Healing after Prayer, an interdisciplinary case study

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HEALING AFTER PRAYER, AN INTERDISCIPLINARY CASE STUDY

ACADEMISCH PROEFSCHRIFT

ter verkrijging van de graad Doctor aan
de Vrije Universiteit Amsterdam,
op gezag van de rector magnificus
prof. dr. J.J.G. Geurts,
in het openbaar te verdedigen
ten overstaan van de promotiecommissie
van de Faculteit Religie en Theologie
op maandag 24 april 2023 om 13.45 uur
in een bijeenkomst van de universiteit,
De Boelelaan 1105

door

Dirk Johan Kruijthoff

geboren te Strijen

promotoren:	prof. dr. C. van der Kooi prof. dr. G. Glas
copromotoren:	prof. dr. T.A. Abma dr. E. Bendien
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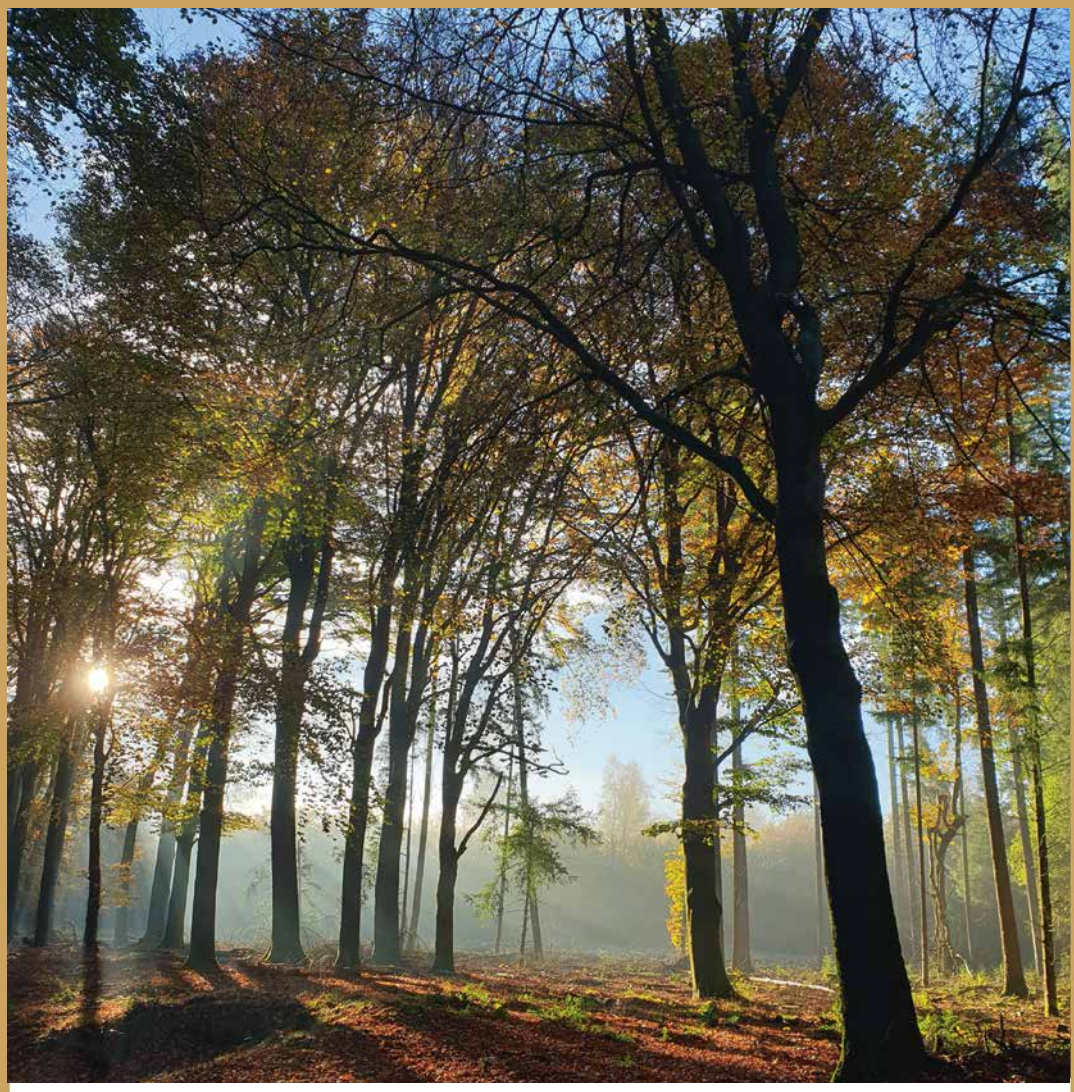

PART A: CONTEXT AND RESEARCH DESIGN

Chapter 1

General Introduction

At the start

The initial title of the research proposal in 2015 was *'Prayer and healing, post aut propter'*, referring to a thorough study of medical data before and after healings related to prayer. Indeed, medical data was very relevant, but non-medical data turned out to be important as well. The title has therefore been changed to *'Healing after prayer, an interdisciplinary case study'*, which will also be further clarified in the thesis.

A personal introduction to the research subject

As a general medical practitioner I could never imagine myself becoming involved in research on prayer healing (HP). My attitude used to be rather skeptical. Christian youth work had resulted in a few negative experiences and in medical practice I observed people praying for healing without this happening. Thus, I regarded prayer to be a source of spiritual encouragement, but not as a means of healing in case of serious illness.

At some point in time, however, I was confronted with some remarkable illness histories in my vicinity, including the cure of a female patient in my own practice. She was suffering from posttraumatic dystrophy in several limbs (all following minor injuries or surgery), which had made her largely bedridden, and wheelchair bound as well as having to take high dosages of morphine and other pain medications. Her medical case history covered seventeen years, the diagnosis had been confirmed at the Erasmus Medical Centre in Rotterdam, where she had been receiving treatment. When visiting a prayer healing service she was instantaneously healed. To my surprise she was able to stop all morphine medications immediately without symptoms of withdrawal and she was able to walk and cycle distances without first having to exercise muscles that had long not been used.
Subsequently her healing got considerable attention from the media (newspapers, television). Some were enthusiastic, others skeptical. It was particularly surprising that HP could generate so much interest in a country that is largely secularized. Despite decreasing church attendance and church membership it appears that both prayer healing services and Catholic places of pilgrimage have continued to attract large crowds.
All of a sudden this subject was on my doorstep and I was left wondering what had happened. Was this indeed exceptional? A moment which broke the rules of medical science?
In order to answer these questions I decided to collect all medical data and to relate this data to the moment of her healing. Details from medical history, findings of physical examinations, laboratory and radiology results as well as specific investigations at the university hospital (video thermography) were reviewed. Then I compared this data before and after prayer. The conclusion was that all signs and symptoms had disappeared instantaneously at the moment of prayer and had not returned afterwards.
With the patient's consent a description of her case history was offered to a national quality newspaper (*Trouw*). An article was published in the autumn of 2009[1] with a request that readers could send letters or emails with their own experiences concerning healing during or after prayer, both positive and negative. Nineteen healing experiences were reported and five negative experiences, the latter mostly from people who were not healed despite affirmations

[1] Hakkenes E. De dokter wil wonderen gaan toetsen. *TROUW.* 30 Oktober 2009.

from the healer that more faith and prayer would lead to a cure. The newspaper decided to publish a second article in 2010[2] focusing on both a positive and a negative experience.
Once again there were many responses from readers. It was evident that HP is a subject that is very appealing to many people. However, it attracts a lot of contradictory opinions with a low level of actual fact finding. Scientifically this all raised further questions. As a medical practitioner and a Christian I was curious whether such healings related to prayer occur more often. What was the best way to investigate and document these healings?
Alternatively, I had a reverse question as well. Do people also claim faith or prayer-healings when there is a reasonable medical explanation for their cure? Or is it impossible to draw conclusions about the nature of these healing experiences based only on the study of medical histories and files?

Due to all these questions I decided to contact a professor at the Faculty of Theology (CvdK) at VU university, Amsterdam, because of his relevant expertise. He suggested I should set up a study proposal under his guidance. He also contacted a professor of philosophy, who was also a medical doctor and a specialist psychiatrist (GG), to assist with supervision. Meanwhile, I started to do master's courses at the epidemiology unit of the Amsterdam University Medical Centre, location VUmc (EpidM), in various research methodologies. During a training on qualitative research I considered that this type of research might help me get a better view of the strong experiences surrounding HP. One of the lecturers, a research director at the department of Medical Humanities at the University Medical Centre and a professor of participation and diversity (TA), had the same opinion. She joined the supervisory team and somewhat later she was followed by a senior researcher from the same department (EB). TA and EB supervised the qualitative research of the study.

Developing a research proposal

Between 2010 and 2015 we worked as a team on a research proposal. Going through the literature we concluded that HP was a largely understudied subject despite considerable public interest. It took several years to develop a balanced proposal because I had to continue with my work in general medical practice and conduct research at the same time.
During this period I felt privileged to be able to visit the medical desk of the Lourdes pilgrimage site in the south of France for a few days. Their approach of carefully studying healing reports, with Dr de Franciscis heading the Medical Bureau together with an extensive medical committee, was very important to me[3]. I visited several medical conferences abroad as well and I managed to have contacts with prayer healers, authors and other parties interested in the subject, both in the Netherlands and in Belgium. On a vacation to the United States, I was able to speak with Candy G. Brown. She did a thorough investigation into prayer healing from a Pentecostal perspective and wrote a book *Testing Prayer*[4] with a comprehensive overview of practices and research relating to the topic. This was particularly helpful. Moreover, I read articles and books in the fields of medicine, theology, psychology, philosophy and phenomenology that were related to the subject of my research.

[2] Hakkenes E. Deze genezing is niet te verklaren. *TROUW.* 22 February 2022.

[3] (No authors listed). *Expliquez-moi: les miracles*. Lourdes, France: NDL éditions/sanctuaires Notre Dame de Lourdes. 2011 (p. 73).

[4] Brown CG. *Testing prayer.* Cambridge, Massachusetts (USA): Harvard University Press. 2012 (p. 98).

In our study, we decided to focus on cases of reported healing during or after prayer within the context of the Christian faith. Healing was defined as a significant improvement in signs and symptoms of a disease, resulting in restoration of health as experienced by the participant. When praying, a believer may ask (the supposed) God for healing from a disease. As such this prayer could be considered to be an intervention.
After extensive discussions it was found that the research aim was not to prove or demonstrate that the HP intervention worked, nor did we want to gather evidence on the 'truth' of the stories that patients told us. Our aim was to understand the various explanatory frameworks that medical doctors and participants use to explain the healings that could not be explained solely by fundamental and clinical medical science. Possible epistemological and explanatory frameworks came from the fields of medicine, theology, philosophy and phenomenology. Therefore, an interdisciplinary team was needed for this endeavor. Also, to fulfill this aim we decided that we needed both medical and experiential findings relating to individual cases of HP. The strength of studying individual cases lies in gaining insight by carefully listening to someone's story and by doing meticulous research of available medical data. This is the essence of the work of every medical doctor anyway.

Medical Ethics Review Committee
The Medical Ethics Review Committee of the VU University Medical Centre confirmed on June 4, 2015 that the Medical Research Involving Human Subjects Act (WMO) does not apply to this study. An official approval by the committee is therefore not required (ref 2015.192). On the 22nd of October 2015, the privacy desk of the VU university responded that the study met the careful standards of privacy (ref VU2015-79).
Subsequently the College of Deans at VU university agreed on December 3, 2015 to the proposal (ref CvD/15.1126) [5].

It should be said that we received some remarks after the proposal had been accepted, mostly relating to the controversies of investigating HP. A few emails were received from staff working at the medical faculty, with critical as well as positive reactions. Also, there was a phone call from a medical doctor and a complaint by a patient at the University Medical Centre questioning if HP should be investigated by an institution focusing on regular medical treatment. Our reply was based upon the considerations underlying the set-up and the design of this study and upon the public interest in HP. The discussions that followed were transparent and once more helped us to understand the sensitivities and pitfalls of the subject.

Current situation, relevance

As mentioned above, HP is a largely understudied subject. This is surprising for two reasons. Firstly, the subject generates a lot of public interest. And secondly, people do report remarkable healings while others report adverse psychological effects after not being healed. These two reasons underline the necessity of further research in this field. Both to increase our knowledge of the topic and to become aware of what patients experience and how they themselves as well as medical doctors and others in their surroundings understand and explain the healings. We consider this to be relevant for those using prayers for health concerns, for

[5] Kruijthoff DJ. Research proposal: Healing and prayer, post aut propter. 2015.

churches and for society as a whole. Additionally, this study may be helpful for medical science in the study of remarkable recoveries.

Theoretical and methodological considerations

Prayer is considered a controversial subject in terms of investigating it scientifically. How can you study something that is so personal and private to many people? Additionally, is it possible to devise research models based upon religious or non-religious presuppositions?
Brown writes in 'Testing Prayer'[6]:

> 'The idea of testing the empirical effects of prayer has generated both interest and controversy since the beginnings of modern science. The availability of clinical methods that *could* be applied to prayer for healing has led certain people to conclude that such tests *should* be performed, while causing others to question the appropriateness of mixing biomedical techniques with religious concepts.'

Still, despite the controversy many attempts were made to study the subject by mode of common medical research methods, such as clinical trials. When reviewing trials on intercessory prayer (IP, indicating a specific type of prayer intending to intervene in a disease), De Aguiar et al. conclude[7]:

> 'Recent meta-analyses and multicenter studies found inconclusive results in the investigation of IP. Clinical trials on IP present some methodological difficulties: The intervention is not fully controlled; the primary outcome is not properly defined; and the theoretical models seem inconsistent.'

One may therefore wonder if such trials should still be held.

