

# Before the placebo effect

## *Discussions on the power of the imagination in 19th century medicine - with perspectives to present discussions on the mind's influence upon the body*

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*The use of the placebo and discussions on the power of the imagination in 19th century medicine will be investigated in this article. The 19th century is interesting since early discussions can be found on whether the power of the imagination and the mind's influence upon the body should be used in medicine or if it should be avoided. Placeboes could already from the 18th century be used both to help but also to deceive the patient. Use of placeboes could initiate discussions on the power of the imagination and discussions on the power of the imagination could initiate use of placeboes. There were attempts to "professionalize" the use of the power of the imagination, but many found it difficult to control and it was feared it could induce diseases. In the article examples will be given of discussions about the maternal imagination, the effect of mesmerism, Perkins' tractors, and homoeopathy. Perspectives from these discussions to modern discussions on the placebo effect and the mind's influence upon the body will be described.*

## Før placeboeffekten. Diskussioner om indbildningskraftens betydning i 1800-tallets medicin - med perspektiver til nutidige diskussioner om sindets indflydelse på kroppen

*I denne artikel undersøges brug af placebo og diskussioner af indbildningskraftens betydning i 1800-tallets medicin. 1800-tallet er et spændende århundrede i denne forbindelse, da der i medicinen i denne periode var tidlige diskussioner om, hvorvidt indbildningskraft og sindets indflydelse på kroppen skulle have en plads i behandling af sygdomme. Det fremgår, at placebo allerede fra 1700-tallet blev brugt både til at lindre men også " snyde " patienten. Brug af placebo kunne initiere diskussioner af indbildningskraftens betydning og diskussioner af indbildningskraftens betydning kunne initiere brug af placebo. Der var forsøg på at "professionalisere" brugen af indbildningskraften, men mange fandt den svær at kontrollere og det frygtedes, at den kunne skabe sygdom. I artiklen undersøges diskussioner om moderens indbildningskraft, virkningen af mesmerisme, behandlingsformen Perkins tractors og homøopati. Perspektiver fra disse diskussioner vil blive trukket frem til nutidige diskussioner om placeboeffekt og sindets indflydelse på kroppen.*

## Introduction

If you think that you have a new idea, you are wrong. Someone else probably already had it. This idea isn't original either; I stole it from someone else

Robert Sutton

In his interesting article 'Above and beyond superstition – western herbal medicine and the decriminalizing of the placebo effect' Ayo Wahlberg argues that it was not until the early 20<sup>th</sup> century that the power of the imagination or the effects of placebos were transformed into a recognized and acknowledged therapeutic agent with effects on the body instead of something that made deceptions and tricks of the mind (Wahlberg 2008: 84). If you see this as a very general tendency he is right in some ways. Nonetheless, there were actually, before the 20<sup>th</sup> century, attempts to see the power of the imagination as something helpful for mind and body, and placebos not only as signs of deceit and ways of fooling the patient. Generally discussions from the 19<sup>th</sup> century are not much dealt with in the literature on the history of the placebo, where the 20<sup>th</sup> century is described in more detail. In the philosophical literature on the concept of the imagination, medical discussi-

ons from the 19<sup>th</sup> century are, with few exceptions, not included. I have elsewhere described this aspect in more detail (Andersen 2005 and Andersen 2011:12ff.).

The aim of this study is to see how the power of the imagination was discussed in medical journals, books etc. in the 19<sup>th</sup> century, before the term 'placebo effect' was coined. What initiated the discussions, how was it discussed, which words were used, how big did they think the influence from the power of the imagination was and could it be useful in treatment of diseases? In *Conclusions and perspectives* it will be questioned whether the later used term 'placebo effect' is a useful term for the mind's influence upon the body. More recent discussions on the patients' own resources, the significance of the milieu extérieur and evolutionary psychology will be used as examples to show that the mind's influence upon the body is an important part of considerations about life quality, healing processes, and public health.

## Background

Before anyone began to talk about using a placebo in the 1770s, the mind's influence upon the body was an integrated part of theories of disease and the function of the body. Back to ancient time human beings in western medicine and philosophical thinking were seen as being composed of numerous powers, faculties, humors, solids, spirits, each of which partook in varying degrees of corporeality or immateriality. Humans were a hierarchical system with the dense bones as the lowest part and the rational soul with its skills as the highest and most sophisticated part:

Bones

Muscles

Body fluids

Humours (yellow bile, black bile, slime and blood)

Spirits (which would communicate messages between different parts of the body)

The rational soul that only humans have (apart from the vegetative and animal souls)

The skills (faculties) of the rational soul: Memory, imagination and reason.

