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Placebo factors at healing sanctuaries in pagan and early Christian times

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Abstract: The article analyses possible placebo effects that Late Antique religious healing might have had. It focuses on healings believed to have been sent in dreams to worshippers, both in pagan and Early Christian tradition. It also investigates how possible placebo effects might have served to propagate and spread the particular cults (be it the cult of Asklepios, or the Early Christian cults of martyrs). The paper seeks to integrate modern placebo research with the ancient accounts of healings, answering the following question: is it possible that the placebo effect (above all relief of pain) was activated in ancient times by the same factors as seen in experiments today (e. g. effect of the healer's persona, ritualized behaviour, and above all belief in the cure)? The scope of the paper is at the end broadened to touch upon the question to what degree ancient religious healing offered a socially well-established method of handling illnesses psychologically and fill the need to act, even if a cure as such was not a probable result.

Keywords: Placebo, Late Antiquity, cult, shrines, Asklepieia, martyria

Introduction

The present paper analyses the category of miraculous healings performed at Asklepieia and saints' cults in Late Antiquity.[1] The objective is to see if the concept *placebo*, as primarily used in anthropology and religious studies, can be useful to analyse ancient healing miracles, and further which other approaches

1 I would like to warmly thank Nils H. Korsvoll and Agnes Mihálykó Tothne for inviting me to the very enriching conference *Healing, belief and placebo: Medical and religious plurality in late antiquity*, 24–26 June 2018, at the University of Oslo. My warm thanks also go to Cecilia Wassén for a careful reading of the text. I would also like to thank Olympia Panagiotidou, for, on the suggestion of the editors to open our articles for cross-referencing, allowing me to read her contribution to this issue.

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might be productive to enhance our understanding of institutionalized religious healing in Late Antiquity.

The concept placebo, its different definitions and previous uses in history and anthropology

Until maybe 20 years ago, the term *placebo* was used when testing the efficacy of a new treatment; placebo indicating the inert pill or treatment and *placebo effect* indicating the outcome of the treatment. With the coming of more precise possibilities for analysing the biochemical processes underlying placebo effects, the concept has become larger, covering also the search for causality.

Fabrizio Benedetti has cautioned against using the term 'placebo' in contexts where in fact some other phenomenon is described. Among the around 170.000 medical studies published and searchable through PubMed, there is according to Benedetti a considerable confusion on the definition of placebo.[2] He would like to see that the term placebo is only used for talking about controlled clinical trials. The risk when using it in a broader sense, is that many causes of symptom reduction that have nothing to do with placebo effects are attributed as such. This is a *caveat*, which will be taken into consideration throughout this paper.

The *methods* by which placebo responses are induced are, in experimental (medical) studies, first, verbal suggestions on the (alleged) effect of a certain intervention,[3] second, classical conditioning[4], and, thirdly, open vs hidden administration[5]. In classical conditioning, the patient gradually 'learns' to associate a certain non-effectual pill or drink with amelioration of his/her condition (and this needs not be a conscious process). In open vs hidden treatment, the same (effective) drug is administered either by an open injection, or by a hidden dosage given through an already established intravenous access. Not all these techniques engender the same type of placebo response, some biological pathways seem more receptive for a certain type of method.[6] Common for all these methods is of course that the patient must believe in the truth of the verbal suggestions and effectiveness of the (ineffective) cure. However, many scholars would no doubt stress that this is simplifying things, the factors behind placebo

2 Benedetti 2014a, 23.
3 Enck *et al.* 2013; Meissner *et al.* 2011.
4 E. g., Vits *et al.* 2011.
5 E. g., Benedetti *et al.* 2004; Kam-Hansen *et al.* 2014.
6 Albring *et al.* 2012; Geuter *et al.* 2017, 171.

effects being, broadly, that contextual knowledge shapes perception, and that placebo effects do not either depend on conscious expectancy *or* learning mechanisms, but that conditioning is related to both initial expectancies and association-based plasticity.[7]

Placebo effects have been shown above all in the modulation of pain responses,[8] but also in nausea,[9] Parkinson's disease,[10] some effects of the autonomic nervous system,[11] immune responses,[12] and depression[13]. In other words, even in medicine, the concept is large and covers many different modulations of analgetic, cardiovascular, endocrine, immune systems in response to different input/output mechanisms (via ascending/descending pathways).[14]

In social sciences the concept of placebo is somewhat larger, compromising an umbrella term for increased perceived health in ill people, when no medically effectual cure has been applied. As the subjects of social sciences have not been tested for for instance immune markers or increase or decrease in nervous signals regulating pain, the subjective experience of health after a certain intervention, such as healing ritual, is at the heart of what is described as placebo. Here, several factors are attributed as causes of the phenomenon, which could never be defined as placebo effects, medically. Several scholarly groups in above all psychology of religion and sociology, notably H.G. Koenig, have argued for a connection between religiosity, health, and personal wellbeing, a connection which is frequently explained by placebo response effected by the practice of religion and religious rituals.[15]

When studying history, the possibility to do an interview, less to take a blood sample and perform an fMRI on the ill person going to the sanctuary, is not there. It follows that whatever we interpret as an improved physical or mental condition in the data we have from our ancient sources can never be tested for placebo

7 Atlas/Wager 2012; Peciña *et al.* 2014, 1013 (with further references); Geuter *et al.* 2017, 172.

8 This is possibly the largest and most assertive field of placebo research, see for instance the section on pain (p. 3–138), with various authors, in Benedetti *et al.* (eds.) 2014b.

9 Quinn/Colagiuri 2016.

10 De la Fuente-Fernández *et al.* 2001; Benedetti *et al.* 2004; Lidstone *et al.* 2010.

11 I.e., sympathetic or parasympathetic responses to external stimuli (Geuter *et al.* 2013; Meissner 2014).

12 Wendt *et al.* 2014.

13 Kirsch 2014. This is an argumentative article, claiming that most if not all SSRI anti-depressants benefits are due to the placebo effect.