From a medical epistemological point of view, one might argue in the opposite direction and suggest that medical practice is inherently fallible and leaves ample room for unexpected clinical events.[8] Predictions based on solid scientific evidence may not come true in clinical practice. The course of the illness is to a certain extent unpredictable and sometimes difficult to explain. So, why not consider healings after prayer as occasional rare events that sometimes occur in medical practice, irrespective of the affects, interpretations, rituals and behaviors (like prayer) that are associated with it? Does prayer matter at all? Two points need to be kept in mind with respect to this question.

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[6] Brown CG. *Testing prayer.* Cambridge, Massachusetts (USA): Harvard University Press. 2012 (p. 98).
[7] Aguiar de PRDC, Tatton-Ramos TP, Alminhana LO. Research on Intercessory Prayer: Theoretical and Methodological Considerations. *J Relig Health* 2017; 56:1930-1936.
[8] S. Gorovitz & A. MacIntyre, Toward a Theory of Medical Fallibility, *The Journal of Medicine and Philosophy*, Vol. 1 [1976], 51-71. See also: D.A. Albert, R. Munson & M.D. Resnik, *Reasoning in Medicine. An Introduction to Clinical Inference*, Baltimore and London: The Johns Hopkins University Press, 1988. K. Malterud, The legitimacy of clinical knowledge: towards a medical epistemology embracing the art of medicine, *Theoretical Medicine*, Vol. 16 [1995], 183-198. S. Toulmin, On the nature of the physician's understanding, *The Journal of Medicine and Philosophy*, Vol. 1 [1976], 32-50. For a more recent criticism on statistical approaches to medical evidence, see J.P.A. Ioannidis (2005). Why Most Published Research Findings are False. *PloS Medicine*, Vol. 2 (issue 8), 0696-0701.

The first point is that there are indeed fundamental differences between HP and medical interventions like drugs or surgical procedures. Findings based upon scientific investigations are generalizations which apply not only to the situation in which the experiment is conducted, but to all similar situations. Therefore these experiments should be reproducible when re-tested according to a standardized medical procedure. Can this be true for prayer as well? One of the qualities of prayer seems to be that it cannot be standardized at all and is therefore not reproducible in trials. Examples of prayers and requests to God throughout the Bible are very sensitive to the context in which they take place, not repeatable in a more or less standardized way. Brummer tries to articulate this intrinsic difference between prayer and a (medical) intervention in his book 'What are we doing when we pray?'[9]:

> 'We can conclude then, that an attempt to test the efficacy of prayer experimentally, assumes that prayer is a manipulative technique or a form of magic, that God is not a person but an object of manipulation, and that the relation between God and the one who prays is not a personal relation but an impersonal manipulative one.'

Does this imply that it Is impossible to study healing and prayer anyway? Should we approach them as two different entities, unrelated to each other? We don't think so and this brings us to our second point. The failure to fit healing experiences after prayer in the paradigm of evidence-based medicine, does not imply that there are no meaningful patterns at all to detect in these experiences. We only need to expand our focus by paying attention to the broader psychological, socio-cultural, and spiritual context of the healings.

This can even be done within the current prevailing medical paradigm. Clinical epidemiologist Vandenbroucke, for instance, distinguishes between two views on medical science: one emphasizes discovery and explanation, the other emphasizes the evaluation of interventions. [10]. For the second one, evaluation of intended effects of therapy, the randomized controlled trial stands out as a mode of research, followed at a distance by observational designs. But in the first case, when trying to study events creating surprise and to find explanations, the hierarchy is changing. In those instances it is better to start with observational research such as case reports and case series, findings in literature, case-control studies and retrospective follow-up studies. We assessed that a subject like prayer and healing is more suited to the 'discovery and explanation' view, according to an inductive approach, with broad observational studies as the preferred mode of investigation.

This critical view of research methodology is shared by Glas[11]. He points out that our mode of practicing science has some important limitations. It may lead to simplifications, losing sight of relevant individual details and aspects. He exemplifies this based upon practices in medical science, more specifically psychopathology. In medical scientific research it is common to set aside an aspect, a part or a set of features in order to be able to test a hypothesis or a theory (reduction or abstraction). This is always artificial to some extent as the part or aspect or set of features is 'pulled out' of the whole context, the patient and everything else which is involved. There is a risk of forgetting this artificiality when viewing the part or aspect or set of

[9] Brummer V. *What are we doing when we pray?* Hampshire (UK): Ashgate Publishing Ltd. 1984 (p. 8).
[10] Vandenbroucke JP. Observational Research, Randomised Trials, and Two Views of Medical Science. *PLoS Medicine.* 2008; 5(3): e67 (0339-0343).
[11] Glas G. *Person-Centered Care in Psychiatry. Self-Relational, Contextual and Normative Perspectives.* London and New York, Routledge. 2019 (p. 3-12).

features as separate from its entire context (reification, objectification). A logical error will occur when treating the part or aspect or set of features as if it were the 'whole thing' (mereological fallacy). Methodology in scientific research of disease may therefore very well overlook important aspects of the totality of the patient and the web of relationships in which the patient lives.

This is certainly true for HP when focusing on the disease as a medical entity only, and prayer as a 'medical' intervention. Concomitant experiences, a change in functionality, patient interpretations and the effects on the longer term may all be relevant. Abma advocates for participatory modes of research.[12] It refers to participation of all persons and dimensions involved. This type of research values scientific knowledge, but it gives equal value to practical-professional (clinical) knowledge developed by practitioners in their work and existential-experiential knowledge developed by clients and patients. Through mutual dialogues and a learning process, this may lead to broadening the horizons. It requires a lot of effort and a new way to approach the process of knowledge creation and development. But it is worthwhile as it avoids the problem of hierarchical and general distinctions between different types of knowledge.

In other words: the medical data, the clinical perspectives of the medical practitioners and the existential-experiential perspectives of the patients, including theological, psychological and philosophical perspectives, are all relevant for consideration when trying to understand HP.

Aim and research questions

To summarize, the aim of the research is to explore the occurrence of remarkable and/or scientifically unexplained healings related to prayer as well as searching for alternative and valid frameworks to understand these healings. This will result in two research questions.

1. What do we find when viewing reports of prayer healing against a background of medical and experiential data? Do we find medically remarkable and/or scientifically unexplained healings?
   Definitions will be as follows:
   - Prayer healing: the act of making an appeal to God for healing of a disease.
   - Medically remarkable healing: a healing which is surprising and unexpected in the light of current clinical and medical knowledge and which has a remarkable (temporal) relationship with prayer.
   - Medically unexplained healing: a healing which cannot be explained based on current clinical and medical knowledge.

2. Which possible alternatives and valid frameworks are there to help us understand these healings? And which approach is most appropriate with the input of patients' experiences, medical judgments as well as theological and philosophical concepts?

It should be noted beforehand that the wording of the aim and the research questions may vary somewhat in the articles reflected in chapters 3 - 8. This is because of the context of the

[12] Abma T. Ethics work for good participatory action research, engaging in a commitment to epistemic justice. *Beleidsonderzoek online.* September 2020, DOI: 10.553/BO/221335502020000006001.

publication, and the need to shorten the text in some instances. In terms of content, essence and meaning remain the same as above.

We will use Barbour's typology for the relationship between science and religion as a basis for our considerations[13]. He distinguished four categories in describing this relationship: conflict – independence – dialogue – integration. This study will consider the possibilities of a valuable dialogue.

Methodology

The research questions were investigated along the following three lines.

1. *Exploration of the field.*
   Medical databases (e.g. Pubmed), references in books and essays were used to find research articles and individual case histories concerning HP. Experts and conferences relevant to the subject were visited.

2. *Case-based study and qualitative research*
   A research protocol was developed to facilitate a retrospective case-based study of prayer healing, without intervention by the researcher. Medical data was obtained before and after prayer. An independent medical assessment team was set up, consisting of five medical consultants representing different disciplines in medicine. They carried out standardized evaluations to determine whether a healing could be considered as 'medically remarkable' or 'medically unexplained'. The participants' experiences were studied by means of in-depth interviews in accordance with a qualitative research methodology[14]. A naturalistic approach[15] was followed, trying to gain insight into people's perceptions of the healing experiences and their own explanations of the cures.

3. *Interdisciplinary analysis and discussions*
   Subsequently the medical findings and patients' experiences were weighed and interpreted in the context of a transdisciplinary framework including medical, biopsychosocial and theological perspectives. It was attempted to set up a dialogue by creating a communicative-reflexive space, where different perspectives could be reviewed. The aim was not to prove the effectiveness of prayer or the validity of religion, nor to disprove it. The primary goal was to reflect upon the data and the outcomes. What happens when viewing them from the perspective of different disciplines? Is there an interface between the perspectives of these disciplines at which they can enrich each other or is this impossible?

The conceptual structure and detailed descriptions of the methodology and the protocol were published in a design article *Prayer healing, a case study research protocol*[16]. This article is

[13] Barbour IG. *When science meets religion.* New York: Harper Collins. 2000.
[14] Green J, Thorogood N. *Qualitative Methods for Health Research*. London: Sage Publishers. 2018.
[15] Abma TA, Stake RE. Science of the particular: An advocacy of naturalistic case study in health research. *Qual Health Res.* 2014;24(8):1150-1161.
[16] Kruijthoff DJ, Kooi C van der, Glas G, Abma T. Prayer healing: a case study research protocol *Adv Mind Body Med* 2017;31(3):17-22.

included in the thesis as Chapter 3. The case study research took place between 2015 and 2020. We received 83 reports of prayer healing, 27 of them were evaluated by the medical assessment team. Fourteen in-depth interviews were held. All results are presented in the thesis in Chapters 4-8.

The research team

The research team was composed of the following

PhD student:

- D.J. Kruijthoff MD, general medical practitioner, PhD student in the Faculty of Theology, VU University, Amsterdam; affiliated with the department of Law, Ethics and Medical Humanities, Amsterdam University Medical Centre (location VUmc), the Netherlands.

Supervisors:

- C. van der Kooi PhD, emeritus professor in systematic theology, Faculty of Theology, VU University, Amsterdam, the Netherlands.
- G. Glas MD PhD, professor in Christian philosophy, Faculty of Humanities, VU University, Amsterdam; and emeritus professor of philosophy of neuroscience at the Amsterdam University Medical Centre (location VUmc); psychiatrist and director of residency training, GGzE Eindhoven, the Netherlands.
- T.A. Abma MD PhD, professor of participation and diversity and research director at the Amsterdam University Medical Centre, department of Law, Ethics and Medical Humanities, location VUmc, until 2021. Since 2019 Executive-Director of Leyden Academy on Vitality and Ageing, Leiden, the Netherlands; and professor in participation of elderly, department of Public Health and Primary Care, Leiden University Medical Centre.
- E. Bendien PhD, senior researcher at the department of Law, Ethics and Medical Humanities, Amsterdam University Medical Centre, location VUmc, until 2020. Since 2020 senior researcher at Leyden Academy on Vitality and Ageing, Leiden, the Netherlands.

Members of the medical assessment team:

- C.J.J. Avezaat MD PhD, emeritus professor in neurosurgery, Erasmus Medical Centre, Rotterdam, the Netherlands.
- A.J.L.M. van Balkom MD PhD, professor in evidence-based psychiatry, Amsterdam University Medical Centre, the Netherlands.
- P.C. Huijgens MD PhD, emeritus professor in hematology, Amsterdam University Medical Centre, the Netherlands.
- M.A. Paul MD PhD, thoracic surgeon, Amsterdam University Medical Centre, the Netherlands.
- J.M. Zijlstra-Baalbergen MD PhD, internist and professor in hematology, Amsterdam University Medical Centre, the Netherlands.

Medical student:

- J.M. Vellinga, Medical Faculty, University Medical Centre Utrecht, the Netherlands. As a medical student he joined the research team during 2 internships.

An additional personal remark

This study was not just another research project, it was also a personal quest. A search for truths and untruths about healing and prayer. A search how to relate myself to the Christian faith and to science at the same time. Both of them represent important values; I need their wisdom and knowledge on a daily basis. But at the same time, in my life the relationship between them is changing all the time along the lines that Barbour indicated: conflict, independence, dialogue, integration.

In this project I embarked upon a journey, lasting for more than twelve years. As a general practitioner I realized that I lack understanding which may be found in other domains of knowledge. Therefore this study was a prolonged engagement, during which I immersed myself in literature, medical data, participants' narratives and last but not least interdisciplinary discussions. It required an effort to try and understand my conversational partners. It wasn't always easy as we all speak our own languages. Theologians, medical doctors, philosophers and phenomenologists have a different vocabulary. But eventually, this was paid back. It helped me in my personal quest. The reader may participate too when going through this thesis.

Some passages are written in first person singular, notably in Chapters 1, 2, 9 and 10. Although this is somewhat unusual in a dissertation, it was done on purpose to indicate the personal element at some stages of the research project. It is most evident in the *Exploration of the field* (Chapter 2) when searching for relevant information.

Structure of the chapters in the thesis, and a preview

The division of the chapters is indicated in the *Table of Contents.* An exploration of the field in Chapter 2 helped us in our search for a suitable methodology when trying to investigate HP. The design of this methodology is worked out in chapter 3.
Subsequently the overall results will be presented after these first three introductory chapters. Chapters 4 and 5 give a good overview of the 27 medical evaluations by the assessment team and all 83 HP reports respectively, including basic medical and experiential data in all of them. Eleven healings were evaluated as 'medically remarkable' by the medical assessment team. Many participants, whether evaluated as 'medically remarkable' or not, described transformative experiences with strong physical and emotional manifestations, and a sense of being 'overwhelmed' or 'touched'. Subsequently, we tried to dig deeper into the findings by mode of specific case studies. In Chapter 6 the 'medically remarkable' healing of a woman with advanced Parkinson's disease is elaborated in detail, with a partial relapse of symptoms 8-9 years later. Chapter 7 is about mismatches between objective and subjective data in three cases of hearing impairment. The data had puzzled us: the healings were confirmed by family members, friends and in a validated questionnaire, but not by audiometric investigations. Finally, participants' experiences and explanations are focused upon comprehensively in a qualitative study, based on the 14 in-depth interviews (Chapter 8).