Mind and body worked on each other up and down in this hierarchy and continuum of mind and body (Rosenberg 1992, Todd 1995). To secure a healthy life also the six 'non-naturals' should be taken into consideration. The six 'non-naturals'

were what we ourselves could do/handle to make a better balance in our lives: 1) air 2) food and drink 3) sleep and wakefulness 4) exercise and rest 5) evacuation and retention 6) passions of the mind (Rather 1968).

Diseases of the mind or strong impressions or passions could unbalance the humours and influence the whole body. Imbalance in the humours could disturb the soul and affect the memory, imagination, and reason. Imagination played an important role in this continuum of mind and body. Just seeing a person with the plague could give you the same disease. If a pregnant woman saw something disturbing, she could influence the fetus so it later was born with birthmarks or defects. A pregnant woman looking at beautiful statues would give her a beautiful baby. In all cases the power of imagination was thought to be the active agent that would pass on the strong impressions or passions to the body and set their marks there. This model of the human constitution began little by little to fall apart in the 17<sup>th</sup> and 18<sup>th</sup> centuries, but the idea that the strong imagination had a great influence upon the body continued to be discussed in the 19<sup>th</sup> century as I will show in this article.

## Method and theoretical background

In this work I have been inspired from 'Begriffsgeschichte' as it is practiced by Reinhardt Koselleck and others (Brunner, Conze and Koselleck 1972 and Koselleck 1990). In traditional history of ideas you look at what philosophers, prominent scientists etc. have written on a subject or how they have defined central concepts. In 'Begriffsgeschichte' you look at how concepts are used, defined and discussed in everyday life in papers, journals, leaflets, lexicons, books and in this case among different kinds of physicians in the 19<sup>th</sup> century. In this work I have also been inspired by medical historians who "feel driven to transcend the recently fashionable dogmas of social constructivism" and make detailed studies from letters, pictures, journals, almanacs, discussions, controversies etc. to map a broader medical culture (Blécourt & Usborne 2004).

I looked systematically for discussions on imagination and the mind's influence upon the body in *The Lancet* from 1823 – 1875 and *The Asylum Journal of Mental Science* from 1855 – 1858 and *The Journal of Mental Science* from 1858 – 1887. It was journals that would deal with discussions inside the medical profession, and also discussions on the mind's influence upon the body. I read all articles with the following words included in the title: Animal magnetism, faith healing, fear,

foetus, homoeopathy, imagination, mesmerism, mind, placebo, psychological healing, sensorium, and suggestion. I made a second search in *The Lancet* for: Attention, expectant, expectation, impression, and maternal.

Besides that I have used relevant books, dictionaries, journals etc. from the Royal Library in Copenhagen, British Library (London), and Wellcome Library (London). A more detailed description of the method and findings can be found elsewhere (Andersen 2011). There I describe how this can contribute to the history of the placebo and the placebo effect, to the history of the imagination, and to the history of the controlled trial.

## The imagination in 19<sup>th</sup> century medicine

Before I turn to the discussions in the 19<sup>th</sup> century I will shortly describe the introduction of the placebo in the 18<sup>th</sup> century which was an important and interesting event in western medicine, which would influence discussions on treatment and healing processes in the centuries ahead. The use of placebos can be seen as a characteristic of Western Medicine, since it at that time, was not known from other medical systems or cultures. The word placebo in a medical context (known from written sources) was first mentioned in a clinical lecture in 1772 in Edinburgh by the medical professor William Cullen (Cullen 1772). Edinburgh was at that time a center for 'bedside medicine'. Placebos were often a medicine that was considered not to have any effect on the condition for which it was prescribed, but would have a tendency of having an effect on the patient anyway. Placebo derives from the Latin 'I will please'. Cullen himself said he would give the placebo to an incurable patient:

Mr. Gilchrist will bear me testimony that at first view I considered him as absolutely incurable, and hasting very fast to his fate, and I took him in hopes of making some observant upon his case, and even of learning something by his death, I prescribed therefore in pure placebo, but I make it a rule even in employing placeboes to give what would have a tendency to be of use to the patient (Cullen 1772: 218-9).

The historian Günther Risse describes how placebos were often used, when the physicians were uncertain what the nature of the disease was, when they wanted to gain time or in hopeless cases where relief was the only thing left (Risse 1986: 201).

Placebo was defined as “A common place method or medicine” (Motherby 1785), or “An epithet given to any medicine adapted more to please than benefit the patient” (Hoover 1811). When the placebo had an effect on the patient the effect was ascribed to the power of imagination, impression or, later in the 19<sup>th</sup> century, suggestion. It is interesting that already from the beginning the placebo could have two functions: It could please or be of use to the patient and/or it could be used for observation/experimentation.