14 Geuter *et al.* 2017.

15 Koenig 2008; Koenig/King/Carson 2012; cf. Spencer *et al.* 2016. For a recent evolutionary take on the connection: Lindenfors 2019. Instrumental in arguing the importance of the concept from a sociologists' point of view is Harrington (2006; 2011).

effects. Hence a reported cure can just as likely be an effect of the numerous sources of error, such as natural course of the disease, spontaneous improvement, fluctuation of symptoms, observer bias, patient/worshipper bias, conditioned answers, and irrational misjudgement (as may well occur in religiously inspired environments). The genre of miracle stories is in itself a stout barrier to any retelling of what really happened. We might, however, understand some of the workings of the sanctuary from them, as the background information must have made sense to newcomers in the holy place.

A further *caveat* when studying religiosity, wellbeing and placebo responses in Late Antiquity, is that *religion* as we define it today does not describe the full scope of the phenomenon in ancient times.[16] Thus, when analysing the sources for healing miracles below, these pilgrimage sites where religious healing was offered did not *only* function as places where individual anxiety was relieved and spiritual needs catered for, but were also closely woven into the fabric of society at large, the state, and, later, Church management. It served as a paradigm and was part of society's fabric. Religion as a term in modern Western scholarship and as it is laid out as basis for the placebo inducing capability of religion, is first and foremost a form of spirituality.[17] In Antiquity, religions did serve this human need (some might say, for those who could afford to pursue it), but religions also served many utilitarian purposes. They kept groups and societies together, and in many instances served directly to fulfil political aims.[18]

Late Antiquity is an interesting period to study, as many religions co-existed, of which, the catholic version of Christianity in the end to become dominant. The market for healing was there just as in any society, but in the world of Late Antiquity there was ample choice from all sorts of actors.[19] In this paper, we will have a look at institutionalized healing miracles performed at, first, the great sanctuaries of the Graeco-Roman god Asklepios, all around the Mediterranean. Second, the institutionalized early Christian healing miracles, reported from large sanctuaries or city churches, where the presence of the bones of a martyr, saint, or indeed living saint, served as focus for the miracles believed to be effected by God.

Healing sanctuaries and pilgrimage sites represented a major phenomenon in both the Graeco-Roman as well as the early Christian world. Vast fortunes were invested into the pilgrimage sites, which also became places of great prosperity as

16 Nongbri 2013.

17 Koenig 2008, 2012.

18 Price 1984; de Ligt/Neeve 1988; Morgan 1990; Scott 2010; Parker 2011; Nongbri 2013.

19 As can be seen, for instance, in the *The lives of Simeon Stylites*, no. 80 (choice between zoroastrianism and Christianity); *Miracles of Thekla*, nos. 1, 11, 18 (paganism and Christianity).

trade benefits and commerce followed in the footsteps of the vast number of travelers. We will now, separately, discuss factors which might have made healing sanctuaries so popular, in the pagan and early Christian world. Placebo response is one such factor. Different contextual factors to induce a placebo response have in research been labelled as, for instance verbal suggestion, therapeutic rituals, and classical conditioning, and we will try and look for these factors, as used in medical placebo contexts, in our ancient texts.[20] This is a highly tentative approach, though, as placebo-inducing factors might in fact be culturally bound.[21] For lack of space, this will not be an in-depth analysis, rather an attempt to highlight tendencies in research, argue a multifactor approach, and suggest directions for future research.

The cult of Asklepios, its rituals, and the case for placebo: Character of the miracle genre

The ancient Greek god of medicine Asklepios and his religious healings are well known to scholarship.[22] Being a Thessalian doctor hero in Homer, he is mentioned for the first time as a son of Apollo in the Hesiodic *Catalogue of Women* c. 700 BCE.[23] Although having mythical roots in Thessaly, the earliest evidence for a cult to Asklepios is an inscription from Epidauros dating to the sixth century BCE.[24] The popularity of this cult grew dramatically in the fourth century BCE, with many new sanctuaries all over the Greek, and later Graeco-Roman, world. The many sanctuaries have been meticulously surveyed by Jürgen W. Riethmüller and Milena Melfi.[25] It has been suggested that this popularity came from cult's part in Athenian expansionist politics, or its successful healing method complementing the expanding Hippocratic school in the fourth and fifth centuries.[26] It was not only Asklepios who offered healings among Greek gods and heroes, but

20 For a definition of these concepts, see Benedetti 2014a.

21 Hustvedt 2016, 199–206.

22 On miracle traditions in antiquity, not only healing miracles, see Cotter 1999; cf. Andersson 1994.

23 *Il*. 2.729–731, 4.194, 4.219 and 11.518; *Catalogue of Women*, F 59.2–4 (West 1985, 69).

24 *IG* IV², 1.143. For more on the early history of Epidauros, see Ehrenheim 2015, chapter 3.3.3.

25 Riethmüller 2005; Melfi 2007a and 2007b.

26 Wickkiser 2008; Ehrenheim forthcoming a. On the issue of causality of disease in the cult of Asklepios compared with the Hippocratic school (and how their approaches resemble), see Ehrenheim 2019.

his cult came to gain panhellenic size.[27] Importantly, worshippers could travel for long distances to come to the sanctuaries of Asklepios, and once there, some could stay for months, wherefore the sanctuaries grew to accommodate large groups and developed a routine and spectacle directed towards healing.[28]

In the Roman era, the *Sacred Tales (Hieroi logoi)* of the rhetor Aelius Aristides, who due to different ailments stayed for long periods of time at a.o. the Asklepieion at Pergamon, provide a valuable insight in the workings of religious healing of the time.[29] The method for healing was to sleep in a specially designated dormitory within the sanctuary, where it was believed that Asklepios would appear in the dream of the worshipper, either curing at once, or, as in most cases no doubt, giving advice or a recipe on what to do in order to get well. The sleeping as such was surrounded by the Greek rites for communication with the gods (purification, prayer, sacrifice, giving of thanks). I and Gil Renberg have thoroughly analyzed this ritual called *incubation*, me seeing it as a previously oracular technique made open for the masses, whereas Renberg places it within a group of Chthonian cults, considering the origins of primarily Asklepios as a hero.[30]

Healings effected by the god were inscribed as votive offerings and put up around his sanctuaries, for other worshippers to read.[31] Some are preserved through four inscribed stone slabs set up at Epidauros.[32] Of course, the content of these stories make more sense in their proper genre,[33] but the first editor Rudolf Herzog actually tried to find some kernel of truth in the miracles they retold.[34] Lynn LiDonnici shows in her discussion how the stories might have been redacted and built, many times from votives which were given in the form of sculptures or

27 On other Greco-Roman healing cults, there is of course a vast literature, see, e. g., Kutsch 1913; Kearns 1989; Merkelbach 1995; Graf 2009; Ehrenheim 2015; Petsalis-Diomidis 2016; Renberg 2017 (also including the Egyptian healing cults of Isis and Serapis).