The results stimulated discussions in the research team, a transdisciplinary conceptual structure was helpful as a guide to consider explanatory perspectives from disciplines relevant to the study. In a theological reflection in Chapter 9, it is attempted to find words for the pattern of instantaneous and multidimensional transformative healing experiences we had observed. What can theology say about them and what do they mean for theology? Chapter 10 is the final chapter. Other explanatory perspectives are discussed such as from medicine, psychology, phenomenology et al. A so-called horizontal epistemology, valuing all perspectives, seems to be helpful when trying to comprehend the HP experiences and to find a 'vocabulary' for them. It may bring about a valuable dialogue between science and religion.

A separate remark

A separate text note should be made: for two reasons there are recurring overlapping pieces of text in the different chapters, most notably 3 – 8. Firstly, because these chapters reflect independent articles in different scientific journals, the text in the dissertation is therefore not continuous. Secondly, the same subject of HP is studied in chapters 4 - 8 by using different approaches, such as medical evaluation, individual case study, experiential data, and mismatches between subjective and objective data. As a consequence, the introduction and the methodologies in these chapters are partly the same.

Chapter 2

An exploration of the field

Are there unexplained or remarkable healings upon prayer?
And how can we study them?

A short introduction

Starting in 2009, I searched for data relevant to the onset of our study. During that period many books, articles and testimonies were read and I felt privileged to have been able to visit some very interesting places and to speak to people with expert knowledge in the field of prayer and healing (HP) .
The aim of the exploration was twofold. Firstly, to study available and reliable data concerning medically remarkable or unexplained healings (definitions in *General Introduction*) related to prayer. Secondly, to search for leads that could help us to develop a study design in the Netherlands. What opportunities could be found and what were the dilemmas elsewhere? Together with the epidemiology courses I did, the exploration was helpful in formulating research questions and setting up a suitable methodology.

This chapter has been subdivided into the following sections:

Search criteria and strategy.

Trials and reviews in medical literature, studying the efficacy of HP.
- Randomized Controlled Trials and a Cochrane review on intercessory prayer.
- STEPP study on auditory/visual impairments in Mozambique by Candy G. Brown et al.

Individual HP case reports, confirmed by structured medical assessment or in peer review.
- Lourdes pilgrimage site (France) and the Roman Catholic Church.
- Global Medical Research Institute.
- Searching in Pubmed: any further case reports in peer reviewed journals?

Other HP case reports, documented or presented by medical doctors.
- World Christian Doctors Network.
- Rex Gardner, an English gynecologist.
- A medical controversy on faith healer Kathryn Kuhlman: Nolen and Casdorph.
- Chauncey Crandall, an American cardiologist.

Conclusions.

Directions for our further research.

Search criteria and strategy

When confronted with the question of a search strategy I realized that the subject area is very large. It therefore needs to be stressed that it would be impossible to discuss the full breadth of it in this chapter. Choices had to be made regarding the main focus and the aims of the search, using criteria and a strategy as outlined below.

- Criteria:

A central question was whether I would find medically remarkable or unexplained healings upon prayer when studying reports in literature. Considering this question the first step was to compare healing claims with the medical findings. Was there a remarkable change in medical data before and after prayer? Or could this change alternatively be explained by modes of medical treatment or the natural course of a disease? The importance of medical documentation made me decide to limit my search to the accounts of medical doctors. What have they written about unexplained and remarkable healings? Is there relevant research and can well documented case histories be found? However, medical professionals can have contradicting opinions. When interpreting a healing claim opinions of evangelical Christian doctors may differ from those of atheist doctors.
Therefore it was best to focus on actual facts in the case histories, not on personal opinions or explanations. The reader will therefore find a substantial number of factual case histories in this chapter.

- A strategy:

Medical databases were searched, mostly Pubmed, using terms such as 'prayer', 'faith', 'religion', 'miracle', 'healing', 'cure', 'recovery', et al. Among the results obtained, I studied articles and research complying with the above criteria. These were predominantly the results of trials, reviews and case reports.
Books written by medical doctors containing HP case histories were read, and conferences with case presentations were attended.
Last but not least, experts with knowledge relevant to the subject and a pilgrimage site were visited, providing me with valuable information apart from studying literature.
The indicated sources, which I consulted during a period of several years, contributed to the logic and the order of the above subdivision of the sections in this chapter.

Trials and reviews in the medical literature, studying the efficacy of prayer.

Randomized Controlled Trials (RCT) and a Cochrane review on intercessory prayer

A large number of clinical trials have been conducted in recent years, the majority of them being randomized controlled trials. These investigations have aimed to evaluate the effect of 'intercessory prayer' on various health outcomes, depending upon the subject studied. To give a better idea some of them are mentioned here:

- Southern Medical Journal 1988: 393 CCU (coronary care unit) patients[1].
- Western Journal of Medicine 1998: 40 pairs of patients with advanced AIDS[2].
- Archives of Internal Medicine 1999: 990 CCU patients[3].
- Southern Medical Journal: 40 patients with Rheumatoid Arthritis[4].

[1] Byrd RC. Positive therapeutic effects of intercessory prayer in a coronary care unit population. *Southern Medical Journal* 1988; 81:826-829.
[2] Sicher F, Targ E, Moore D et al. A randomized double blind study of the effect of distant healing in a population with advanced AIDS. *Western Journal of Medicine* 1998; 169:356-363.
[3] Harris WS, Gowda M, Kolb JW et al. A randomized, controlled trial of the effects of remote, intercessory prayer on outcomes in patients admitted to the Coronary Care Unit. *Archives of Internal Medicine* 1999; 159:2273-2278.
[4] Matthews DA, Marlowe SM, MacNutt FS. Effects of intercessory prayer on patients with rheumatoid arthritis. *Southern Medical Journal* 2000; 93(12):1177-1186.

- American Heart Journal 2002. The STEP study: a multicenter controlled trial among 1802 patients recovering from CABG (coronary artery bypass graft)[5].
- Lancet 2005. The MANTRA 2 study: multicenter trial among 748 patients receiving PCI (percutaneous coronary intervention) or elective heart catheterization[6].
- Psychotherapy and Psychosomatics: 409 patients with chronic fatigue syndrome in Germany and Austria[7].

In a systematic review in 2007 of the empirical literature on intercessory prayer Hodge included seventeen studies using RCT designs[8]. He concluded that the results were inconclusive at that juncture in time: 'The findings are unlikely to satisfy either proponents or opponents of intercessory prayer'.

A Cochrane review 'Intercessory prayer for the alleviation of ill health' was published in 2009[9]. Ten studies were included in a systematic review with a combined total of 7,646 patients. The authors' conclusions were more pronounced than Hodge's: 'These findings are equivocal and, although some of the results of individual studies suggest a positive effect of intercessory prayer, the majority do not and the evidence does not support a recommendation either in favor or against the use of intercessory prayer. We are not convinced that further trials of this intervention should be undertaken and would prefer to see any resources available for such a trial used to investigate other questions in health care'.
In other words, the authors of the Cochrane review indicated that it would be better to spend money on other health issues. On top of this there was also much criticism regarding the methodological side[10, 11]. Should the 'universe of faith' be explored utilizing these scientific methods? It appears to be contradictory to the nature of prayer for it to be studied like medication or a surgical procedure. Standardized procedures and drugs are considered to be constant factors throughout a study, can one say the same for prayer?
Sloan and Ramakrishnan argued that 'intercessory prayer (IP) studies fail to adequately measure and control exposure to prayer from others (relatives, friends, church members), which is likely to exceed IP and to vary widely from subject to subject, and whose magnitude is unknown'[12].

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[5] Benson H, Dusek JA, Sherwood JB et al. Study of the Therapeutic Effects of Intercessory Prayer (STEP) in cardiac bypass patients: a multicenter randomized trial of uncertainty and certainty of receiving intercessory prayer. *Am Heart Journal* 2006 Apr; 151(4):934-942.

[6] Krucoff MW, Crater SW, Gallup D et al. Music, imagery, touch, and prayer as adjuncts to interventional cardiac care: the Monitoring and Actualisation of Noetic Trainings (MANTRA) II randomised study. *Lancet* 2005 Jul 16-22; 366(9481):211-217.

[7] Walach H, Bosch H, Lewith G et al. Effectiveness of distant healing for patients with chronic fatigue syndrome: a randomised controlled partially blinded trial (EUHEALS). *Psychotherapy Psychosomatic* 2008; 77(3):158-166.

[8] Hodge, David R. A systematic review of the empirical literature on intercessory prayer. *Research on Social Work Practice.* 2007; 17(2): 174-187.

[9] Roberts L, Ahmed I, Hall S, et al. Intercessory prayer for the alleviation of ill health. *Cochrane Database Syst Rev*. April 2009;2:CD000368.

[10] Halperin EC. Should academic medical centers conduct clinical trials of the efficacy of intercessory prayer? *Academic Medicine* 2001; 76:791-797.

[11] Jørgensen KJ, Hróbjartsson A, Gøtzsche PC. Divine intervention? A Cochrane review on intercessory prayer gone beyond science and reason. *Journal of negative results in biomedicine* 2009; 8:7.

[12] Sloan RP Ramakrishnan R Science, medicine and intercessory prayer. *Perspectives in Biology and Medicine* 2006; 49(4):504-514.

STEPP study on auditory/visual impairments in Mozambique by Candy G. Brown et al.

An exception to the above trials is the Study of the Therapeutic Effect of Proximal Intercessory Prayer (STEPP) on Auditory and Visual Impairments in Rural Mozambique[13]. In this research Candy G. Brown et al. followed a group of charismatic Christians into rural Mozambique. They were considered to have a 'gift' in praying for people with hearing impairment and low vision. There are some reasons why it is sensible to pay extra attention to this study: it was published after the Cochrane investigations and thus not included in that review; the setting was entirely different when investigating visual and auditory impairments in rural Mozambique; and finally, the mode of prayer was by proximal intercessory prayer (PIP) as opposed to distant intercessory prayer in the majority of the other studies. In PIP there is direct contact during prayer. The ones praying are laying their hands on the recipient's head, continuing the prayer for 1-15 minutes or even longer, meanwhile asking the recipients whether they were healed.

A group of 24 Mozambican subjects were prospectively evaluated before and after prayer using standardized hearing assessments (audiometer) and visual acuity tests.
The outcome of the study indicated both auditory and visual improvements that were statistically significant across the population. In the 'auditory' group there were two participants with dramatic improvements and in the 'visual' group four. The two subjects showed hearing thresholds being reduced by over 50dB (decibel) hearing loss and the four subjects changed from nearly or totally blind to a reasonable sight (around 6/24 on average, which is 25% of standard visual acuity).
Although these findings are interesting they have to be interpreted with great caution: field conditions were challenging, there was no control group and there was no long term follow up. However, it remains surprising that some of the participants had such dramatic improvements when being prayed for in this way.

When in the US I managed to speak to Dr Brown at Indiana University. This was a very interesting conversation with someone having considerable knowledge on the subject. She wrote a book 'Testing Prayer'[14], which turned out to be relevant for our research and which is mentioned in this thesis on several occasions. Brown is particularly interested in evaluating health outcomes related to prayer and has studied this in various ways: the above study in Mozambique; interviewing people who were visiting prayer healing meetings; and trying to obtain medical records on healing claims. This last job turned out to be very difficult in a big country like the USA with people being mobile and seeking medical aid at different institutions, often without general practitioners having a central file.

[13] Brown CG Mory SC Williams R et al. Study of the Therapeutic Effects of Proximal Intercessory Prayer (STEPP) on Auditory and Visual Impairments in Rural Mozambique *Southern Medical Journal* 2010; 103:864-869.
[14] Brown CG. *Testing prayer.* Cambridge, Massachusetts (USA): Harvard University Press. 2012.

Individual HP case reports, confirmed by structured medical assessment or in peer review.

Lourdes pilgrimage site (France) and the Roman Catholic church.

Since 1858 cures have been reported at Lourdes when visiting the grotto in which Bernadette Soubirous experienced repeated apparitions of Mary. Cures have taken place on different occasions: when drinking from or bathing in Lourdes water, when praying, during a procession, after anointment. The regional bishop of Tarbes decided to install a commission to further investigate these miraculous cures.

In 1883, a medical bureau was set up (Bureau des Constatations Médicales), led by a medical doctor. Pilgrims could then immediately see the doctor to speak about their healing, who in turn could start further investigations. The present doctor, Alessandro de Franciscis, is an Italian pediatrician, heading the bureau since 2009.
Dr de Franciscis received me at his office in February 2012. He explained that he is the only medical practitioner in the world studying reported faith healings on a full time basis. According to his view there are some underlying important principles:

- The work at the bureau is medical work, not religious. The aim is to evaluate scientifically as sound as possible. In this medical search any doctor can participate, whether a Catholic or not, whether a believer or not.
- Studying a reported cure often takes many years, both in order to see if the cure is lasting as well as having sufficient time for thorough investigations and reflection.

Initially a cure is investigated by Dr de Franciscis at the medical desk. He will start building a file, trying to see the cured patient on a yearly basis. He may discuss the case with medical colleagues. When a cure is lasting and considered to meet with Lambertini criteria[15] the case will be passed on to the CMIL (Comité Médical International de Lourdes). This committee is made up of about 30 medical doctors from different countries, representing different fields of medicine. They may decide that a cure is unexplained. If so, the case is handed over to the bishop, who may conclude that the cure is a miracle.