I will present discussions on the power of the imagination within four areas of debate/controversy in 19<sup>th</sup> century medicine: The influence of the maternal mind upon the foetus, the effect of mesmerism, the effect of Perkins’ tractors and homeopathy.

## The maternal imagination

At first the influence of the mother’s imagination upon the foetus might seem to be a minor subject, which interested only few people. Actually there was a huge discussion about this in the 18<sup>th</sup> century, and philosophers as well as physicians and lay people were interested in the subject (Dürbeck 1998). How and to what degree could thoughts, impressions, and violent emotions experienced by a pregnant mother cause birthmarks, change of color of skin, or pathological findings upon the fibers of the developing foetus? The discussions were about important issues such as the mind’s influence upon the body, how deformities in foetuses were created, how similarity/dissimilarity between child and parents would arise, and why especially the foetus could be influenced by the mother’s imagination. In the literature on the subject it is often argued that these theories about the influence of the mother’s imagination upon the foetus diminished at the end of the 18<sup>th</sup> century, both among physicians and in lay discourse (Shildrick 2000 & Huet 1993). These theories were from around 1800 considered as superstition.

This is not entirely so. In the period from 1823 to 1875 I found, to my own surprise, in *The Lancet* 37 articles, editorials, and letters where the subject was discussed. Some argued for the credibility of the theory and some against. And some argued we have an unsolved problem with this issue. The well-known physiologist and obstetrician James Blundell said in a lecture in 1828:

When first I set out on my physiological career, I certainly set out with a strong impression, that the fancy of the mother could not operate in the formation of her foetus; nor am I prepared to concede, at the present moment, that this impression

was erroneous; nevertheless I must, in candour, admit that various facts have been brought before me, which do prove beyond doubt thus much, that there is sometimes a very striking coincidence between impressions made on the mind of the mother, and appearances which manifest themselves on the body of the foetus; these coincidences being sufficiently frequent to create a sort of suspicion that may be of the nature of cause and effect (Blundell 1828: 227).

Very often the articles or letters in *The Lancet* would refer to a specific case a physician had from his own practice. One example is a letter written by the physician MacCormack who writes:

The first case I will allude to is that of a near relative (an uncle) who presents a very extraordinary mark all down his left thigh and leg, which (strange as it may seem is nevertheless true) is much more vivid and prominent during the summer than at any other time. The appearance it then presents is that of a red currant-tree branch in all fruit, the fruit being regularly raised and standing out of the cuticle, having a bruised appearance, with the juice squirted all over the limb (MacCormack 1850: 697).

This mark on the skin was ascribed to an instance the pregnant mother had while making preserve from red currants when she was two months pregnant with the child.

William Cecil Dabney wrote as late as 1889 in a chapter about 'Maternal impressions' in the 'Cyclopædia of the diseases of children':

Impressions made upon a pregnant woman are capable of causing mental and bodily effects in her child...Defects traceable to maternal impressions are sufficiently serious in character to necessitate the avoidance by any pregnant woman of all emotional disturbances, especially those of an unpleasant character (Dabney 1889: 216).

In an editorial in *The Lancet* in 1844 the problem was seen in a larger perspective, and it was problematized what concepts should be used when the subject was discussed:

It has long been overmuch so the custom among persons who consider themselves to be sound-headed individuals, to refer all physical effects that are producible in the living system, by means which appear to be insufficient for the end, to the influence of 'imagination'. But this explains nothing, and is, in fact, worse than no

explanation, since it represents the unknown cause of certain recognized phenomena, by a mere word, concerning the precise signification of which scarcely any two persons will be found to agree. The term 'imagination' is too undefined even for the purposes of literary disquisition, and from the language of science it ought to be entirely discarded (Editorial 1844: 544).

The editor would prefer to use the concept 'the influence exercised by the sensorium' instead of 'the imagination'. Sensorium meant the part of the brain where incoming sense impressions were situated.

The discussions on the maternal imagination had nothing to do with placebos but it shows that it in many circles was believed that the power of the imagination and the sense impressions' influence upon the body was something that had to be taken into consideration when signs, changes, or diseases of the body were discussed.

## The effect of mesmerism

The first well described instance with use of placebos in a trial was in Paris in 1784, where 'mesmerism' was put on trial. Mesmerism was a healing method invented by the Austrian doctor Franz Anton Mesmer. The treatment was supposed to help cure the patient's disease with the use of animal magnetism, an invisible substance in the universe, which would produce healing 'crises' (trance, convulsions) in the patient. Two commissions should decide whether mesmerism had an effect or not. In one of the commissions eleven people were included in the trials. One of the patients was considered to be very sensitive: "Since this woman was very sensitive, it was necessary to protect her from the illusions of her imagination, or at least to keep anything from directing the operation of her imagination... The commissioners proposed to blindfold her, in order to observe what her sensations would be when she could no longer realize the conduct of the experiment" (Franklin 1785: 103).