28 On the phenomenon on popularity of and extensive travel to Asklepieia, see Dillon 1997.

29 On Aelius Aristides and the *Hieroi logoi*, see, e. g., Behr (1968, 1981–1986); Festugière 1986; Harris 2008; Petsalis-Diomidis 2010; Platt 2011; Israelowich 2012; Petridou 2015; 2017; Melfi 2016.

30 Ehrenheim 2015; forthcoming b; Renberg 2017.

31 E. g., Strabo 8.6.15: "Epidaurus, too, is an important city, and particularly because of the fame of Asclepius, who is believed to cure diseases of every kind and always has his temple full of the sick, and also of the votive tablets on which the treatments are recorded, just as at Cos and Tricce".

32 *IG* IV^2, 1.121–124. In the following, I will use the edition and translations by LiDonnici 1995, denoting them as *Epidaurian iamata*, followed by the sequential enumeration found in the *IG* and LiDonnici.

33 E. g., Kee 1986.

34 Herzog 1931.

paintings (*pinakes*) representing the healing by Asklepios.[35] Miracle collections do not reflect actual events. For instance, the stelae at Epidauros containing 70 stories redacted by the priesthood, the *iamata*, present such unrealistic events such as empty eyeballs again receiving an eye when the god pours medicine into the empty socket, or parasites being removed from the abdomen when the god cuts the stomach of the sleeping patient open.[36] They further represent a selection of worshippers presented. According to Plato, dreams and visions recorded on inscribed dedications were primarily made by (he implies), superstitious women,[37] but the preserved archaeological corpus of dedications is made primarily by men.[38] The names on extant dedications more likely indicate who could pay for an inscription in stone. The redaction of the preserved stories, among other things, further makes it impossible to use this type of material to investigate whether women were less susceptible to placebo than men, as has been suggested in recent medical studies on placebo/nocebo effects.[39]

Thus, it is impossible to use these data as in some way representing real facts in the curative events of the worshippers at the healing sanctuaries in antiquity. However, the setting around the miraculous stories had to make sense to the supplicants, in order to create expectancy of a possible healing in the sanctuary.

There are some exceptions, which seem to give a more realistic account of events. The later, Roman, inscription of Apellas,[40] gives less impression of being redacted, focusing on remedies through diet, anointments and mild exercise, and resulting in a cured dyspepsia. The Roman orator and long-term visitor at above all the Asklepieion at Pergamon, Aelius Aristides, writes that miracles in the old days indeed were more 'miraculous', as they were not in his own day. As the 'old miracles' were in all likelihood redacted ones by the priesthood, Aristides discloses by this that people actually believed in the redacted legendary (and quite unbelievable) miracles of the old days, but that they would themselves be content with relief from for instance a cough.[41]

35 LiDonnici 1995, 40–49. See also Ehrenheim 2015, 169–171, for a discussion on the character of the *iamata*.

36 *Epidaurian iamata* B1(21), B3(23).

37 Pl. *Leg*. 909e – 910a.

38 van Straten (1976, 17), who concludes that only 15 % of the published *kat' onar* inscriptions and 32 % of the Epidaurian *iamata* were dedications made by women. As van Straten concludes, women were more likely to have inscribed less costly wooden tablets.

39 Aslaksen *et al*. 2011, 193; Vambheim/Flaten 2017, 1831.

40 *IG* IV², 1.126 = *Syll*.³ 1170; ca AD 160.

41 Aristid. *Or. sacr*. 4.64.

Asclepian cures and placebo?

In recent scholarship, the popularity of the cult has been explained by placebo responses of the help-seekers.[42] This in a way follows the strand in research described above, which explains the phenomenon of religions by health benefits among religious practitioners. Mick Collins, drawing on Jungian frameworks and among others referring to Koenig, argues that the cult of Asklepios and its healing methods, as he identifies them, should serve as inspiration for a deepened patient contact in modern medical care.[43]

Further, Olympia Panagiotidou identifies belief and expectancy as factors, which might have induced placebo response in the worshippers of Asklepios.[44] They believed in the powers of Asklepios, and hence were more susceptible to a placebo response. As far as the rituals of Asklepios go, I would argue that they served not to heal but rather to facilitate the communication with the deity in a dream.[45] Any placebo effect would more likely stem from the belief in the god's healing powers and the efficacy of the cure, as she also remarks. In Panagiotidou's article here, she develops how the 'drama of placebo', as developed by Ted J. Kaptchuk, predisposed supplicants at Asklepieia for a placebo response. She also interestingly develops the concept of Asklepios as an external authority (also a concept developed a.o. by Kaptchuk), providing assurance of the possibility of healing to the supplicants.[46] To believe in the power of the god, or saint, is highly important for the cult, and comes across in in a range of different miracle stories. 'Unbelievers' or those being doubtful of the miracles they heard about, could be corrected, or punished if you like, in various ways, with varying degrees of literary finesse.[47]

It is further related in the *iamata* themselves, that before sleeping in the *abaton*, incubants went around the sanctuary at Epidauros and read the cure tablets.[48] Most worshippers, one might presume, believed in what was written on

42 Collins 2013; Panagiotidou 2016; Panagiotidou this volume.

43 Collins 2013.

44 Panagiotidou 2016, 86–87.

45 See further Ehrenheim 2015.

46 Panagiotidou, this issue.

47 *Epidaurian iamata* on 'unbelievers': A3, A4, and B36. The Early Christian miracle stories do not show worshippers who doubt in the powers of the saint in the same way, but worshippers ignore the saints' commands, because they found them strange or dangerous, as for example in the Miracles of Cosmas and Damianos, nos. 11, 16:3. The exception is if the supplicants are pagans, or members of a 'heretical' sect of Christianity, as in e. g. the *Miracles of Cosmas and Damianos* nos. 17, 26.