Facts and figures of Lourdes (epidemiology):

- Thus far 70 cures have been acknowledged as a miracle (since 1858)
  This is less than 1% of all cases being reported at the medical bureau.
- Between 1980 and 2010 only 3 miracles were acknowledged (1989, 1999, 2005)
  Since 2010 3 cures have been certified by the CMIL as medically unexplained: two in November 2011 and one in July 2016 (they were recognized as miracles by the bishop at a later stage).
- No. of reported cures at the medical bureau during the years before my visit in 2012:
  * 2009 38 reports
  * 2010 33 reports
  * 2011 48 reports
  Of the 48 reports in 2011 further follow up was done by the medical bureau in 16 cases, 32 did not appear to be suitable for further investigations after a first review.
- When interpreting these figures one should realize that Lourdes is visited by

[15] No authors listed. *Expliquez-moi: les miracles.* Lourdes, France: NDL éditions/sanctuaires Notre Dame de Lourdes. 2011.

several millions of people every year. It is quite likely that a number of these people experienced a cure without reporting this to the medical bureau. I spoke to a French woman who said that she had been cured in Lourdes from her chronic colitis. This was many years ago, she had stopped her medication and since then she visited the site on a monthly basis. She had seen many cures over the years, but most people kept this to themselves. As far as she was concerned, she had not told her family doctor: *'il peut rire'*, implying he might laugh at her.

During my stay in Lourdes, I had an opportunity to study medical data of cases which were recognized as a miracle as well as cases under investigation. Below are the data of cases that were considered to be scientifically unexplained.
Three of them had detailed descriptions in booklets at the bureau, containing the full medical history, pictures of X-rays and histology slides as well as the arguments underlying the CMIL's decision[16, 17, 18]:

CASE 1: Delizia Cirolli – Costa
Born 17/11/1964 in Italy

At the age of eleven, she suffered from a malignant tumor of the right tibia, diagnosed as a metastasis of a neuroblastoma in June 1976. She refused amputation of the leg and radiotherapy.

With her mother she visited Lourdes in July 1976 and continued to drink water from Lourdes after returning home. In December 1976 her family feared for her life. She was bedridden and had lost a lot of weight. To everyone's surprise she suddenly started improving from December onward until full recovery.

The CMIL investigated the case thoroughly. The histology slides were reviewed in 3 laboratories in France, resulting in lengthy discussions that this may also have been a Ewing's sarcoma

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There was no doubt about the malignant nature of the tumor. The CMIL decided that this cure was medically unexplained as they could find no reports in literature of spontaneous regression of both these types of malignancies at her age .

Date of cure: 24/12/1976
Date of CMIL decision: 26/9/1982
Date of recognition as a miracle by the bishop in her diocese: 28/6/1989

[16] Trifaud A, Colvin BC. *The cure of Delizia Cirolli, Sarcoma of the right knee.* Lourdes: International Medical Committee of Lourdes, Imprimerie de la Grotte. 07/2005.
[17] Mouren, P Bartoli D. *The cure of Serge Perrin, Hemiplegia.* Lourdes: International Medical Committee of Lourdes, imprimerie de la Grotte. 04/2005.
[18] Salmon MM. *The cure of Vittorio Micheli, sarcoma of the pelvis.* International Medical Committee of Lourdes, Imprimerie de la Grotte. 2000.

CASE 2: Serge Perrin
Born 13/02/1929 in France

On the December 2, 1968 Mr. Perrin had a sudden right sided hemiplegia with visual disturbances. He had experienced a similar transient episode 4 years earlier. There was a positive family history for cardiovascular diseases. Arteriograms were inconclusive.

His medical condition deteriorated until a visit to Lourdes in May 1970. After anointing of the sick he fully regained his vision and was able to walk again without walking sticks.

Based on the available data the CMIL judged unanimously that there was sufficient evidence for the vascular origin of the right sided hemiplegia.

Date of cure: 1/5/1970
Date of CMIL decision: October 1976
Date of recognition by the bishop as a miracle: 17/6/1978

CASE 3: Vittorio Micheli
Born in 1940 in Italy

Diagnosed as a fusiform cell sarcoma (pathology) of the left side of the pelvis in April 1962. Symptoms and signs: a large mass in the left buttock, osteolytic lesions of the left pelvis and femoral head (tumor eating away the bone of the pelvis and the hip), progressive loss of all active movements of the left leg and progressive fading away as no specific treatment was given except for a plaster.

He visited Lourdes in May 1963, where he bathed in the water. From 1/6/1963 onward he started improving. He regained full health, the tumor disappeared, leaving only a shortened left leg. X-rays had returned to normal.

Date of cure: 1/6/1963
CMIL decision: 3/5/1971
Date of recognition by his bishop as a miracle: 26/5/1976

Since 2010, three cures were certified as unexplained by the CMIL[19, 20]:

CASE 1: Luigina Traverso

Born 22/02/1938 in Italy

Case of failed back surgery (left hemilaminectomy of a herniated disc L4/L5). Subsequently bedridden with severe pains and sensorimotoric losses of function, resulting in reduced capabilities to feel and to move the lower limbs.

She visited Lourdes in July 1965. During the eucharist celebration all signs and symptoms resolved instantaneously, including the sensorimotoric findings.

Date of cure: July 1965.
Date of decision CMIL: 19/11/2011.
Recognition as miracle 2012.

CASE 2: Danila Castelli

Born 16/01/1946 in Italy
(See footnote 19)

Cure of pheochromocytoma (tumor of adrenal gland with excess adrenal hormones, causing attacks of high blood pressure)

Date of cure: 4/5/1989.
Date of CMIL decision: 19/11/2011. Recognition as miracle 2013.

CASE 3: Bernadette Moriau

Born 23/09/1939 in France

Cure of a Cauda Equina Syndrome with sphincterian disorders and equinus of the left foot (pluriradicular involvement of the lumbar and sacral roots).

She was wheelchair-bound and fully disabled from spinal complications, in the past she had gone through four operations of the back.
Date of cure (instantaneous) 8/7/2008. Date of CMIL decision 18/11/2016.
Recognition as miracle 2018.

[19] No authors listed. Lourdes: two new unexplained cures in the present state of scientific knowledge. *Fons Vitae, Bulletin of the Office of Medical Observations of Lourdes.* 2012; 317:10-12.

[20] Franciscis A de. Sister Bernadette Moriau, from Bresles (France). *Bulletin de l'Association Médicale Internationale de Notre-Dame de Lourdes*. 2018; 341:5-6.

As mentioned before, I was also allowed to study healing cases which were under investigation. Some of them were impressive, such as two cases with metastatic cancer, that had disappeared upon arriving home. It was also obvious that some cases, despite being remarkable, could not be pursued. For instance for reasons of insufficient documentation, other treatments taking place simultaneously or simply because someone decided to withdraw from the investigations as it is rather a long and extensive procedure.
In summary, my visit to Lourdes had been very worthwhile and stimulating. In fact there are many reported faith healings throughout the world, it is surprising that only so few of these reports undergo sound medical investigation as in Lourdes. One could gain a lot of insight if the same would happen in Protestantism or Pentecostalism.

Apart from Lourdes similar procedures take place elsewhere in the Roman Catholic Church. In the Netherlands I spoke to (the late) Prof. van Calster, who was presiding inquiries into possible miracles within his diocese. These inquiries, which are held for reasons of canonizations (registration as a saint) and beatifications[21, 22, 23], are equally sound when comparing them to the investigations made by the Lourdes medical bureau. Medical doctors and relatives, who are confronted with a possible miracle, are being called to witness in front of a church court and their testimonies are meticulously documented. These church courts consist of clergy, medical doctors and notaries. Their final report may count several hundreds of pages full of testimonies and results of medical investigations. As I was able to assist Prof. van Calster with one of the files it gave me a good impression of the thoroughness of such investigations. Once a document is finalized and considered to be a possibly unexplained cure it is sent to Rome for further judgment by the Consulta Medica at the Vatican.

ACUTE MYELOGENOUS LEUKEMIA

Jacalyn Duffin, a Canadian who is both a historian and a hematologist, was involved in judging a hematological case for such a court. In 1987 she was requested by a colleague hematologist to conduct a second opinion and review a set of microscopic slides of a patient with acute myelogenous leukemia (AML), dating back to 1978-1979. On the basis of these slides it was concluded that the patient was in her second remission (recovery of the disease, not knowing whether this would be temporary or permanent) after a relapse of the disease. Afterwards she learned the history of the patient, Lise Normand. At the age of 29, Normand was diagnosed with AML in April 1978 . After chemotherapy she went into a remission for a short period of time. She had a relapse, receiving new treatments and maintenance therapy when reaching a second remission. In that period of time there was intensive praying.
It was expected that Normand would soon have a second relapse. Back in the late 1970s the only cures had been in patients who were maintained in continuous first remission and even then there was a poor prognosis: only 1-5% reached a prolonged first remission. Relapse meant that the disease was incurable. However, to everyone's surprise Lise Normand …

(see next page)

[21] Calster S van. *De zalig- en heiligverklaring.* In: Herders naar zijn hart. Bergambacht, the Netherlands: uitgeverij 2VM. 2012; (p. 499-521).
[22] Lindeijer S.J., M. Wonderen als tekenen van heiligheid. *Theologia Reformata* 2020; 63(4):363-376.
[23] Collins Harvey J. The role of the physician in certifying miracles in the canonization process of the catholic church III. *Southern Medical Journal.* 2007; 100:1255-1258.

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continued to do well. In her fourth year after the relapse she stopped the maintenance therapy, the disease did not recur.
Duffin testified in front of the church court (ecclesiastical tribunal) that such prolonged second remissions were not known to her as a hematologist, nor was it found in medical literature. The case was again sent to Rome (it had been there already before the second opinion of Duffin) and carefully reviewed by the medical commission at the Vatican. In October 1990 it was recognized as a miracle by pope John Paul II. It led to the canonization (as a saint) of Marie-Marguerite d' Youville, the founder of the order of Grey Nuns in Montreal, who was considered to be the intermediary in this miracle.

Duffin, not a Catholic, nor an active believer, was impressed[24]. As a historian and a physician she surveyed 'more than 1,400 miracles pertaining to 229 different canonizations and 145 beatifications between 1588 and 1999'. This is about a third to one half of all miracles catalogued in the Vatican archives. The study is published in 'Medical miracles, doctors, saints and healing in the modern world'[25].
In her book entitled 'Medical Saints' (see footnote 24) she gives a 'simple' definition of a "miracle": 'it is a thing of wonder, a transcendent experience, inexplicable by current human wisdom'.

Global Medical Research Institute (GMRI), USA

The aim of GMRI is to promote an empirically grounded understanding of Christian Spiritual Healing, specifically by investigating case studies. I have been in contact with some of the members of GMRI on several occasions. There is a structured assessment: people who had HP experiences are requested to send reports, after which there is an intake procedure with inclusion and exclusion criteria. A medical verification panel, consisting of appropriately qualified consultants, will assess the medical record to determine whether or not the healing experience falls within the range of expected medical outcomes. A case may be evaluated as 'medically inexplicable' or 'unusual, but maybe not medically inexplicable'.

Recently two case reports were published by Romez et al., the authors are part of the GMRI team[26, 27].

[24] Duffin J. *Medical Saints. Cosmas and Damian in a Postmodern World.* New York: Oxford University Press. 2013.
[25] Duffin J. *Medical miracles. Doctors, saints and healing in the modern world.* New York: Oxford University Press. 2009.
[26] Romez C, Zaritzky D, Brown JW. Case Report of Gastroparesis healing: 16 years of a chronic syndrome resolved after proximal intercessory prayer. *Compl Ther in Medicine.* 2019;43:289-294.
[27] Romez C, Freedman K, Zaritzky D, Brown JW. Case report of instantaneous resolution of juvenile macular degeneration blindness after proximal intercessory prayer. *Explore.* 2021; 17:79-83.

CHRONIC IDIOPATHIC GASTROPARESIS

In 2019, a case report of a male with idiopathic gastroparesis was published: at the age of two he was admitted in hospital with forceful vomiting, medical treatments were not helpful. Subsequently he was diagnosed gastroparesis (a condition with reduced motility of the stomach, slowing or stopping the passage of food) after a gastric emptying study. He required tubes for feeding: one for the stomach (g-tube) and one for the small intestine (jejunum, j-tube). For 16 years he was dependent on tube feeding when an evangelist prayed for him at a church while laying hands upon his shoulders (proximal intercessory prayer). Halfway through the prayer the teenager felt a shock from his right shoulder going down across the abdomen, a pulsating and electrical sensation. The night after he ate a meal for the first time without any complications. Since then he was able to tolerate feedings, the tubes were removed four months later. Over seven years later, when the article was published, he was still without any complaints. The authors indicated that 'this sudden, lasting recovery from severe, refractory and lifelong gastroparesis is unique in the literature'.

JUVENILE MACULAR DEGENERATION BLINDNESS

In 2020 a case report was published by the same authors of a female with juvenile macular degeneration blindness (an inherited form of vision loss due to degeneration of the macula, a part of the retina which is responsible for central vision of the eye): at the age of 18 she lost central vision over the course of three months with visual acuity dropping to less than 5% (20/400) for both eyes, corresponding to legal blindness. She was diagnosed macular degeneration on the basis of fundus examination (yellowish-white areas were seen in the macular regions of both eyes), visual acuity still continued to go down thereafter. After approximately 13 years of blindness she regained her vision instantaneously after receiving proximal intercessory prayer from her husband. One evening prior to sleep he prayed for her eyesight to be restored, with a hand on her shoulder. They were both crying during the prayer, when opening her eyes she saw her husband kneeling in front of her, the first clear visual perception since long. They had never practiced such prayers for healing before. When testing two years later, her uncorrected visual acuity was 20% (20/100). Onward from 29 years after the healing visual acuity was between 50 and 67% (20/30 to 20/40) when corrected by glasses. Ophthalmic evaluation much later, 41 years after the healing, revealed mild macular changes only, contrary to the initial findings. No equivalents of similar healings of juvenile macular degeneration were found in the literature. In this case, testing intervals after prayer seem quite long. Still, it remains extraordinary when combining these data with her personal history and the observations of others nearby (like her husband).