Many experiments were made with the use of blindfolding and the use of jars with magnetized or non-magnetized water. The conclusion was that "Compression, imagination, imitation are therefore the true causes of the effects attributed to this new agent known by the name of animal magnetism...There is room to believe that the imagination is the principle of the three causes which we have assigned to the magnetism. It appears by the experiments we have related that imagination alone produces the crisis" (Franklin 1785: 123). The overall conclusion



was that animal magnetism did not exist and mesmerism should be abolished. A healing method based on imagination could not be part of medicine based on scientific methods. These experiments are well known in descriptions of the history of the clinical trial (Kaptchuk 1998).

Less known are experiments conducted in London in 1838 by the editor of *The Lancet*, Thomas Wakley (Anonymous 1838). He made experiments with mesmerized and non-mesmerized water and coins. These experiments were conducted after professor John Elliotson in 1837 began to experiment with animal magnetism and mesmerism at the hospital at University College of London. The conclusions of the experiments, however, were similar to the conclusions in the 1784 experiments. In an editorial it was argued that the effect of mesmerism came through the senses but the mesmerists would not admit that: "The mesmerists assert that the body can be influenced independently of the senses, independently of the intellect, independently of anything that can excite the imagination" (Editorial 1838: 836). The editor argued that all the effects that could be found on mind and body in these cases originated in the senses, the intellect, and the imagination. There was no doubt that mesmerism and placebos (though the word placebo was not used) could have an effect on both mind and body. The question was whether it was useful.

Also critics of mesmerism were interested in the effects. Professor in *materia medica* George S. Sigmond described some experiments he conducted in 1837-38. He believed his experiments were safe but in one case he had difficulties getting a person back to consciousness from a state of trance. It took him four hours. It made him conclude that the trance the persons fell into was an interesting phenomenon, but you had to be very careful. He believed the phenomenon could cause or worsen disease (Sigmond 1838). This was again and again a crucial point in the discussions. It was feared that mesmerism and the use of the power of the imagination could cause morbid sleep, insensibility, convulsions, delirium, and insanity (Editorial 1847: 178). The imagination was seen as potentially dangerous and unpredictable. It could also be difficult to give an exact dose of imagination. How could one prescribe 2 ml's of imagination?

At that time loss of control was feared. The historian Roger Smith writes: "Many Victorians feared that only a continuously active will and watchful attention stood between the mind and the animal powers of the body" (Smith 1992: 44). The imagination, it was thought, could like alcohol in large amounts be dangerous to the mind and involved the removal of the regulatory power of the will.

Where the imagination in the antique tradition could have both useful and dangerous effects on the body, the imagination in the 18<sup>th</sup> and 19<sup>th</sup> century in medicine was seen more and more as problematic and uncontrollable. The struggle with the uncontrollable imagination continued into the 20<sup>th</sup> century.

The English psychiatrist Daniel Hack Tuke wanted, however, to control the imagination and make it useful. In 1868 in *Journal of Mental Science* he published comments on an obituary for John Elliotson. He wrote that if the whole profession and not only two conflicting parts had made the investigations described in *The Lancet* in 1838, a more comprehensive conclusion could have been made. At that time there was too little knowledge about "expectant attention, suggestion, monotonous sounds and movements, excite-motor and ideo-motor acts, reflex action of the brain, &c." (Tuke 1868). He hoped this could be a lesson to the profession and a guide in the future.

In 1870 - 72 he wrote a series of articles about the influence of the mind upon the body in health and disease, with special reference to the imagination (Tuke 1870). He was interested in effects and cures "performed by means of a mental condition called the Imagination" (Tuke 1872). In 1872 he published a book based on his investigations and he published it in a revised version in 1884 (Tuke 1884). In this version from 1884 he described, and invented, the use of what he called psycho-therapeutics:

The medical reader who, I hope, may be induced to employ Psycho-therapeutics in a more methodical way than heretofore, and thus copy nature in those interesting instances, occasionally occurring, of sudden recovery from the spontaneous action of some powerful moral cause, by employing the same force designedly, instead of leaving it to mere chance. The force is there, acting irregularly and capriciously. The question is whether it cannot be applied and guided with skill and wisdom by the physician (Tuke1884: 1, xiv).