48 *Pinakes* are mentioned in *Epidaurian iamata* A1, A3, A4, perhaps in B 16(36) and in C 12(55).

them, and were inspired, as well as imbued with hope, before going to sleep.[49] Others, and they were also recorded in the *iamata*, did not believe in the miraculous events of the sanctuary and were scolded or punished by the god as unbelievers.[50] The cure tablets helped incubants to believe in the possibility of miraculous healings and how they could be expected to occur – even though reading them was not, as far as we know, an obligatory part of the ritual. The *iamata* also helped promote the cult and attest to its success.[51]

Miracle healings in saints' cults, and the case for placebo

With the coming of Christianity, Epidauros, Pergamon, and Aegae were no longer active by the end of the fourth century CE. The last inscription at Epidauros is dated to CE 355.[52] The Athenian Asklepieion, though, was in use as late as the fifth century, when the neoplatonist philosopher Proclus (d. CE 485) went there to pray.[53] The need for healing miracles did not cease, however. The Christian healing miracle was a concept, which did not come with Christianity to begin with: It was long considered in the Church that miracles only occurred in Apostolic times.[54] As Christianity spread, and, quite possibly, as this type of popular religiosity was on demand among the newly converted, miraculous healings became a standard feature at most tombs of martyrs and saints.[55] Some holy men,

49 Dillon 1994. Cf. Martzavou 2012 on how the narrative structure of the Epidaurian *iamata* built up the feeling of hope among the troubled worshippers who sought the aid of Asklepios.

50 Epidaurian *iama* B 16(36), cf. A4.

51 Dillon 1994.

52 Trombley 1993, vol. 1, 119 (Epidauros in use until at least the middle of the fourth century); and Eusebius of Caesarea, *De vita Constantini* 3.56 (testimonium 818 in Edelstein/Edelstein 1945). The Asklepieion at Aegae was destroyed by Constantine in 326. In Syria, the cult of Asklepios was eradicated by the authorities in the fourth century but Theodoretus (393–466) feared that the populace still worshipped Asklepios with libations and sacrifice (Theodoretus, *Graecarum Affectionum Curatio* 8.19–23 [testimonium 5 in Edelstein/Edelstein 1945]).

53 Marinus, *Vita Procli* 29 (testimonia 582 in Edelstein/Edelstein 1945). See also Trombley (1993, vol. 1, 294, 308–309 and 323) and Price (1999, 169) on the Athenian Asklepieion.

54 Aug. *De vera relig*. 25.47 (= CC Ser.Lat. 32, pp. 216–217); Aug. *Sermo* 83.3.3 (=*PL* 38, 540); van Bavel 1995, 360; de Vooght 1939, 5–16. For influence from, or likenesses to, the pagan tradition, see a.o. Rüttiman 1987. See further Ehrenheim 2016, 77–82.

55 Kötting 1950; Maraval 1985; van Dam 1993; Elsner/Rutherford 2010; cf. Theissen 1993 on the Apostolic miracle.

such as Simeon the Stylite (the elder and the younger), could also procure miracles while they were still alive.[56]

Early Christian healing miracles also reflect the religious pluralism in Late Antiquity, where ancient gods, Christian 'heretical' sects and the later to be Catholic Church offered religious help and guidance for all sorts of misfortunes in life, including disease.[57] It is important, though, to recognize the profound difference between Graeco-Roman and Early Christian miracles, both in terms of the technique itself, and in terms of the causality seen behind the ailment.[58]

Character of the miracle genre

The category of Early Christian miracle collections is a very broad one, ranging from small anecdotes to genre literature.[59] The Early Christian miracles generally contain three important components: the belief in the healing powers of (God, by the intermediary action of) the martyr, the importance for the supplicant to stay close to the bones of the martyr, and the expounding of the miracle to the other worshippers.

Factors for placebo response in the Christian miracle collections?

Unlike the Asclepian cures, where curative instructions supposedly given by the god in a dream were interpreted in such a way as to induce herbal cures or

56 *The lives of Simeon Stylites; Vita S. Simeonis ieuni*.

57 Examples may be seen in the *Miracles of Thekla*, nos. 11 and 18, where she proves a more efficient healer than the Greek hero Sarpedon, and in the *Miracles of Cosmas and Damianos*, no. 9, where pagans come to the saints' cult, thinking that they are Castor and Polydeukes, the pagan heroes.

58 On the causality of disease as seen in Early Christian times, see a.o. Reff 2005. On the causality of disease in the cult of Asklepios, see Ehrenheim 2019.

59 Anecdotes, e. g. the story about the broken vase or plate, found in *Epidaurian iama* A10, as well as the *Miracles of Menas*, no. 3, and also the story of the lame man and the mute woman, found as mir. 24 of Kosmas and Damianos' collection, cited in mir. 30 of Kyros and Johannes and also found in the collection of miracles attributed to St Menas (Delehaye 1927, 147), as well as a similar story in the miracles of Colluthus (*ABoll* 98, 1980, 363–380 [P. Devos]). The best example of literary effort is the Miracles of SS Cyrus and John from Menouthuis in Egypt, written by Sofronios, bishop of Jerusalem 634–638, and himself cured by an eye disease at Menouthis.

other remedies resembling to Hippocratic cures of the time, the early Christian healing shrines often mediated cures through material agents close to the bones of the martyr, or body of living saint. Simeon the Stylite the elder (fifth century CE) and the younger (sixth century CE) were monks living their lives on top of large pillars, and who attracted pilgrims from all parts of society to consultations on a wide range of issues, among them healings. When Simeon the Stylite, the elder, died, a large pilgrimage church was built around his column (Qalaat Simaan, in today's Syria). In the miracles pertaining to Simeon the Stylite, the elder, dirt close to the pillar was the wonderworking agent.[60] Moving to Constantinople, two martyr doctors according to the legend, performing many miraculous healings in the Graeco-Roman world, had their miracles written down in great detail some time before the bishop Sophronios (bishop 560–638).[61] In the cult of Kosmas and Damianos in Constantinople, it was oil from the lamps above the tomb, or *kerote*, a mixture of oil from the lamps above the holy tomb, and wax.[62] Similar cures were offered in southern Asia Minor at the large pilgrimage complex of Thekla, a legendary martyr and follower of S. Paul.[63] Her miracles were written down already by the fifth century CE.[64] Further down south, close to Alexandria in Egypt, Kyros and Johannes, again two alleged doctor martyrs, attracted vast numbers of help-seekers,[65] among them the bishop Sophronios, who wrote down his reported miracles.[66] The cult of Thekla, as well as Kyros and Johannes, among other things used oil or wax from the lamps of the church.[67] Further factors, which might have opened up for placebo response, seem though still to be present, above all the instruction given by miracle stories read aloud at sermons, and the heightened emotional state in which the believers coming to the shrines found themselves in.