Searching in Pubmed: any further case histories?

During the period when I explored medical literature (2009-2015) I went through the medical database Pubmed trying to find unexplained or remarkable case histories. In doing so I searched under terms as outlined before. Each time there were many articles, some of them reappeared several times when introducing new terms. However, only in a few instances were factual case reports found (the GMRI articles were only published at a later stage, in 2019 and 2021).

Some articles of the search are listed below:

A DENSITY ON THE CHEST X-RAY

In 2007, Sulmasy related the story of a 60 year Franciscan patient named Friar Roy who had pneumonia. As the infection resolved there was a persistent density on the chest X-ray. CT scanning suggested a malignancy and repeat scanning demonstrated its persistence six months after the initial pneumonia. Open biopsy was planned for.
The night before the surgery there was a communal celebration with fellow friars. These brothers were praying with him, he was anointed with oil and received the sacrament of the sick. The following day Friar Roy returned to the hospital. A preoperative routine chest X-ray no longer showed the lesion that had to be investigated with biopsy. Another CT scan confirmed that the lesion, which had been present for six months and was last seen 10 days before, was no longer visible.

SEVERE TRAUMATIC BRAIN INJURY

In 2015, there is a full description by Ratnasingam et al. of a 21-year-old male patient sustaining a severe traumatic brain injury while rollerblading. This had occurred in 2002. Upon arrival in hospital in a bad condition and after imaging he underwent a left frontal craniotomy (opening the skull) with evacuation of epidural and subdural hematomas and resection of approximately one third of the left frontal lobe. Because of rising intra cranial pressure and developing transtentorial herniation (part of the brain being pushed through a gap) there had to be another neurosurgical operation with right frontotemporal craniotomy, subtemporal craniectomy and evacuation of a frontotemporal subdural hematoma that side. On day 7, a ventriculostomy (draining the liquid from the brain chambers when too much pressure in these chambers threatened the surrounding brain tissue) was performed because of intraventricular hemorrhage, persistently elevated intra-cranial pressure and enlargement of the ventricles on a CT scan.
The family was informed that he had only a 20% chance of survival and, if he survived, he would most likely be in a persistent state of unconsciousness. Chances for full recovery were believed to be non-existent. A friend of the family then brought relics of Saint Luigi Guanella to the family and patient. Together with priests and others they prayed for the saint's intercession in this case.
There was indeed a very unexpected improvement, and after 24 days he could leave hospital. He was admitted to a rehabilitation center for another 10 days. After six months he had made it close to baseline! *(see next page)*

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The authors concluded by saying that in this extra ordinary case there was a recovery with treatment, rehabilitation and intercessory prayer to saint Luigi Guanella.
Was the prayer indeed one of the co-factors ? Or was it one of these rare exceptions at the extremes of the medical spectrum?

In 1983, there was an article in the British Medical Journal by gynecologist Rex Gardner[28] with seven remarkable case histories in the second half of the twentieth century. Gardner also wrote a book on HP, which is discussed elsewhere in this chapter.

Other HP case reports, documented or presented by medical doctors.

World Christian Doctors Network (WCDN).

This network was founded in 2004 by a church based in Seoul, South-Korea. The aim is to create a worldwide network of medical doctors who are testifying to the authenticity of healing by prayer and faith through medical evidence.
To achieve their aims annual conferences have been organized at different locations worldwide since 2004.

Every conference has had special speeches and around 10 case presentations, where doctors have presented the medical data in cases of 'divine healing'.
In 2014, I managed to visit the conference in Sofia, Bulgaria. When participating it became very evident that Christianity is no longer a western religion. There were medical colleagues from all over the world. I was particularly interested if I would hear about cases that I would consider to be remarkable or unexplained.

Out of 9 case presentations (the one from the Netherlands was presented by myself) I could think of alternative medical explanations in 6 cases, I doubted in one case. Here are the other two cases[29] :

[28] Gardner R. Miracles of healing in Anglo-Celtic Northumbria as recorded by the Venerable Bede and his contemporaries: a reappraisal in the light of twentieth century experience. *British Medical Journal*. 1983; 287:1927-1933.

[29] No authors listed. *Medicine, science & spirituality. Report on the 11th International Christian Medical Conference in Sofia, Bulgaria, 9th-10th May 2014.* Seoul, South Korea: WCDN headquarters. 2014.

CEREBROVASCULAR ACCIDENT (CVA)

Male, born 1955, Faroe Islands. (Presentation by Dr Jenis av Rana, General Practitioner.)
In November 2010, he suddenly had a severe headache at work, unable to use his left hand and leg properly. In hospital, he was diagnosed a cerebrovascular infarct (CVA) in the right hemisphere with left sided hemiparesis. After 4 months in hospital with intensive training the strength in his left upper and lower limbs was still greatly reduced. The strength in his left hand when carrying a weight was around 25% when comparing to the right hand.
During a church meeting on 20/3/2011 he was prayed for. He felt a warm flow going through his left arm and left leg and at once he regained all his functions on the left side. The healing was verified at the hospital, he was able to carry 58kg with his left hand versus 14 kg prior to his healing. His recovery was complete, he was also able to play music again.

CARDIAC VALVE INSUFFICIENCIES

Female, 57 years. (Presentation by Dr Elio Coradin, a minister and a general practitioner in Florida, USA.) The woman presented with cardiac symptoms. On a transesophageal echocardiogram in August 2013 she was diagnosed severe tricuspid valve insufficiency with anterior leaflet perforation, multi leaflet prolapse (severe problem of this valve with insufficient function due to regurgitation) and subsequent right ventricular systolic dysfunction (reduced function of the right side of the heart). Both the pulmonary artery and the inferior vena cava were dilated (blood vessels going to and from the right side of the heart). On the left side of the heart there was mild to moderate regurgitation of the mitral and aortic valves, probably due to degeneration (the valves on the left side having mild to moderate dysfunction as well).
She was recommended to have cardiac catheterization in order to be evaluated for open heart surgery (valve replacement). Dr Coradin decided to pray with her laying his hand on her chest.
On a subsequent cardiac catheterization in February 2014 all abnormalities had disappeared. The tricuspid valve was entirely normal as were the abnormalities on the left side of the heart. The thoracic surgeon decided that nothing needed to be done. According to Dr Coradin all of the medical staff witnessed that the 'Great Physician' had restored her heart.

The above cases appear to be very difficult to explain medically. The serious abnormalities in the cardiology case could no longer be found according to the medical practitioner, medically this would be astonishing. However, one has to be cautious when drawing conclusions as I have no follow-up data since then (2014).

WCDN conferences stopped after 2018 due to leadership issues.

Rex Gardner, an English gynecologist

Rex Gardner was an English gynecologist (and a church minister) who studied prayer healing cases in the second half of the 20th century. An article describing seven case histories of healings upon prayer was published in 1983 in the British Medical Journal (see footnote 28).
In a book, 'Healing Miracles',[30] which was published in 1986, Gardner went into further detail on the above case histories as well as adding other reports. He documented his cases with both written and oral reports from the medical doctors who treated the healed patients.
Gardner quoted a study of Anglo-Saxon medicine[31] where W. Bonser described faith healing as "that dangerous field, placed between theology and medicine, that no one has dared thoroughly to explore". Indeed catching all dilemmas and challenges on the subject in one sentence! In my opinion Gardner succeeded quite well both in investigating these cases as well as to verbalize the frictions one encounters when thinking about terms as 'miracle' or 'inexplicable'.

Let us turn to some of his case descriptions:

BLADDER CANCER

In 1983, a man in his fifties presented with bladder cancer, a poorly differentiated carcinoma on histology. He was referred to the Royal Liverpool Hospital from another hospital after recurrent bleeding had failed to respond to radiotherapy. He had been transfused with a total of 50 units of blood and still continued to bleed.
It was shown that the cancer had invaded the prostate and encircled the bladder neck. Cystectomy (removal of the bladder) was advised, but he refused and was treated with local surgery (transurethral resection) and a course of methotrexate (a chemotherapeutic drug).
The response was poor and he was re-admitted with gross anemia and prepared for surgery. On that moment he and his wife asked for a conversation. They had become Christians in the fortnight before and they had attended a healing service. He was convinced that the cancer had been cured and requested another cystoscopy (looking at the bladder from the inside) before major surgery. At cystoscopy no more tumor was found, but marked post irradiation changes were still present. The growths seen on the past three occasions had gone. However, because of the severity of the changes due to radiotherapy major surgery was still indicated: he underwent a cysto-prostato-urethrectomy with pelvic mode dissection and the urine being diverted into an ileal conduit (bladder and prostate were removed diverting the urine outlet to the bowel).
On histology (microscopy slides of the resected tissues) no more tumor was found, all earlier investigations had shown invasive carcinoma. He managed well afterwards and he and his wife appeared to do well in their faith and commitment.
It appears that there was unexplained healing of a bladder carcinoma. But the iatrogenic complications due to radiotherapy still had to be dealt with.

[30] Gardner R. *Healing miracles.* London: Darton, Longman and Todd Ltd.1986.
[31] Bonser W. *The Medical Background of Anglo-Saxon England.* London*:* Wellcome historical medical library. 1963.

In the same book 'Healing Miracles', Gardner also related some remarkable healings in missionary situations. In two instances he mentioned cases of resurrection from death upon prayer. In the first case the person had passed away 10-20 minutes, in the other one the girl was already stiff and cold. However, these cases were not confirmed by medical doctors, but witnessed or recorded by English overseas missionaries.

A MIRACULOUS REPLACEMENT OF TEETH?

The most remarkable history is a rather peculiar report from Chile in 1976 that was witnessed and related by four British in a missionary setting: a chaplain, a missionary doctor and his wife, and a nurse. The report was about an evangelistic rally in a little village, where the evangelist said a prayer for healing.
'Put your hand where you need healing' he said. Most of the people began touching their teeth as tooth decay was widespread in the region. The chaplain, who described himself as a Doubting Thomas, was requested to check the mouths of the attendants.
He wrote: "With the assistance of the evangelist's torch I look into their mouths one after another. And I know what I see is a miracle. For these folk never go to the dentist. Dental treatment is entirely beyond their means and the only treatment, could they afford it, is extraction. But these teeth have been filled. And the filling has the form of a cross set in each tooth".
Gardner had restraint when writing about this, he would gladly have omitted the case. However he felt he should still do so for reasons of intellectual integrity, even if the accounts were somehow uncongenial.
Despite his clear recording the chaplain continued to have a huge theological problem afterwards: "A God who gives hungry people teeth rather than food is, to say the least, pretty unattractive". The missionary doctor to some extent had the same feeling. He had no doubt about the veracity, he took a photo of a tooth filled.
Miss Clark, the Anglican mission worker, appeared to have a different view: "a large number of people had tremendous toothache because they just cannot ever go to a dentist, and the dental state of so many of the poorer people is just desperate" and further on "I really do believe that in some of these teeth-fillings touches of God have come to people who are desperately poor and in no way would ever get treatment".
According to the doctor, people in the region became Christians as a result of these events.

However 'bizarre' the story, there seems to be testimony to its authenticity[32].

At the end of his book Gardner summed up conclusions, I want to highlight some of them:
'There are some cures for which medicine has no explanation. (after discounting cases with dubious diagnoses, those where psychosomatic considerations are important, and others where the cure might be attributable to adjuvant medical therapy or where spontaneous remission might be the explanation).
These kind of healings have occurred with varying frequency throughout the history of the Church, and are still being seen.

[32] Pridmore J. Miracles, the Mystery and the Meaning. *Crusade.* 1976.

Our experience today is that only a small percentage of those for whom physical healing is sought from God obtain it.
A belief in the occurrence of cases of miraculous healing today is intellectually acceptable. This being the case it is logical to pray about our health, and that of our patients and friends. But healing is not an automatic response.'

A medical controversy on faith healer Kathryn Kuhlman: Nolen versus Casdorph

Kathryn Kuhlman (1907-1976) was a widely known faith healer in the USA, who had her own television program and organized healing crusades from the 1940s until the 1970s.
These were visited by people in their thousands. She published several books with collections of healing case reports backed by before-and-after medical records.
Additionally she was also open towards medical doctors investigating these cases.
Some of them did, W.A. Nolen and H.R. Casdorph wrote books about it.
However, their findings and conclusions seem to be very much opposing. Why so? Let us turn to their writings and learn about their assessments.

i/ W.A. Nolen
William Nolen was an American surgeon. He decided to do further investigations on the work of Kuhlman to which she did not object. As a result he published a book entitled 'Healing, a doctor in search of a miracle'[33]. Throughout he considered miss Kuhlman to be a sincere, devout, dedicated woman who believed fervently that she was doing the Lord's will.
Nolen wrote medical columns for a magazine. A reader of that magazine was impressed by the work of Kuhlman and joined as a volunteer to organize a rally with her in Minneapolis in 1973. She contacted Nolen suggesting that he should check on patients after the service to see if they really had been healed. She arranged for a meeting with Miss Kuhlman after that service and for some secretaries to take down the names and addresses of those who said they were healed. During the service Nolen would assist as an usher for wheelchair bound persons and assist at the first aid section. Among this group of wheelchair bound patients there were many severe cases: deeply retarded children, adults with deformities and handicaps because of serious diseases (stroke, poliomyelitis), people with metastasized malignancies.
The service was in a huge auditorium in an impressive atmosphere with beautiful singing.
During the healing part of the service many people claimed to have been cured. However, never in the hour and a half that Kuhlman spent praying did he see patients healed with an obvious organic disease (i.e., a disease in which there is a structural alteration).