Psycho-therapeutics were first of all seen as rational ways to use the mind to heal somatic diseases, not as it was seen later as therapies for the mind (Shamdasani 2004). In the 19<sup>th</sup> century the mind's influence was ascribed to a wide range of diseases and symptoms in mind and body. Tuke listed 430 examples where he believed that 35 % of the examples were caused by intellectual states, 56% were of emotional origin and 8 % demonstrated the influence of the will. (Tuke 1884: 299ff, Tuke 1872a: 421-27). 64% of the cases were men and 36% women. "It is not, as is so often intimated, only hysterical young ladies, who come under the influence of this agency", he wrote (Tuke 1884: 301), and he concluded that men are highly

susceptible to mental impressions and that “Psycho-therapeutics” are available for men as well as for women.

Tuke was a prominent physician in his time and spokesman for the view that imagination could and should be used in a scientific way. This view, however, did not get much support in the 19<sup>th</sup> century in established medical circles, and his book was not very kindly reviewed (Anonymous, 1873). That does not exclude that the book actually was read and had an impact. It was translated into French in 1886 and German in 1888. The Danish book ‘Sjælebehandling indenfor lægekunst i fortid og nutid’ from 1917 seems to have been inspired by Tuke’s writings (Mygge 1917).

## Perkins’s tractors and the imagination

Other physicians also wanted to control the imagination. In 1799 John Haygarth initiated a series of trials to test a healing method which consisted of two metal rods (Perkins’s metallic tractors), that were supposed to remove superfluous electricity (so called electroid) from the body. In a long series of experiments at the General Hospital in Bath placebos were used. Haygarth said in the instructions to the experiments: “Prepare a pair of false, exactly to resemble the true, tractors. Let the secret be kept inviolable, not only from the patient, but every other person. Let the efficacy of both be impartially tried, beginning always with the false tractors. The cases should be accurately stated, and the reports of the effects produced by the true and the false tractors be fully given, in words of the patient” (Haygarth 1801: 1). The false pair of tractors was made of wood and painted in metallic colors. The conclusion was that both pairs of tractors had a remarkable and instant effect on many patients’ symptoms. Haygarth’s conclusion was:

They prove (what should be well understood) that the Imagination can cause, as well as cure diseases of the body. They clearly establish one rule of medical practice which has always appeared to me highly important. In the best manner possible a patient ought to be allways inspired with confidence in any remedy which is administered. But if a favourable opinion of it can not be obtained, and especially if there be a marked prejudice against it, another, though a less powerful, medicine, ought to be preferred. This rule of medical conduct derives ample confirmation from the facts above related. I have long been aware of the great importance of medical faith. Daily experience has constantly confirmed and increased my opinion of its efficacy. On numerous occasions I have declared, that I never wished to have a patient

who did not possess a sufficient portion of it. These trials place its efficacy in such a conspicuous point of view, as must even astonish persons who have particularly attended to this subject; they clearly prove what wonderful effects the passions of hope and faith, excited by mere Imagination, can produce upon diseases (Haygarth 1801: 31-32).

Like Tuke Haygarth wanted to make use of the power of imagination on both mind and body. Perkins's tractors went out of use around 1810. Haygarth's ideas about the usefulness of the imagination did not officially win much acclaim.

## Homoeopathy and the 'vis medicatrix naturae'

As with mesmerism and Perkins's tractors, early trials with the use of placebos were also conducted in relation to homoeopathy. The first trials took place in 1835 in Nürnberg (Löhner 1835). But I will rather mention two other aspects here. The first aspect is that use of 'placeboes' has been an integrated part of homoeopathy right from the beginning. Hahnemann, the founder of homoeopathy, admitted that he used "unmedizinischen Vehikel", "unarzneiliche Flüssigkeit" or "Nihilpulver" (normally made from milk sugar) (Hahnemann 1835: 161). The reason for this was that patients were often given medicine every day and this was not necessary according to the theories of homoeopathy. Hahnemann found it would be easier and more helpful for the patients if they got medication every day, and around 25 % of the medications would then be "unmedizinischen Vehikel", "unarzneiliche Flüssigkeit" or "Nihilpulver", without the patient knowing which one was homoeopathic medicine and which one was made from milk sugar. This would, according to Hahnemann, make the patients have the same expectations to the medication every day, which would be helpful both for the patient and the physician.

Another interesting aspect is that also opponents to homoeopathy could find the homoeopathic treatment useful. In an editorial in *The Lancet* in 1842 homoeopathy was named a 'medical delusion', but the author also admitted that many patients got better by not having any medicine: "...good practitioners have always been aware that there is a considerable proportion of cases in which drugs are injurious...(Editorial, 1842: 686)." Sometimes the benefit was not only not getting harmful medicine but also because the "sensorium exerts so strong an influence on the bodily organs, that a little coloured water, given with the assurance that it is a powerful emetic, will produce vomiting...(Editorial 1842: 686)". The editor

continued: "...these are all but signs of a thing signified, and it is to a predominant impression in the mind, and the powerful, though unexplained, action of the brain on a distant organ, that the curious phenomena in question are to (be) attributed" (Editorial 1842: 687).