60 *Lives of S. Simeon the Stylite* (the elder), e. g. miracles nos. 5, 34, 35, 36, 38.

61 *Miracles of Cosmas and Damianos,* see Festugière 1971. On the date, see Festugière 1971, 85–86, 191, n. 1. For an analysis of where the helpseekers stayed in the church, and how they perceived the martyrs dwelling inside the church, see Ehrenheim 2009.

62 *Miracles of Cosmas and Damianos*, e. g. nos. 1, 1, 13, 16:1–3, 22, 30, 33. The holy images of the saints could also help procure cures (nos. 13 and 15).

63 Dagron 1978; Hill 1996; Ehrenheim 2009; 2016; Myrup Christensen 2016.

64 Dagron 1978, 17–19.

65 See Ehrenheim 2009 and 2016 with further references.

66 *Miracles of Kyros and Johannes;* Sansterre 1991, 78.

67 *Miracles of Thekla*, nos. 7, 40. Kyros and Johannes mir. 1, 3, 7, 22, 33, 50, 53, 65, 70. In the cult of Thekla also wine (42), and scrapings from a church fence (18) can be found as curative agents.

Classical conditioning and verbal suggestion

The maybe most significant conscious effort of the officials of the sanctuaries, which might have promoted a placebo response, is the instruction given to newcomers of previous miraculous healings, inducing expectancy of what is to come. This is a procedure well known both in pagan and early Christian healing cults.[68]

The miracle stories, both those from Asklepieia and those written down and read aloud at sermons in churches, among other things must have contributed to *learning* and *expectancy* among those who might have had conditions susceptible to placebo effects. Reading about the wonders retold by other worshippers who had been cured previously at the sanctuary might further have augmented the intensity of the experience, or created an expectancy. In modern literature on placebo, this is called 'conditioning' or 'social learning'.[69] A study by Colloca and Benedetti present an important finding, which could very well fit with a beneficial effect of the Early Christian miracle stories. They show that the expectance of healing, which activates what might be called the placebo pathways, is enhanced when seeing others who receive effective treatment.[70] This might be argued for in the collective experience in incubation shrines, when a healing is reported. An example of 'social learning' can be seen in a miracle of the saint Artemios in Constantinople:

> So all these when they were reclining there in hope of a cure, when they saw me, who was recently incapable of moving and in pain and wailing, standing up quickly – all arose and along with me threw themselves on the ground and kept shouting 'Lord have mercy'. And they prayed that they too might soon receive a cure from God through the holy martyr.[71]

Artemios was a legendary martyr, killed under Julian 'the Apostate', who had a flourishing healing cult in Constantinople. His miraculous healings were written down as late as 658–668 CE, and he specialized in hernias.[72] The construction of the healing in the stories might also correlate to placebo activators. The saints do perform their healings in ways that according to modern research on placebo

68 The cult of Asklepios: Dillon 1994; In early Christian saints' cults: Crisafulli/Nesbitt 1997, 27 (miracles were collected among the help-seekers and read aloud at the Saturday night vigil).
69 Colagiuri 2015, 174.
70 Kaptchuk 2002; Colloca/Benedetti 2009.
71 *Miracles of Artemios*, no. 32. Cf. Maraval 1981.
72 Crisafulli/Nesbitt 1997, 7. On the organization of the people who stayed in the church to be healed, see Ehrenheim 2009.

effects are activators. One such example is the laying on of hands, shown by Kaptchuk to have a "confirmatory sensory feedback".[73]

However, just because these placebo inducing factors were present in ancient healing sanctuaries, it need not mean that to induce placebo effect was their (only) purpose. The miracle stories from the Christian saints' cults did not only prepare supplicants and induced them with hope, but also promoted the cult in the larger context of the Byzantine empire. Instruction of previous model healings for the imagination of the help-seekers, as well as propagating the success of the cult, developed into a literary genre in its own right.[74] The body of 'employees' and the dependent suppliers and networks created a need to preserve and augment the good name and success of the organization. Hence, the miracle stories served an important means to propagate the cult.

Could placebo have been efficient at pagan or early Christian healing sanctuaries?

One basic assumption among researchers arguing for a placebo response at Asklepieia, is that as people kept coming to Asklepieia the cures offered there must have been efficient. As the only explanation for a cure without any effective treatment is placebo response, they conclude that placebo responses must have been at the heart of the success of religious healing at the Asklepieia.[75] Now, certainly, humans had more or less the same genetic composition 2000 years ago as today, which makes placebo effects, or the modulation of pathways on psychological cues (possibly concerning above all pain and immune responses, as worshippers with 'just' nausea would not have travelled to Asklepieia), a real factor in any type of religious healing. The research of Collins and Panagiotidou is essential and highly interesting as it bridges medical and historical research. However, as will be argued below, placebo cannot offer the broader explanations needed for the success of these sanctuaries.

If we broaden the scope, looking at the wider range of people coming to the sanctuary, most people coming to Asklepieia did not come with afflictions susceptible to placebo response. They suffered from infertility, they were mute, they

73 Kaptchuk 2002.

74 Cracco Ruggini 1981; Maraval 1981; Déroche 1993; Csepregi 2007; Constantinou 2014. See further Panagiotidou in this volume, passim, on how Asclepian ritual would have induced a placebo response, seemingly curing at least some of the supplicants.

75 Collins 2013, 42; Panagiotidou 2016, 88.

were blind, they were bald, they were lame, they had arrows still stuck in their body after a conflict, they had intestinal worms.[76] The same is valid for the early Christian miracle stories; blindness, kyphosis, leprosy, different forms of malignancies, hemoptys, paralysis.[77] The list is long, and we must also acknowledge that ancient peoples had a far higher threshold for when they would seek help for an illness, than patients have in for instance Western Europe of today.[78] Placebo effects only work for a limited number of conditions. For many ill coming to the incubation sanctuaries placebo would not have been able to cure them or even make them feel better. Hence, the majority of ill people coming to ancient healing sanctuaries would not have experienced any placebo response. In other words, placebo does not seem like the only factor to explain the enormous popularity of ancient healing sanctuaries.