Meanwhile, the secretaries registered the names of people who claimed to be cured. They wrote down 28 names. The flow of cured patients was so heavy that the secretaries couldn't get to them all. They were invited to a meeting two months later to talk to Nolen about their experiences. Twenty three turned up out of 28.
All of them were interviewed and recorded. In his book Nolen related five of these case histories stating that they were typical of this group. He deemed it not necessary to mention the other histories as 'There were many cases alike in every detail but the name'.

[33] Nolen WA. *Healing: a doctor in search of a miracle.* New York: Random House. 1974.

The diseases of these five cases were multiple sclerosis, migraine, bursitis of the shoulder, acne and varicose veins. The patient with multiple sclerosis was an 18 year-old female who had been diagnosed with the disease 7 months before the service. In the follow- up meeting she was convinced that she was cured: her gait had improved gradually and there was no more headache. However, when she left the office Nolen found her still walking with a wide-based waddle. In his view there was no discernable improvement. He felt that the recovery she had sensed was due to suggestion.

Nolen was quite resolute: "None of the patients who had returned to Minneapolis to reaffirm the cures they had claimed at the miracle service had, in fact, been miraculously cured of anything, by either Kuhlman or the Holy Spirit".

In his next step Nolen wondered if someone with a malignant disease had been cured.
A number of people with cancer had claimed a cure, they were on a list and he had seen some of them when doing his voluntary work as an usher. He followed up on 5 cases: a man with liver cancer had died 12 days after the service; a woman with Hodgkin's disease had no improvement on the X-ray afterwards; a man with kidney cancer and metastases in the bones was deteriorating; a man with prostate carcinoma (diagnosis not 100% clear) felt a lot better, but there was still a thickening in his prostate when the doctor re-examined him.
The fifth was a woman with stomach cancer, her history was as follows.

STOMACH CANCER

A 50 year-old female had stomach cancer and metastases in her liver and vertebrae, wearing a brace for the metastases in her back.
At the miracle service she felt a burning sensation all over her body when Kuhlman had said that 'Someone with cancer is being healed'. The patient was convinced that this was the Holy Spirit at work. She went up on the stage and when asked she took off the brace and started running up and down, bending over and touching her toes.
She was sure she was cured. At home she said a prayer of thanksgiving and went asleep. During the night her back started to become extremely painful. The next morning she had an X-ray at the hospital: there was a partial collapse of a metastatic vertebra, probably due to the bending and running at the prayer healing event.
Nolen visited her at her home two months later. She was emaciated because of the cancer. She told him her story. After the incident she was depressed, but her minister had convinced her to forget about the healing service and just to put her faith in God.
She still prayed a lot, being grateful for all that God had given her during her life and accepting what was to come. Two months later she passed away.

Nolen ended up by saying: "I think that she (Miss Kuhlman) sincerely believes that the thousands of patients who come to her services every year and claim cures are, through her ministrations, being cured of organic disease. I also think – and my investigations confirm this – that she is wrong."
He suggested that the 'supposed healings' may have occurred through mechanisms of hypnotism and the power of suggestion, of which Miss Kuhlman may be unaware.

ii/ H.R. Casdorph

Casdorph was a physician who had specialized in internal medicine and cardiac diseases.
He wrote a book 'The miracles, a medical doctor says yes to miracles!'[34], which was published in 1976. Casdorph related ten detailed case histories of healing upon prayer. He discussed the obtained medical documents with an impartial medical panel to evaluate aspects of the cases within the area of expertise of panel members.
In eight cases the healing was ascribed to a prayer meeting with Kuhlman, in one case it was a communal prayer by the husband and others, finally there was a report of a healing prayer by a visiting reverend.
When going through the ten cases I could think of alternative explanations in four cases.
In two malignancies medical treatment regimens ran more or less simultaneous with the healing prayer. In two other cases there was no 100% certainty about the diagnosis.
Therefore I was left with six cases where I could not think of a medical explanation. However, there was no structured assessment as in Lourdes or by GMRI.

One of the remarkable cases is highlighted below:

MULTIPLE SCLEROSIS

A female, Marion, was diagnosed with multiple sclerosis in 1962 at the age of 45. In the preceding years she had symptoms of numbness and reduced strength in hands and feet. She would pick up things and drop them. The diagnosis was established when she started to have problems with her vision. Gradually her condition worsened: she developed 'shakings' and deformities of the left forearm and the left leg (spasms and deformities due to contractures from spasticity are common with ongoing multiple sclerosis), she lost control of her bowel and bladder and wore diapers, her vision became extremely poor with double vision, there was marked hearing loss in the right ear. Finally she was wheelchair bound. She also had to stop her medication, aspirin and injections (ACTH), because of a stomach ulcer. This was in 1974. That same year in June she visited an old friend, whom she had long not seen, because of an anniversary. The friend, Helen, said that Marion was going to be healed. She started to visit her for prayers. Marion, though being skeptical about the effect, noticed at the first prayer that she felt her toe moving and she heard a beautiful choir in the right ear. The friend, who was active in the Charismatic Movement of the Roman Catholic Church, continued to pray with her and arranged that she would visit a healing service with Kathryn Kuhlman.
Marion did not have high expectations and initially she did not want to go because 'her hand was terribly twisted and her body shaking'. However her husband managed to get her to the service in the wheelchair section. She had a reduced memory of the healing until all of a sudden she found herself on her feet, her hands went out straight, the shaking stopped, she was able to see and hear normal. All of her physical deformities had disappeared instantly and she discovered that she could walk. The severely deformed left upper extremity 'Sprung around into place like a rubber band'.
She also noticed that she felt hot, as if she had a fever. At the moment that Miss Kuhlman indicated she was healed something happened to the husband. He fell to the floor 'under the power of the Spirit'. Later on he described this as something like a very pleasant free-fall. When returning to the hospital there was a lot of surprise. Some thought that a twin sister had come in. Eventually she was considered as being cured both of multiple sclerosis and the stomach ulcer. Since then there was no recurrence of the disease, she started teaching and talking about her faith, frequently giving testimonies to church groups.

[34] Casdorph HR. *The miracles. A medical doctor says yes to miracles!* Plainfield, New Jersey (USA): Logos international. 1976.

Casdorph in his case descriptions did not only give medical details, but he also informed his readers about experiences and events that seemed to occur frequently before or after prayer healings. He mentioned prophetic like predictions, visions, strong physical sensations during a healing (often a hot or burning sensation, either in the whole body or in the part that was healed), a marked change in personality afterwards. Some of it was also described in the above case history of Marion.

Finally, what are we going to make of the strongly opposing views from Nolen and Casdorph? Do they exclude each other, is one of them right and the other wrong? Or could it be that they have studied and reflected upon the same phenomenon from a different perspective? I consider the latter statement to be the most valid. In that case they have both given us valuable information on the same subject, but from different angles.
This means that we can learn a lot from Nolen as well as from Casdorph!

Chauncey Crandall, a cardiologist in the USA

Crandall is a cardiologist in Florida, USA. In 2000, one of his two sons developed leukemia at the age of 11. A four-year battle ensued trying to defeat the disease. Medical treatment was sought as well as healing through prayer. His faith in God revived. However, after four years his son died following a bone marrow transplant that had initially appeared successful.
Crandall was devastated and for a moment doubted about what choice to make in his faith.
He and his family then decided to run to the Lord and not from the Lord, praying that God would 'plant the seed of his dead child in the ground for a million soul harvest'.

In his book "Raising the dead"[35] he described in 2012 this four year battle as well as what happened after the death of his son and his dedication to the Lord. He continued to do his regular work in the West Palm Beach hospital, but he also prayed with patients at moments when he considered this to be important.
He started to see miracles happen, one of them is the story below relating an extraordinary resuscitation.

In his book Crandall relates more healings upon his prayers. There were healing histories of pancreatic carcinoma, lung carcinoma and a leg ulcer for which amputation had already been planned for.

Crandall also wrote that many people he prayed for were not healed, including his son.
But "God calls everyone into the work of restoring the world through Christ's cross and resurrection. He calls everyone to respond to the world's evil with His love, which allows, at times, for miraculous healings as signs that God will ultimately defeat death itself".

[35] Crandall CW. *Raising the dead, a doctor encounters the miraculous.* New York: Faith Words. 2012.

RESUSCITATION OF CARDIAC ARREST

A 53 year-old male, Jeff, entered the emergency room on a Friday with chest pain and shortness of breath. He collapsed in front of the desk. Cardiac arrest is diagnosed, resuscitation is started by a team of doctors and nurses at the emergency room. On the ECG there is ventricular fibrillation for which he was being shocked (defibrillation) multiple times. He was also intubated and connected to a ventilator (to ventilate the lungs), atropine and adrenaline were administered.

Crandall as the senior cardiologist on duty was called to decide on the further procedure. When he arrived nearly forty minutes after the cardiac arrest, the seventh shock was being given. The ECG had flatlined, the patient was cyanotic (dark bluish discoloration, a bad prognostic sign), the pupils of his eyes were fixed and dilated. Resuscitation was discontinued, he was officially declared dead. Crandall remained to write his final assessment. Before leaving the room he sensed that God asked him to turn around and pray for the deceased patient. He felt embarrassed but decided to do so, praying "If he does not know You as his Lord and Savior, raise him from the dead now, in Jesus' name".

He then requested a doctor to give one more shock. This colleague objected, but then did as his superior asked. A regular heartbeat returned of around 75 per minute. Breathing restarted.

The assisting nurse screamed. She was not only terrified, but also angry, as they were not expected to act like this in such circumstances. This was not a miracle to her, but more like the creation of Frankenstein, Crandall found out later. After all, the outcome of his brain function still had to be awaited, as there had been no circulation at all since the moment he was declared dead.

He was admitted to the intensive care unit. Next Monday after the weekend Crandall went to see him. He found Jeff sitting up in bed and talking!

The case was also presented at a WCDN conference in 2007, from this source I learnt that Jeff still had to undergo PCI (placing of stents in the coronary arteries) and CABG (coronary bypass surgery) after his acute myocardial infarct (heart attack).

In due course he made a full recovery, 'maturing in his faith'.

Later Crandall found out some more details: Jeff's ex-wife had been praying for him for 20 years, since their divorce; at the moment Jeff was being treated in the Emergency Room his daughter was on the parking lot of the hospital, desperately praying for her father. Could it have been this that somehow made Crandall feel that he had to pray, contrary to common sense?

Conclusions

Where did I get to after my search and having met experts in the field? What can be said about the occurrence of unexplained and remarkable cures?
After going through studies, books and literature one may conclude that the occurrence of such cures related to prayer may indeed be intellectually acceptable among medical doctors.

Let me summarize the data upon which this is based:

- Best evidence is obtained from the case studies in Rome and Lourdes, where reported healings are meticulously investigated, double checked and reviewed by established medical assessment committees. These committees consist of a group of medical practitioners, representing different disciplines in medicine. They use a set of criteria agreed upon (Lambertini) and there is careful follow-up lasting several years to see if a healing persists.
  Recently, there is a comparable system for assessments by GMRI in the USA.
  - More evidence is from individual medical practitioners who documented cases: Gardner, Casdorph, Crandall, presentations at WCDN conferences. But there is a weakness as there is no set protocol as above.
  - The STEPP study in Mozambique has recorded some dramatic improvements in cases of deafness and blindness/low vision.

However, in the vast majority of cases no medical healing upon prayer seems to occur (*see* Nolen). In others, there may be improvement through suggestion (*see also* Nolen) or it may be simply impossible to discern which mechanism has caused a medically significant improvement or a cure in a particular case (*see* the case of head injury at Pubmed). In Lourdes the percentage of unexplained cures is below 1%. Crandall saw three remarkable healings when praying for hundreds of people in Nigeria.

Additionally, in the course of this search there were some other interesting issues I would like to draw attention to:

- As was concluded in the Cochrane review it appears to be sensible to refrain from clinical trials as a mode of research. Both because of the likelihood of methodological problems as well as the very nature of prayer itself.
- Some phenomena are frequently reported to occur in conjunction with prayer healing: strong physical and emotional sensations during a healing, extrasensory perceptions (visions, prophecies), a marked change in personality after prayer healing.
- Nolen has rightly pointed out the risk of adverse effects related to prayer healing. One of them may be frustration, anger or depression when the healing sought for does not occur. Another one is the risk of fake healing: someone falsely believing that a healing has taken place. Or a false surety that a healing will take place (eventually).
  All of these may have a serious negative impact on emotional well-being as well as on medical treatment.

Directions for our further research

Based upon the literature search and the above conclusions two directions appear to be sensible regarding further investigating reports of prayer healing:

1. A procedure similar to Lourdes and Rome (or GMRI): a group of medical practitioners evaluating reported healings according to set criteria. It seems that a structured medical assessment is the best way to reach an independent, well informed and grounded medical evaluation of individual HP reports. The group of consultants should represent different fields of medicine and preferably they should also have varying ideological backgrounds.
   In terms of investigating the subject scientifically this complies with a case study research approach.

2. Additional research of experiences and backgrounds surrounding HP may be of added value alongside medical evaluations, especially since there are frequent reports of physical and sensory manifestations as well as personality changes. What is the nature of these experiences?, How do they relate to the prayers and healings involved? And how are they interpreted? Qualitative research strategies using in-depth interviews would be appropriate.