Of course the homoeopaths did not agree upon that. They argued it was the medication that had an effect. But it would be an often occurring theme in the debate that *not* getting harmful medicine and having 'hygietic adjuncts' (diet etc.) would help the 'vis medicatrix naturae', the natural healing of the disease. Besides that faith in the treatment could enhance the effects (Editorial 1843).

The French professor in physiology and pathology Francois M. Magendie also argued for this in a lecture published in *The Lancet* in 1846 (Magendie 1846). He claimed that "medicine can only exist but as inasmuch as patients have faith in it, and claim its assistance...Now there can be no doubt that a patient who takes a medicine experiences immediate benefit, from the conviction that it will favourably modify his disease...You must not, indeed, accuse me of partiality towards homoeopathy, when I state that I firmly believe that a physician would cure a patient sooner with globules (homoeopathic medicine), if the patient has faith in them, than with the most appropriate medicinal substances, if he distrusted their action" (Magendie 1846: 237).

The physician John Forbes wrote in 1846 the article 'Homoeopathy, allopathy and "young physic"'. It was published in his own journal 'The British and foreign medical review' and as a reprint (Forbes 1846). He was very critical towards homoeopathy but found it could be useful for the patients anyway. Homoeopathy in his view would strengthen the healing powers of nature in four ways: 1) The intake of harmful medicine would stop. 2) No intake of tea, coffee, pepper, alcohol etc.. 3) It would give the patient hope and confidence and this would give nature more time to cure the patient in its own way. 4) With the influence from the power of the imagination. For Forbes the power of the imagination was part of the 'vis medicatrix naturae'.

What annoyed the medical establishment the most was, however, his strong criticism of the established medicine. He would argue that by most diseases the patients were healed not by the physicians and medicine but by the nature. Much medicine in his view would worsen the patients' condition. He made 20 suggestions to improve treatment and use less strong medication. The widespread tendency in the society to use too much and too strong medicine had even changed the use of placebos: "The placebos have, in the hands of our modern doctors, lost their original quality of harmlessness, and often please their very patients more

by being made unpleasant" (Forbes 1846: 55). His harsh criticism of the established medicine led many physicians to quit their subscription to his journal and he had to close it the year after. There were limits to what could be said, even though many today probably would say he was quite right in his criticism of the medicine at that time.

## Conclusions and perspectives

The power of the imagination was, in the material I have investigated, discussed in relation to many different subjects: Animal magnetism, fear, foetus, homoeopathy, hydropathy, imagination, maternal impression, mesmerism, mind, mind's influence upon the body, perkinism, Perkins' tractors, and water cures. In this article I have investigated the discussions in four areas.

The discussions in the 19<sup>th</sup> century seem very 'modern' as they deal with some of the same problems that are discussed today: What kind of effects can the mind's influence upon the body initiate? How can we differentiate between the natural development of the disease and the placebo effect/power of imagination? How can the power of the imagination/placebo effect be controlled?

It was not questioned whether the mind had an influence, but it was questioned whether this influence could be controlled, and especially how a negative influence could be avoided. In some cases it was also not clear how the natural development of the disease, '*vis medicatrix naturae*' could be distinguished from the power of the imagination. It was, and still is, difficult to distinguish clearly between them since the natural development of the disease always will be influenced by the mind and activities of the patient.

It was discussed whether the word 'imagination' was the right word to use to describe what happened when the mind influenced the body and many other words were in use in that period: Attention, capability of mental emotion, imitation, impression, suggestion, and auto suggestion. There was a broad semantic field in connection to the mind's influence upon the body, and it demonstrates the difficulties medicine had with theoretically and practically describing how this influence could take place.

Tuke tried to develop a "Psycho-therapeutics" and Haygarth surely meant that the power of the imagination should be a part of modern medicine. They both wanted a scientific version of what would otherwise be left to the quacks. Where the imagination in the antique tradition could have both useful and dangerous

effects on the body, there was a tendency that the power of the imagination in 19<sup>th</sup> century medicine was seen as more problematic and uncontrollable.

Most physicians probably doubted whether they really could control this power and went for other remedies, or they struggled in their own way to incorporate the patient's mind and feelings into their practice, as they still do today (Kleinman 1993: 19).