The popularity of sanctuaries – a multifactor approach

As Panagiotidou has argued for Asklepieia, and we have seen in our survey above, the ancient healing sanctuaries did function in a way as to induce placebo effects, if we presume that the placebo activating factors were the same in Antiquity as they are today. Trust was ensured in the power of the god or martyr to heal, expectancy created by the preceding rituals, but above all the community in a sleeping hall into which the god or martyr was thought to enter at night created a height-

76 *IG* IV², 1. 121–124, see LiDonnici 1995, miracles nos. A5, C44, C51 (muteness); A3 (possibly arthritis); A9, A5, A9, A11, A18, B22, B40, C55, D67 (blindness, in some cases totally missing an eye); A6 (slave tattoos); A19 (baldness); A12, B30, B32, B40, C53, C58 (parts of weapons stuck in different parts of the body); A 13, B23, B28, B41 (parasites such as intestinal worms, lice); B21, C49 (edemas); B33 (tuberculosis); A8, A14 (kidney stone); B29 (headache, insomnia); C62 (epilepsy); A15, A16, B35, B36, B37, B38, C57, C64, D70 (complete or partial paralysis); A1, A2, B25, B31, B39, B42 (fertility). See also the commentary of Prêtre/Charlier 2009, e. g. p. 80 on parasites. True, these stories are not representing factual events, but the types of ailments the worshippers had, must have been ailments with which newcomers to the sanctuaries might identify, otherwise the pedagogical function of the miracle stories disappear.

77 E. g. *Lives of Simeon Stylites*, No. 78: leprosy, blindness, kyphosis, paralysis of the extremities. *Miracles of Cosmas and Damianos* no. 2 (malignancy of the female genitalia); no. 6 (hemoptys), nos. 4. 14, (paralysis), no. 20 (ruptured ulcus); *The Miracles of Artemios* chiefly concern hernias (which were this saint's specialty).

78 For a survey of palaeopathologies, see Waldron 2009; Nikita *et al.* 2016. Malignant tumors are argued to be scarce, comparatively, among ancient peoples, because their lifespans were considerably shorter.

ened emotional state in the worshippers, which, according to modern research on placebo, are factors which help induce placebo responses. If looking at statistics of disease worldwide, as far back as reliable statistics can be obtained, and compare to countries today, which might come closer to the ancient world as concerns availability of clean water and healthcare for everyone, we see that lower respiratory infections, diarrhoeas, ischemic heart disease, stroke, malaria and tuberculosis top the list. These are conditions that might give a sense of relief, but cannot go into regression, by a placebo response.[79]

We will now discuss some other possible factors that may explain the success of ancient healing sanctuaries.

Naturally cured

Bronwen L. Wickkiser has argued convincingly that, as the medical skills of the time were limited, Greek doctors, when they did not want their career spotted by a failure to cure, recommended all cases they were unsure of to the god Asklepios.[80] Hippocratic medicine could not cure the majority of diseases. Many curable patients would in other words have been ascribed as incurable by Greek doctors and recommended to seek the help of Asklepios. Cures which might have been naturally effected by the immune system, given time, would have been ascribed as miracles. Many diseases no doubt healed naturally if the patient was given the chance to rest.[81] Some ailments for which help was sought were curable, such

79 WHO lists of primary causes of death https://www.who.int/news-room/fact-sheets/detail/the-top-10-causes-of-death or https://www.who.int/whr/en/ A male member of the aristocracy in 17th century England (one of the most developed countries of its time), might have expected to live until the age of 43, if having survived his 21st birthday (Lancaster 1990, 8). Given the many wars and probably just as useless medical care of Antiquity, there is little reason to postulate much higher figures. Life expectancy of the vast majority of the population in Antiquity would in all certainty have been shorter than that. In other words, cancer, stroke or heart failure would not have been the major causes of death. Among the poor in Antiquity, malnourishment would certainly have been one of the major causes of ill health: see Schiedel/Friesen 2009, on the extreme poverty the majority of the population experienced.

80 Wickkiser 2008.

81 Iama B 10 (30). "Gorgias of Herakleia, pus. This man was wounded in the lung by an arrow in some battle, and for a year and six months it was festering so badly, that he filled sixty-seven bowls with pus. When he was sleeping here, he saw a vision. It seemed to him the god drew out the barb from his lung. When day came, he left well, carrying the barb in his hands". Further, Iama C 21 (64) may be an example of an ailment cured by rest and time: "Damosthenes ..., paralyzed in the legs. This man came into the sanctuary upon a couch and he walked about support-

as boils.[82] It might be significant, that many stories of cures, both from the Graeco-Roman as well as from the early Christian period, tell of worshippers staying and indeed being recommended by the temple or Church staff to stay for as much as months at the sanctuary.[83]

Spontaneous remission

The phenomenon of *remission, or regression, of disease* has also been offered as a 'medical' explanation of healing miracles.[84] Studies on the regression of cancer due to an efficient immune response, are coming to the fore, but cancer was just one group of all diseases which prompted worshippers to come to healing sanctuaries.[85] As living conditions and life expectancy in Late Antiquity were extremely

ing himself on a cane. Sleeping here, he saw a vision. It seemed to him the god ordered him to remain in the sanctuary for four months, because in that time he would become well. After this, in the last days within the fourth month, he went into the Abaton with two canes, [but] he left well".

82 On boils, see A17, B27, C45, C48, C51 (boils in different parts of the body, which burst and healed naturally). cf. C5(48), where Asklepios advises against cauterizing a bubo, and lets it burst naturally. Boils that burst in early Christian miracles: *Mir. Thekla* nos. 11, 24.

83 *Epidaurian iamata* C5(48) and C21(64) (a four-month stay). Cf. the *Anth. Pal.* 6.330 (a three-month stay).