Chapter 3

Prayer Healing: a Case Study Research Protocol

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Abstract

Context: Prayer healing is a common practice in many religious communities around the world. Even in the highly secularized Dutch society, cases of prayer healing are occasionally reported in the media, often generating public attention. There is an ongoing debate regarding whether such miraculous cures do actually occur and how to interpret them.
Objective: he aim of the article was to present a research protocol for the investigation of reported cases of remarkable and/or unexplained healing after prayer.
Design: The research team developed a method to perform a retrospective, case-based study of prayer healing. Reported prayer healings can be investigated systematically in accordance with a step-by-step methodology. The focus is on understanding the healing by studying it from multiple perspectives, using both medical judgment and patients' narratives collected by qualitative methods**.**
Setting: The study occurred at Vrije Universiteit (VU) and VU Medical Center (Amsterdam, Netherlands) as well as the general medical practice of the first author.
Participants: Potential participants could be any individuals in the Netherlands or neighboring countries who claim to have been healed through prayer. The reports of healing came from multiple sources, including the research team's medical practices and their direct vicinities, newspaper articles, prayer healers, and medical colleagues.
Outcome Measures: Medical data were obtained before and after prayer. Subsequently, a member of a research team and of a medical assessment committee made a standardized judgment that evaluated whether a cure was clinically remarkable or scientifically unexplained. The participants' experiences and insider perspectives were studied, using in-depth interviews in accordance with a qualitative research methodology, to gain insight into the perceptions and explanations of the cures that were offered by participants and by the members of the medical assessment committee. The medical findings and participants' experiences were weighed and interpreted based on a transdisciplinary framework, including biopsychosocial and theological perspectives, with reference to a conceptual framework derived from Ian Barbour's typology of positions in the science-religion debate.
Conclusion: A case-based, research study protocol that compares medical and experiential findings and that interprets and structures those findings with reference to Ian Barbour's conceptual model is an innovative way of gaining deeper insight into the nature of remarkable and/or unexplained cures.

Keywords

Prayer healing, case study research, medical judgment, participants' experience, theology, philosophy

Introduction

Prayer healing is a common practice in many religious communities around the world. Even in the highly secularized Dutch society, cases of prayer healing are occasionally reported in the media[1,2,3], often generating public attention. The debate is ongoing, however, among Christians and medical practitioners as to whether such miraculous cures do actually occur. At Vrije Universiteit (VU) in Amsterdam, Netherlands, an interdisciplinary research team was formed consisting of a general medical practitioner, theologian, philosopher, methodologist, and group of medical specialists from the university medical center.
Because prayer is closely linked with religious practice, theology has an important role to play in its study. The team formulated 4 research questions: (1) What do we find when we view reports of prayer healing against a background of medical and experiential data?; (2) Do remarkable and/or scientifically unexplained cures actually occur?; (3) Which explanatory frameworks, both biopsychosocial and theological, can help us to understand the findings?; and (4) What are the most viable, contemporary theological models that offer a perspective on the meaning of prayer and God as a healing agent?

To construct a study, researchers must understand key terms, defined as follows: (1) *prayer healing*—the act of making an appeal to God for healing of a disease; (2) *scientifically unexplained cure*—one that cannot be explained based on current clinical and medical knowledge; and (3) *remarkable cure*—one that is surprising and unexpected in the light of current clinical and medical insights and that has a remarkable relationship with prayer.
The first aim of the research team was to design a research protocol addressing the aforementioned research questions. To this extent, the procedures at the Office of Medical Observations pilgrimage site (Lourdes, France) were important as a source of knowledge. This office has a longstanding tradition of investigating individual cases of reported prayer healing[4, 5, 6,7, 8, 9, 10, 11, 12, 13].
In addition, experiential data may highlight these healings from a different perspective (triangulation). The research team then developed a retrospective, case-based study[14],

[1] Hakkenes E. De dokter wil wonderen gaan toetsen. Trouw Web site. https://www.trouw.nl/home/de-dokter-wil-wonderen-gaan-toetsen~ad4347e8. Published October 30, 2009. Accessed September 2, 2017.
[2] Hakkenes E. Deze genezing is niet te verklaren. https://www.trouw.nl/home/-deze-genezing-is-niet-te-verklaren-~a3efb79d. Published February 22, 2010. Accessed September 2, 2017.
[3] Houtekamer C. Het wonderbureau van Lourdes. *NRC Handelsblad.* Published April 14, 2011.
[4] No authors listed. *Expliquez-moi : Les Miracles*. Lourdes, France: Notre Dame de Lourdes; 2011.
[5] Labrousse CL. The cure of my Serge Francois. *Fons Vitae.* 2011;316:92-102.
[6] Mouren P, Bartoli D. *The Cure of Serge Perrin, Hemiplegia*. Lou France: Imprimerie de la Grotte; 2005.
[7] Salmon MM. *The Cure of Vittorio Micheli*, *Sarcoma of the Pelvis*. Lourdes, France: Imprimerie de la Grotte; 2000.
[8] Trifaud A, Colvin C. *The cure of Delizia Cirolli, Sarcoma of the right knee.* Lourdes, France: Imprimerie de la Grotte; 2003.
[9] Collins Harvey J. The role of the physician in certifying miracles in the canonization process of the Catholic Church III. *So Med J.* 2007;100:1255-1258.
[10] Duffin J. *Medical Miracles: Doctors, Saints and Healing in the Modern World.* Oxford, United Kingdom: Oxford University Press; 2009.
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[12] Dowling St J. Lourdes cures and their medical assessment. *J Royal Soc Med.* 1984;77:634-638.
[13] Francois B, Sternberg EM, Fee E. The Lourdes medical cures revisited. *J Hist Med Allied Sci.* 2012;69(1):135-162.
[14] Vandenbroucke JP. Het belang van medische casuistiek te midden van 'evidence-based' geneeskunde en moleculaire verklaringen. Ned Tijdschr Geneeskunde. 2002;146(36):1699-1703.

without intervention by the researcher. The focus was on understanding the healing by studying it from multiple perspectives, using both medical judgment and patients' narratives collected by qualitative methods[15].

In this article, we intend to present the research protocol. It is an emergent design in a rather underdeveloped field of study, despite prayer for healing maybe being as old as humankind itself.

Methods

Participants

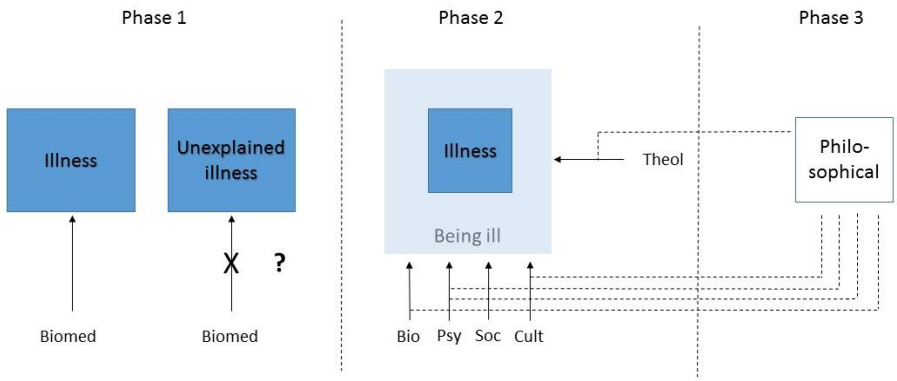
Potential participants were any individuals in the Netherlands or neighboring countries who claim to have been healed through prayer. The reports of healing came from multiple sources, including the research team's medical practices and their direct vicinities, newspaper articles, prayer healers, and medical colleagues.

To be included in a study, (1) the individual reporting the healing must have ascribed the healing to prayer, although the prayers may have differed among individuals; (2) the prayer could have been performed by the individual, his or her loved ones, a religious community, a prayer healer, any other type of person or group praying, or a combination of them; and (3) the duration of prayers could vary, such as being instantaneous during a meeting or stretching for a longer period. The perception of the prayer by the individual was pivotal, not the type or sort of prayer.

The Medical Ethics Review Committee of the VU medical center is registered with the US Office for Human Research Protections (No. IRB00002991). The committee confirmed on June 4, 2015, that the Dutch Medical Research Involving Human Subjects Act does not apply to such a study as described here. Hence, official approval by the committee was not required (reference No. 2015.192). The Privacy Desk of VU reported on October 22, 2015, that such a study complies with the relevant privacy standards (reference No. VU2015-79).
Informed consent should be obtained from participants by means of a letter of information, a questionnaire, and a signed consent form. A participant should be able to leave the research project at any given moment and should have the right to view his or her file, to remove or change parts of it, or to destroy it. Healing reports before 1990 should be excluded for the most part because of the difficulty of obtaining reliable and sufficient medical documents.

[15] Abma TA, Stake RE. Science of the particular: An advocacy of naturalistic case study in health Research. *Qual Health Res.* 2014;24(8):1150-1161.

Figure 1. Transdisciplinary Conceptual Structure



Note: Phase 1, biomedical investigation of unexplained illness. Phase 2, broadening of perspective, from illness to being ill; illness studied from different perspectives: biological, psychological, sociological, cultural, and theological. Phase 3, philosophical analysis of coherence of perspectives through time.
Abbreviations: biomed, biomedical; bio, biological; psy, psychological; soc, sociological; cult, cultural; theol, theological; phil, philosophical.

Procedures

Conceptual Structure. Figure 1 shows the transdisciplinary conceptual structure that the current authors have devised.
Phase 1 represents normal practice, the identification of a disease or illness, and it identifies the occurrence of a remarkable or unexplained cure. Biomedical and experiential data as well as doctors' opinions can cast light on such cures from different perspectives.
Phase 2 is based on 2 explanatory frameworks, one in terms of biological, psychological, social, and cross-cultural processes, and the other in terms of theological interpretations, such as that of God as a healer.
In Phase 3, the relative strength and relevance of these possible explanations is weighed based on the case-based reconstruction of the prayer healing experiences. This reconstruction integrates medical findings, patients' experiences, and experts' opinions. The conceptual framework adopted is based on that developed by Ian Barbour[16, 17], for study of the interactions between science and religion. Barbour has published extensively on the science-religion debate, distinguishing 4 categories in a typology to describe the relationship between them: conflict—independence—dialogue—integration. Explanations, based on our findings will be located against this background.

Investigational Methods. Reported prayer healings should be investigated systematically with the aid of a step-by-step approach derived in part from the procedures used by the

[16] Glas G. Modellen van 'integratie' in de psychologie en psychiatrie (III): De filosofie van wetenschap en praktijk. *Psyche & Geloof.* 2009;20:178-193.
[17] Barbour IG. *When Science Meets Religion.* New York, NY: HarperCollins; 2000.

aforementioned Office of Medical Observations at the Lourdes pilgrimage site (see footnote 4). As indicated, this office has a long history of making thorough medical studies concerning claims of individual miraculous cures. To do so. they are using the Lambertini criteria as a basis for assessment. These criteria refer to the nature of the diseases investigated as well as to their remarkable recovery. They have been used within the Roman Catholic Church since 1736 as a basis for judging the validity of claims of miraculous cures brought about by prayer (see footnote 4).

For our study, we have adopted these guidelines, with some modifications. The criteria we use will be as follows: (1) the disease reported must have been serious; (2) the disease must have been one known under medical classifications, and the diagnosis should be correct; (3) it must be possible to verify the healing with reference to medical data, such as medical history, physical examinations, and laboratory and radiology investigations; (4) the cure must not be able to be explained by medical treatment in the past or present nor by the natural course of the disease, such as spontaneous improvements or temporary remissions; (5) the cure must have been unexpected and instantaneous, and although the recovery might take some time, its onset must have been instantaneous and related to prayer; (6) the cure must have been either complete or partial with substantial improvement and the individual fully or largely returned to his or her original state of health; and (7) the cure must have been permanent.

It is expected that the clinical screenings, including testing in accordance with the aforementioned criteria, should leave at least 10 to 12 cases that are sufficiently substantiated to merit further investigation. These further investigations will consist of collecting qualitative data [18, 19, 20, 21, 22, 23, 24] on patients' experiences and perceptions regarding both the healing and its context. These data can be obtained by means of in-depth interviews and by recording and analyzing the discussions of a medical assessment committee.

Finally, all medical and experiential data were reviewed by this committee, as outlined later. The entire process was limited by saturation (i.e., the investigation terminates when new cases fail to produce new insights due to repetition and overlapping).

Medical Assessment Committee. The committee should consist of 5 medical practitioners. A theologian should chair the meetings, and one member of the research team should take the minutes. A philosopher and a qualitative methodologist should be present to observe and analyze the discussion.

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[18] Bouter LM, van Dongen MCJM, Zielhuis GA. *Epidemiologisch onderzoek, Opzet en Interpretatie*. Houten, Netherlands: Bohn Stafley van Loghum Houten; 2010.

[19] Braun V, Clarke V. Using thematic analysis in psychology. Qual Res P sy chol. 2006;3:77-101.

[20] Lucassen, PLBJ Olde, Hartman TC. *Kwalitatief Onderzoek, Praktische Methoden voor de Medische Praktijk.* . Houten, Netherlands: Bohn Stafley van Loghum Houten; 2007.

[21] Patton MQ. Enhancing the quality and credibility of qualitative analysis*. Health Serv Res.* 1999;34(5, Pt2):1189-1208.

[22] Simons H. Case study research: In-depth understanding in context. In: Leavy P, ed. *The Oxford Handbook of Qualitative Research*. Oxford, United Kingdom: Oxford University Press; 2014:455-470.

[23] Aspers P. Empirical phenomenology: A qualitative research approach (the Cologne seminars). *Indo-Pacific J Phenomenol*. 2009;9(2):1-12.