Central was, however, that discussions on the power of the imagination and use of placebos initiated important discussions on what does it mean to get well and what does the healing process consist of.

## Is the concept of the placebo effect necessary or useful?

As shown above the use of placebos was often discussed without using the word 'placebo'. Likewise was what we today would call placebo effect discussed, but other concepts were used instead. No wonder since the word placebo effect was coined in the 1950s. It gives an opportunity to ask whether 'placebo effect' is a good and useful word to describe the mind's influence upon the body. Many have argued that 'placebo effect' is difficult to define and there still isn't a generally accepted definition of the word (Harrington 2006, Shapiro 1968, Andersen, Claesson, Hróbjartsson & Sørensen 1997).

In the 1950s the effect of a treatment would often be divided into a 'real effect' and a 'placebo effect'. Since then this too simplified description has developed into something more differentiated. When you give a *placebo* you could describe the clinical improvement as consisting of (Benedetti 2009):

Spontaneous improvement

Statistical regression to the mean

Psychosocial factors

Biases

Co-interventions

The effect *after* a therapy is given has by the epidemiologist Alvan Feinstein been described as consisting of (Feinstein 2002):

Effect of therapy,

Natural biological healing,

The psychological condition of the patient

Expectations from patient and health care provider

Iatromancy (the healing effect of the investigator)

The word 'placebo effect' hasn't been used in these descriptions, and perhaps the meaning of the concept 'placebo effect' is too broad and imprecise, and could be abolished in the future in more precise and scientific descriptions of healing processes and of how the mind can influence the body. The historical examples show that it is possible to talk about the mind's influence upon the body without talking about placebo effects.

You could argue that discussions on the 'placebo effect' could be seen as a way of increasing the sensitivity to the patient's perspective in the daily practice of medicine. On the other hand I think the word placebo effect has a tendency to narrow down the discussions to something that has to do with placebos instead of something that has to do with the mind's influence upon the body. I think that the mind's influence upon the body should rather be *built into* general theories of disease and theories of the body's functions instead of being reserved or excluded to a concept that is difficult to define and has a troubled history. As some of the historical discussions showed, it is perhaps more important to see what the senses do to us, how the senses influence bodily functions, and how the senses influence our expectations and imagination. There is actually an increased interest in this.

## Increased interest in the 'milieu extérieur' and the importance of the senses

The prominent physician Claude Bernard invented in the 19th century the concept of the 'milieu intérieur' (Bernard 1878: 326):

I think I was the first to urge the belief that animals have really two environments: a *milieu extérieur* in which the organism is situated, and a *milieu intérieur* in which the tissue elements live. The living organism does not really exist in the *milieu extérieur* (the atmosphere if it breathes, salt or fresh water if that is its element) but in the liquid *milieu intérieur* formed by the circulating organic liquid which surrounds and bathes all the tissue elements...A complex organism should be looked upon as an assemblage of simple organisms which are the anatomical elements that live in the liquid *milieu intérieur*.



The investigation of the 'milieu intérieur' has been central in western medicine, but there are signs of an increasing interest in the 'milieu extérieur'. I see the increasing interest in mind-body medicine as a sign of this development. How does nature influence our health (Louv 2011)? How can we use therapy gardens ([www.natureandhealth.dk](http://www.natureandhealth.dk))? How can we meet the patients' expectations and use their earlier experiences? These are ways of taking the patients senses, earlier experiences and interpretations into consideration in healing situations.

This is also what the Danish physician Lars Heslet has done, when he describes how art has influenced deeply physically and psychologically traumatized patients (Heslet 2010). His point is that the senses sometimes do something to our minds and bodies that helps much more than physicians and psychologists do. He describes how light, sound, and music influences the patients. His idea and hope is to make humane and stimulating surroundings for the patients in the hospitals, which will support the healing process (Heslet 2007).

In a similar way there is a growing interest in the bodies microbiota, the clusters of bacteria human beings have in/on different parts of the body, such as in our intestine (gut microbiota), in the surface or deep layers of skin (skin microbiota), the mouth (oral microbiota), the vagina (vaginal microbiota), and so on. These clusters of bacteria have a direct impact on health, on the mind, on risk for chronic diseases, they help with production of vitamins, they play an important role in the immune system etc. I see these expanded interests as signs of an increasing interest in the 'milieu extérieur' and an important change in the perspective on the body and its functions.