84 Lindenfors 2018, 158, referring to Printz 2001. The article of Printz, is however only about spontaneous regression of skin cancer. The figure 20 % regression of melanomas is an estimate of a colleague of Printz', and not based on an empirical study. See Printz 2001: "There are no hard statistics on how many melanomas regress completely without leaving metastases, but Ross Barnetson, M.D., of the Royal Prince Alfred Hospital at the University of Sydney in Australia, estimates that the rate is between 10 % and 20 %, based on histological studies that show that 25 % of melanomas have evidence of partial regression. There is some evidence that other tumor types undergo spontaneous regression, but the phenomenon may appear more frequently in melanoma because it is easier to observe than in internal cancers such as breast or lung cancers, said Alan Houghton, M.D., chief of immunology at Memorial Sloan-Kettering Cancer Center, New York". The study referred to on basal cell carcinoma, a more benign form of skin cancer, shows a 50 % regression, by Ross Barnetson, but has been met with critique by Sloan Kettering-Houghton, according to Printz. It is further doubtful if a person living in the 4th century AD would have perceived a melanoma, small enough for spontaneous remission by the immune system, as a disease, or worthy of travelling to a healing sanctuary to get rid of. Spontaneous regression of tumours in general is a highly rare phenomenon, see, e. g., Sakamaki *et al.* 2017, 3797.

85 Epidaurian iama C66, where a man is described as having a cancerous sore, 'φαγέδαινα' inside his mouth, might be a description of a carcinoma.

poor for the vast majority of people, we cannot infer that worshippers sought aid for the same diseases as we see in Europe and the US today.[86]

Furthermore, remission of disease is a complicated concept, as most diseases in fact are taken care of by our immune system. Usually the term indicates to what degree a disease regresses after medical treatment. When *spontaneous remission of disease*, on the other hand, is used in medical terminology, it is most often in connection with diseases, which among the standard population are not seen as curable. Examples are different types of cancer.[87] Spontaneous regression of tumours is highly rare, and above all attributed to immune response or hypoxia.[88] Many of those who did get healed at the sanctuaries no doubt had illnesses or conditions which troubled them, but which would have been cured naturally by their immune system, given rest and nutritious food. One such example is having a boil, forming large quantities of pus, which eventually leads to the natural rendering of the boil and subsequent healing of the skin.[89]

Death in the sanctuary

But then again, many of the diseases that worshippers sought aid for would not have been curable. People did die in healing sanctuaries. In the ancient Greek world, death was considered a miasma, defilement, of the sacred space in a sanctuary. Hence, the Roman Antoninus was much thanked when he donated money to build a stoa outside of the temenos border of the Asklepieion at Epidauros, into which those about to die could be transferred.[90] Many still believed in the healing

86 WHO lists of primary causes of death https://www.who.int/news-room/fact-sheets/detail/the-top-10-causes-of-death or https://www.who.int/whr/en/.

87 For reviews on spontaneous regression of different types of cancer, see Sakamaki *et al.* 2017; Astigueta *et al.* 2018; Kwok *et al.* 2019.

88 E. g. Sakamaki *et al.* 2017, 3798. 5 % of testicular germ cell tumors undergo spontaneous regression (Astigueta *et al.* 2018, 2), but this need not lead to survival, as metastatic tumors may prove fatal (Astigueta *et al.* 2018, 4). Spontaneous regression of *CLL* (*Chronic Lymphocytic Leukemia*) has been reported to occur in 1–2 % of patients (Thomas *et al.* 2002; Del Giudice *et al.* 2009).

89 Cf. *Epidaurian iamata* A17, B27, C45, C48, C51 (boils or abscesses in different parts of the body).

90 In Roman times, a special stoa was built at Epidauros, outside the *temenos*, for those help-seekers about to pass on (Paus. 2.27.6). Furthermore, the *LSAM* 14 probably concerns a ritual purification of death that occurred inside the sanctuary (Roussel 1926). The ill about to die would surely have been taken outside the temenos in Classical times as well.

power of Asklepios, even if it did not help *them*, and choose to ascribe a death to another cause than a failure of the god.[91]

If very few got cured – what made worshippers travel to healing sanctuaries?

A contemporary example of a healing sanctuary is Lourdes, where St Mary supposedly revealed herself in 1858. It is estimated that today between 6 and 8 million people come every year to Lourdes. A medical committee was instituted 1858 and has since recognized 70 miraculous cures.[92] Many of these were cases of tuberculosis, believed to be incurable before the arrival of penicillin. However, 70 miracles since 1858, spread among the many millions having visited the cult, do not make for a high curative ratio. Thus, had placebo been an effect in curing ailments of worshippers seeking religious healing, it should have produced more than 70 cures since 1858.

Given the low percentage of improved health, some other explanation than augmented health must be sought to explain the success of healing sanctuaries. The question begs itself why people kept travelling to incubation sanctuaries or churches – if the stay there had been perceived as worthless, the cults would not have been able to prosper as they did. We need to widen the definition of our object of study, beyond 'placebo', and move towards phenomena such as a general increase of health, wellbeing, and to study how the healing cults provided a meaningful social context for those who were ill.

Finally, I will put forward some directions in which an explanation to the great popularity of ancient healing sanctuaries might be found.

91 One telling example of this come from Marinus, *Vita Procli* chap. 30: "The afore-mentioned happenings demonstrated his [i. e. Proclus'] intimate connection with Asklepios and the epiphany of the god even in his extreme illness also convinced us. For between sleeping and waking he saw a serpent creeping around his head, at which point the affliction of his paralysis had its origin. And thus from the moment of the epiphany he noticed a subsidence of the illness and if his eagerness and strong desire for death had not prevented it and if he had deemed the body worthy of the proper cure, he would, I think, have become perfectly healthy again".
92 https://www.lourdes-france.org/guerisons-et-miracles/.

Inducing hope

Most people would have returned home without having received help, but the nature of these types of sanctuaries was, I believe, such that it often improved the quality of life for those who were ill by inducing hope, and thus worshippers kept coming. It is estimated that today between 6 and 8 million people come every year to Lourdes. This tells us that what makes worshippers come is not healing in itself, but the *hope* of healing. Pliny the Elder, in a much quoted text, describes the illogical step many patients in his day took to undergo dangerous cures suggested by their doctors, because "so great for each of us is the seductive sweetness of wishful thinking", *adeo blanda est sperandi pro se cuique dulcedo*.[93] Hope, *spes*, was thus recognized as a powerful emotional motivator in ancient times (and quite illogically so, in the mind of the ever debating Pliny the Elder).

