our body possesses, ignoring its signals to us. We are in a relationship with our body, a correspondence that goes both ways. Pain signals us to change our behaviour, if only temporarily. The body also reacts to our thoughts and feelings in instant and specific ways. If someone pays you a charming compliment you may blush. Imagining the smell of freshly baked bread may make your mouth water.

Mobilizing Drugs from the Inner Pharmacy

The role of endogenous opiates (the body's endorphins), not only for pain control but also in creating healing responses, is a huge topic of study these days. What we find, though, is that an administered opiate that mimics one of the body's own (morphine, for example) induces a single and targeted beneficial effect and drags a host of unwanted side-effects along in its wake. When the body mobilizes the same drug, though, it retains the benefit without the side-effects. Endorphins, it is pointed out, affect everything from respiration to urination, the immune system to heart function. Believing that we understand and can harness their wisdom is perhaps a little narcissistic.

For Moerman, focussing on the drug rather than on the placebo response is less than useful. It seems more plausible, he says, to reverse the axes of these experiments and show the placebo responses as the independent variables and the drug responses as dependent. Because the body's own systems can be activated in response to meaning, to symbol, to being finally taken seriously by your doctor or the belief that you are in good hands, etc., Moerman says that the drug process merely piggy backs on the internal endogenous process, and is a function of it, rather than leading the way to recovery.

In the tradition of Tao Magic an herb that was administered to a patient was merely a carrier drug for the more potent process of sending a request to the spirits in order to activate healing. Moerman might agree with this process and states that it seems reasonable to understand that drugs merely activate some sort of existing biological process which facilitates healing. We may assume that meaningful experiences and activities can trigger the same existing biological processes.

For Moerman, the placebo effect is not inherently based on deception, but on meaning. It demonstrates the uniquely human ability to invoke a powerful response to treatment and engage, from within, the process of healing.

References:

Moerman, David. Meaning, Medicine and the 'Placebo Effect', Cambridge University Press, 2002.