## The patients' own resources and neo-non-naturals

As I have argued earlier (Andersen 2005:108 and Andersen 2011:218ff), and which Susan Huculak also emphasizes (Huculak 2013:175), the conceptual change from the power of the imagination via suggestion to the placebo effect historically implied a shift from the concern for the abilities and faculties of the patient to a concern for what medicine or a health-care provider did to the patient in a more passive role. Some of the interest in the placebo effect in the last 30 years can be interpreted as a renewed interest in the patient as an individual and in the patient's resources. The placebo effect is in this literature conceptualized as something that could be created or seen in the patient (Andersen 2005, Huculak 2013). Susan Huculak argues that medical anthropology, among others, describes a patient who is actively producing meanings based on complex and culturally

distinct symbolic systems (Huculak 2013:175). I think this is an important perspective on the placebo effect and an important perspective on patients' resources and their ability to gain self-efficacy and obtain different strategies to handle a life with disease.

It is probably no coincidence that this interest in the patients' resources came 30 years ago and there seems to be several reasons for this interest. Psychoneuroimmunology was a growing field that had refined the hypothesis that the placebo effect can be seen as a conditioned reflex, which both animals and humans can elicit (Schmoll, Tewes & Plotnikoff 1992). In the psychological field many convincing experiments with expectation and pain were conducted (Voudouris, Peck & Coleman 1990). Self help groups would emerge and the focus on lifestyle, meditation, and positive thinking were not only for the nerds but would spread out to larger groups in society. The historian Anne Harrington has described how research in psychosomatic medicine, in positive thinking, in stress, in social support, and in meditation in the 1990s would contribute to a popular and wide spread literature on 'mind – body medicine' (Harrington 2008).

One of the reasons for this increased interest could be that the most widespread and most debated diseases in society no longer were the infectious diseases, where effective medicine normally was available, but it was now the so called chronic diseases like diabetes, chronic obstructive lung disease, some of the cancer forms, osteoporosis, muscle-skeletal pain etc. where no effective medicine was at hand in the same way. With these so called chronic diseases symptoms could perhaps to some degree be relieved with medicine, but lifestyle and the patients' own resources played a crucial role in handling the diseases and still do today. Also in handling stress and depression, lifestyle and the minds influence upon the body is in focus. All these factors laid the ground for an increased interest in the patients' own resources in what could be called an interest in "neo-non-naturals", a modern interpretation of the ancient six 'non-naturals', which I mentioned in the beginning of this article. The renewed interest in our inner resources has made another kind of historical perspective interesting namely an evolutionary perspective on the minds influence upon the body.

## An evolutionary view on the placebo effect

An interesting question about placebo effects is: Why don't we have placebo effects every time we receive a medical or surgical treatment? Why do they seem to be connected to hope, expectation, or earlier experience? It is debated how big

placebo effects are and how they can be controlled, but most people agree that we see some effects sometimes in certain situations, clinical or experimental. But why are the effects limited to certain situations and not constantly activated since they potentially have positive effects? Are we in this way limiting ourselves and our chances to recover or to survive? The psychologist Nicholas Humphrey has an interesting theory about this (Humphrey 2002). His theory has also been supported by others (Trimmer et.al. 2013). He sees the placebo effect as a part of the body's 'economic resource management'. Many symptoms are not diseases but signs from the body: Pain, fever, vomiting, or mood changes. The symptoms make us go to bed, recover, take a day off, or change job. In ancient time we would perhaps have gone into the cave and have rested if we were among friends. It is an energy efficient way of recovering if you are safe and can afford to be vulnerable for a time.

Humphreys point is that the placebo effect can lower pain or fever, can moderate mood changes, and minimize many symptoms. It can do so when the surroundings are threatening, if serious disease is occurring, and a special effort is required to manage the situation or stay alive. It is belief, expectation, or imagination that initiates the placebo effect. Then, why not use the placebo effect all the time, why reserve it for special occasions? The reason for this is that it takes a lot of metabolic energy to keep the immune system running at a high speed. Early in life children use as much energy on the immune system as on the brain. In experiments with animals it is known that when the immune system is artificially stimulated into extra activity the animals lose weight unless they are given extra food. The production of immune agents also requires a continual supply of quite rare nutrients (Olson & Owens 1998). When you increase the effect of the immune system you weaken the chances to activate the immune system in a similar way in near future. Besides, the immune agents, unless they are controlled, may turn on your own tissues and cause autoimmune disease (Råberg et.al. 1998). There are several reasons why a special mechanism is an advantage. So it is a way cognitive factors might be used to fine tune the allocation of resources in the body. It is an elegant, but of course not proven explanation, of why it has been an evolutionary advantage to use the minds influence upon the body in this way.

I think wider perspectives on the mind's influence upon the body and the placebo effect, as they are presented in this article, are important if we are to try to build the mind's influence upon the body into general theories of disease and

theories of the body's functions instead of reserving it to a single concept like the 'placebo effect'.

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