The social experience

Not the least important for the popularity of healing sanctuaries, was the fact that ill and healthy could meet and spend time disinhibited by social limitations in their daily life at home. It is known from the Epidaurian *iamata*, that many worshippers could stay for months at the sanctuary.[94] It is clear that healing sanctuaries not only catered for the ill – they formed an important part of the social fabric itself, providing the ill with a new community, in a place where they could identify with the numerous other supplicants present there. The great Asklepieia, especially in the Roman period, are in fact more to be likened to cultural hubs and spas than hospitals.[95] For instance, in the account of long-term stays at the Asklepieion at Pergamon, written by the orator Aelius Aristides around 150 CE, he acknowledges that the miraculous events "of the old days" did not occur anymore in his day.[96] This said, he does acknowledge small ameliorations in his condition as miracles.[97] Above all, he enjoyed the company of other aristocrats staying at

93 Plin. *NH* ch. 29.

94 C5(48) and C21(64) (a four-month stay). Cf. the *Anth. Pal.* 6.330 (a three-month stay). Also, in C22(65) a bath and a big inn serve as background for the story, making it clear that many suppliants stayed for more than one night.

95 Galli 2005; Mylonopoulos 2013; Petridou 2016. Theatrical and musical performances at Asklepieia; Melfi 2010.

96 Aristid. *Or. sacr.* 4.64.

97 E. g. Arist. *Or. sacr. passim*, e. g. 1.42–45; 63–68, 72. On Aristides and his special contact with the healing god, see Behr 1968, Horstmanshoff 2004 and Petsalis-Diomidis 2010. A similar exam-

the sanctuary of Pergamon for a long time, and frequently discussed his ailments and miraculous dreams with them.[98] Groups of worshippers staying long for time periods of time were called *therapeutai*.[99]

The early Christian pilgrimage sites were places of equal complexity and with an equal broad range of activities to offer, not all connected with the religious sphere.[100] Many visited the holy sites just to make sure to keep in good health; in a church in Constantinople healthy people could rent a bed in the church to sleep or rest in on certain weekdays, and by the closeness to the saints' bones get protection from illnesses.[101] Michael Agnew has interviewed modern pilgrims at Lourdes, and this is a telling quote from Caroline, a woman in her early thirties who was making her third pilgrimage to Lourdes:

> With both the Assisted Pilgrims and the fellow helpers, there is a general sense of community. I think my experience in the UK often with even how the Church is structured, there is often a feeling of a lack of community, even in the Church. I think the draw for me is this is a place where people are really coming with all sorts of different intentions, and a lot of difference between cultures and ages and disabilities, there is a real sense that Our Lady is bringing and meeting people here in Lourdes. She's meeting us here and allowing us to meet each other.[102]

In this quotation, from Lourdes, we also find how the many pilgrims coming back each year, although not being healed, do so much because of the community they find there.

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ple may be found in the Late Antique orator Libanius, who sought health from an Asklepieion in Asia Minor. The healing he writes about is rather imprecise and takes a long time – even so there is great belief in the god's healing powers Libanius *De vita sua* 143: "And this wave of disaster prevailed for four years. Through a friend of mine I had recourse to him who is always ready to succor, the great Asklepios, and when he said that I was not right in abstaining from my customary treatment, I drank of the old medicine, and there was a certain improvement, but the illness was not completely banished. Yet the god said that this, too, he would graciously grant. I knew that it is not reverent to distrust such a guarantor, but nevertheless I wondered whether I should seem at all worthy of this gratification. And the seventh year in addition to fifty was already coming to an end when in three dreams, of which two were in the daytime, the god took away no small part of sickness in each one and brought it to this state, which may he never take away".

98 Varhelyi 2010, 83–85. This taking part of each other's dreams and cures can be seen in the *Hieroi logoi*, e. g. 2.30.

99 Inscriptions from Roman time in Pergamon on *therapeutai* (and *perithyontai*): *IvP* III 47, 79, 122, 140 and 152. On *therapeutai* in Aristides: *Or. sacr*. 1.23, 2.47, 4.16, 4.18 and 4.50. In 2.27 he uses the word συμφοιηταί and συμθεραπευταί, while calling himself θεραπευτής.

100 Kötting 1950; Maraval 1985; Rendtel 2006. See Kristensen 2016, on the connection between the city of Seleukia and the sanctuary of Thekla at Meriamlik.

101 *Miracles of Cosmas and Damianos*, No. 10.

102 Agnew 2015, 524.

This should perhaps not come as a surprise, as good human relationships seem, according to psychological studies, to be at the very center of not only human wellbeing, but also health.[103] In the ancient world, where the ill and disabled frequently were mocked and excluded from society,[104] one might imagine that pilgrimage sites served a real purpose both for their wellbeing and health. Indeed, also the journey itself, which in Antiquity would have taken some time and effort, was part of the experience, making the coming to the sanctuary an emotionally special event also in this way.[105]

Concluding remark

For sure, the crucial factor of 'belief in the cure', as well as 'expectancy' postulated in order to elicit a placebo effect, was present among a good number of the pilgrims coming to the healing sanctuaries. However, as there is no possibility of testing blood-samples from the pilgrims, there is no way of knowing if indeed placebo responses ever were activated. The above presented arguments will hopefully have shown that people who came to healing sanctuaries increased their wellbeing, even if they were not cured from their disease or disability. Koenig has made the case that religion is a potent factor for wellbeing and health in individuals.[106] When having a look at subjective estimates of well-being worldwide today, it is apparent that many other factors than religion contribute to well-being.[107] In fact, the least religious countries in the world show the highest rates of well-being. This shows that although religion no doubt played a part in the increased wellbeing of the pilgrims, other factors need to be considered. The cults seem to have increased the wellbeing of the worshippers, above all by giving them hope and a social context for the crisis they found themselves in. Many factors contributed to making healing sanctuaries such an enduring phenomenon through Antiquity, the Middle Ages, and indeed in our own times. Even though we cannot know, placebo effects surely played a part, but there were also other significant factors which made pilgrimage sites such a popular phenomenon.

103 See, e. g., the 75-year, still ongoing, Harvard study of happiness in a large selection of American test subjects, with several publications, now directed by R. Waldinger, e. g. Martin-Joy *et al*. 2017.

104 Garland 1994, esp. 73–86.

105 Maraval 1981, 11.

106 Koenig 2008; Koenig/King/Carson 2012.

107 Diener/Tay 2015. See also https://en.wikipedia.org/wiki/Well-being.

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