[24] Referring here to footnote 15: Abma TA, Stake RE. Science of the particular: An advocacy of naturalistic case study in health Research. *Qual Health Res.* 2014;24(8):1150-1161.

The composition of the medical assessment committee should reflect a wide range of medical specialties—internal medicine, surgery, neurology, and psychiatry—and a variety of ideological backgrounds—both agnostic and religious—to minimize bias formation.
Committee members should receive a copy of the full medical file on the case and a report of the in-depth interview or interviews. Each member should have sufficient time to examine the data and develop an opinion concerning the case, independently of the other members, before the committee meets to discuss the case.
During the meeting, each member should give her or his opinion on the case, followed by a joint discussion. The committee can suggest that certain parts need to be elaborated or that further expert opinions need to be obtained. Members should also be able to meet the participant if they wish to do so. If the committee has all the information it needs, it should try to reach a joint decision. In case of differences of opinion or insufficient data, the decision may be postponed until the next meeting to allow further information to be obtained by a literature search, a second opinion, or the like.
The committee may ultimately reach a consensus, based on medical considerations, that the case under discussion can be or cannot be regarded as a remarkable and/or scientifically unexplained cure. A final report should include this conclusion, together with the underlying arguments. It should not elaborate on the viewpoints of individual members.
The discussion in the medical assessment committee should be audio-recorded and transcribed. The transcript should be analyzed with the aid of qualitative research methods to highlight both the medical and nonmedical arguments and explanations given by committee members.

Handling of Data. All data should be stored at the family medicine practice of a member of the research team (first author), in accordance with the privacy guidelines laid down for such family medicine practices in the Netherlands (i.e., a closed cupboard and a secured digital environment). The participants' files should be coded and stored according to a code. Coding is sequential.
Members of the research team should exchange medical documents directly when meeting in person or by post, by fax, or in a secured digital environment. Medical documents should not be exchanged by e-mail, for reasons of privacy. Documents should be anonymized as far as possible. All team members are bound by professional confidentiality requirements. They should safeguard all the study's documents in line with their professional standards and sign a confidentiality agreement. All confidentiality agreements should be registered by the VU Privacy Desk or a similar organization, which should keep copies of all agreements. The study's data should be stored for 15 years.

Outcome Measures

Data Collection. Information on alleged cases of prayer healing should be collected and processed, as follows. First, as a result of a search for prospective participants, 1 member of a research team receives an individual report about a healing experience occurring after 1990 that is related to prayer. The participant (i.e., the individual reporting healing by prayer) then should receive a letter describing the aims and procedures of the study and should be asked to submit a description of the healing. This description should preferably be the participant's own story, with details of the medical condition involved, the intervening prayer, and the individual's experience of the healing process.

The participant should also fill out a questionnaire with details of his or her past and present medical history, medications, religious background, and choices relating to privacy. On receipt of the initial report and the completed questionnaire, the case should be given an identification code.
The research team should then contact the participant in person or by phone to allow further information to be collected about the medical aspects of the healing as well as the prayer involved. The researcher should present the data collected so far to a member of the medical assessment committee, selected with reference to the nature of the case involved. The researcher and this committee member should decide jointly based on clinical insights and the Lambertini criteria whether the case merits further investigation.
If they decide not to continue with the case, the participant should receive a message of thanks that terminates his or her involvement with the study. If he or she decides to continue, the researcher should try to obtain additional medical information, both from the participant's family physician and from the medical specialists involved. This effort requires the participant's signed authorization. If relevant, the researcher should interview the participant, together with his or her family physician, at the latter's practice. A similar interview with any medical specialist involved may also occur, as appropriate. These interviews can lead to additional relevant information on the case apart from the medical documents obtained.
Next, the researcher could also approach others, such as specialist consultants with specific competence, for supplementary information or appraisal of the case. Medical data before and after prayer should then be compared and the question asked, "Did a documented change occur?" This information should again be discussed with the same committee member.
If the researcher and the committee member jointly decide that the case in question can be regarded as a remarkable or a scientifically unexplained cure, 1 or more in-depth interviews with the participant should be held before the case is presented to the medical assessment committee. The interviews are intended to elicit information about the prayer involved, the participant's physical and emotional experiences during the healing, and his or her religious perceptions as well as the overall context of the process.
The interviews should be conducted by an experienced interviewer, preferably at the participant's home, as an aid to understanding the context. They should be semi-structured, with reference to a predetermined topic list. Each interview should last approximately 1 to 2 hours, and should be recorded. On occasion, a second or third interview may be needed. Finally, a member check will take place, in which the participant is invited to comment on the analysis of the case (see footnote 20).

Interpretation of Data. The strength of studying individual cases from multiple perspectives is that the procedure allows the researchers to gain insight by carefully listening to a person's story and by meticulous research of available medical data. The history of medicine is full of examples of this approach (see footnote 14).
The research team should interpret the recurrent expression *before and after prayer* in a broad sense, as the prayers may cover a span of time. In the case of a longer praying process, the obtained medical data should include that from before, during, and after the process.
The medical findings before and after prayer should be reviewed based on clinical judgments, with reference to the Lambertini criteria, followed by a discussion and formulation of a final opinion by the medical assessment committee. In addition, the researcher should briefly review the cases that were not submitted to the committee, stating how many were omitted and why.

Transcripts of the recorded interviews and the discussions of the medical assessment committee should be analyzed by 2 persons according to the principles of thematic analysis.[19,20] This process is an iterative one, in which data analysis and collection alternate~~s~~ because the analysis might direct the researcher toward new issues to be investigated.[19,20] These issues should then be included as topics in upcoming interviews.
First, each transcript should be read carefully. Next, the transcript should be coded by assigning labels to significant text fragments. All labels should be compared, sometimes redefined, and grouped according to themes and subthemes. Finally, the perspectives of patients and the medical assessment committee should be compared to gain a deeper understanding of each case.
In the end, when all results from medical judgments and qualitative research are available, we will interpret the findings from a broadly psychosocial and a theological perspective. Subsequently, these interpretations and possible explanations will be positioned against the background of Ian Barbour's typology (see footnote 17). This is a dynamic process in which theological and philosophical models will be involved.[25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40.]

Quality Procedures. The validity of the committee's medical judgments should be evaluated by analyzing the decision-making process to determine how often they reached consensus and why they failed to reach consensus in the other cases.
Triangulation should be used to ensure internal validity and reliability. Data should be obtained both from patients and medical experts and collected in various ways (e.g., as medical documents, through interviews, and through group discussions), thus studying the subject from multiple perspectives. A member check (i.e., a review by the interviewee) may also help to guarantee the internal validity of the interviews.
The reliability of the qualitative research should be further enhanced by critical reflection on patterns of thought, blind spots, and their potential influence on the study. Data analysis

[25] Glas G. Christian philosophical anthropology, a reformation perspective. *Philosophia Reformata.* 2010;75:141-189.
[26] Glas G. Scepsis en geloof in wonderen. *Beweging.* 1997;61(1):17-23.
[27] Pawlikowski J. The history of thinking about miracles in the West. *So Med J.* 2007;100(12):1229-1235.
[28] Sulmasy DP. What is a miracle? *So Med J.* 2007;100:1223-1228.
[29] Augustinus A. Of miracles which were wrought that the world might believe in Christ, and which have not ceased since the world believed. *The City of God*. Book XXII, chapter 8.
[30] Bakker B. *Gebed als Medicijn?* Gorinchem, Netherlands: Ekklesia; 2004.
[31] Brown CG. *Testing Prayer.* Cambridge, MA: Harvard University Press; 2012.
[32] Brummer V. *What Are We Doing When We Pray?* Hampshire, United Kingdom: Ashgate Publishing Ltd; 1984.
[33] Paul MJ. *Vergeving en Genezing: Ziekenzalving in de Christelijke Gemeente*. Zoetermeer, Netherlands: Boekencentrum; 1997.
[34] Kooi C van der. *Tegenwoordigheid van Geest.* Utrecht, Netherlands; Kok-Kampen; 2006.
[35] Ouweneel WJ. Theologische vragen rond ziekte en genezing. *Bull voor Charismatische Theol.* 2007;59:2-13.
[36] Ouweneel WJ. Geneest de zieken. Over de bijbelse leer van ziekte, genezing en bevrijding. Vaassen, the Netherlands: Miedema. 2003, 430 pp.
[37] Parmentier MFG. Genezingswonderen. *Bull voor Charismatische Theol.* 1994;33:48-63.
[38] Parmentier MFG. Genezing, in wiens naam? *Bull voor Charismatische Theol.* 1995;36:25-36.
[39] Pouwels K, Slijkerman K. *Met Mensen Bidden om Genezing.* Helmond, Netherlands: Bouwen aan de Nieuwe Aarde Stichting. Helmond; 1998.
[40] Van Saane J. *Gebedsgenezing, Boerenbedrog of Serieus Alternatief?* Kampen, Netherlands: Navigator Boeken; 2008.

should be carried out by the first interpreter, and repeated by a second. They should regularly discuss their codes until they reach consensus.
To guarantee external validity, the researcher should attempt to give a clear description of the context of the study. This description can enable readers to assess for themselves to what extent the results can be generalized to other settings.

Discussion

It is common in modern medical practice to consider randomized controlled trials (RCTs) as having the highest evidentiary level.[41] Several RCTs on intercessory prayer can be found in the medical literature; these indicate that prayer had little or no demonstrable effect on the outcome of various diseases[42, 43, 44, 45, 46, 47,48]. A Cochrane review[49] included 10 studies involving a total of 7647 patients. The authors of the review concluded: "Although some of the results of individual studies suggest a positive effect for intercessory prayer, the majority do not, and the evidence does not support a recommendation either in favor of or against the use of intercessory prayer. We are not convinced that further trials of this intervention should be undertaken."
However, arguments exist suggesting that the traditional RCT and meta-analyses based on RCTs are not in all respects sufficient for the study of the role of prayer in healing processes[50, 51, 52, 53, 54]. Prayer healing usually focuses on all kinds of diseases at different stages of the disease process. How can the effects be reliably measured in such a heterogeneous group? Moreover, can prayer be conceptualized as a curative intervention and put on equal footing

[41] VanderWeele, TJ Shanshan, Li Alexander C, et al. Association between religious service attendance and lower suicide rates among US women. *JAMA Psychiatry.* 2016;73(8):845-851.
[42] Astin JA, Harkness E, Ernst E. The efficacy of 'distant healing': A systematic review of randomized trials. *Ann Internal Med.* 2000;132:903-910.
[43] Astin JA, Stone J, Abrams DI, et al. The efficacy of distant healing for human immunodeficiency virus: Results of a randomized controlled trial. *Alternat Ther Health Med.* 2006;12(6):36-41.
[44] Byrd RC. Positive therapeutic effects of intercessory prayer in a coronary care unit population. *So Med J.* 1988;81:826-829.
[45] Harris WS, Gowda M, Kolb JW, et al. A randomized, controlled trial of the effects of remote, intercessory prayer on outcomes in patients admitted to the Coronary Care unit. *Arch Internal Med.* 1999;159:2273-2278.
[46] Mathai J, Bourne A. Pilot study investigating the effect of intercessory prayer in the treatment of child psychiatric disorders. *Australas Psychiatry.* 2004;12(4):386-389.
[47] Matthews DA, Marlowe SM, MacNutt FS. Effects of intercessory prayer on patients with rheumatoid arthritis. *So Med J.* 2000;93(12):1177-1186.
[48] Sicher F, Targ E, Moore D, et al. A randomized double-blind study of the effect of distant healing in a population with advanced AIDS. *West J Med.* 1998;169:356-363.
[49] Roberts L, Ahmed I, Hall S, et al. Intercessory prayer for the alleviation of ill health. *Cochrane Database Syst Rev*. April 2009;2:CD000368.
[50] Schwartz SA, Dossey L. Nonlocality, intention, and observer effects in healing studies: Laying a foundation for the future. *Explore.* 2010;6(5):295-307.
[51] Turner DD. Just another drug? A philosophical assessment of randomized controlled studies on intercessory prayer. *J Med Eth.* 2006;32:487-490.
[52] Halperin EC. Should academic medical centers conduct clinical trials of the efficacy of intercessory prayer? *Acad Med.* 2001;76:791-797.
[53] Jørgensen KJ, Hróbjartsson A, Gøtzsche PC. Divine intervention? A Cochrane review on intercessory prayer gone beyond science and reason. *J Neg Result Biomed.* 2009;8:7.
[54] Sloan RP, Ramakrishnan R. Science, medicine and intercessory prayer. *Perspect Biol Med.* 2006;49(4):504-514.

with pharmacological or surgical treatment? That process may very well be contradictory to the nature of prayer.[31]

Another obvious methodological weakness of RCT research on prayer healing is the risk of confounding: How can researchers be sure that no one prays in some unaccountable way for the healing of patients in the control group, who are not supposed to have been exposed to intercessory prayer?

It may be more sensible to turn toward other modes of research when studying health outcomes with reference to prayer and religious practices. Recently, VanderWeele et al.[40] and Shanshan et al.[55] did so. The epidemiologist Vandenbroucke[56, 57, 58] argues that observational studies based on inductive thinking processes may be the appropriate way of exploring new fields of research. This concept also applies to prayer healing.

Hence, it makes more sense to study prayer healing at the individual level. Significant insights can then be gained by meticulous study of the medical findings before and after prayer combined with analysis of qualitative data concerning individual experiences and the medical assessment committee's considerations. Thus, such studies could contribute to understanding of "this novel and expanding area of whole-person medicine."[59]

Conclusion

A case-based, research study protocol that compares medical and experiential findings and that interprets and structures those findings with reference to Ian Barbour's conceptual model is an innovative way of gaining deeper insight into the nature of remarkable and/or unexplained cures.

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Author disclosure statement

The authors have no conflicts of interest related to the study.

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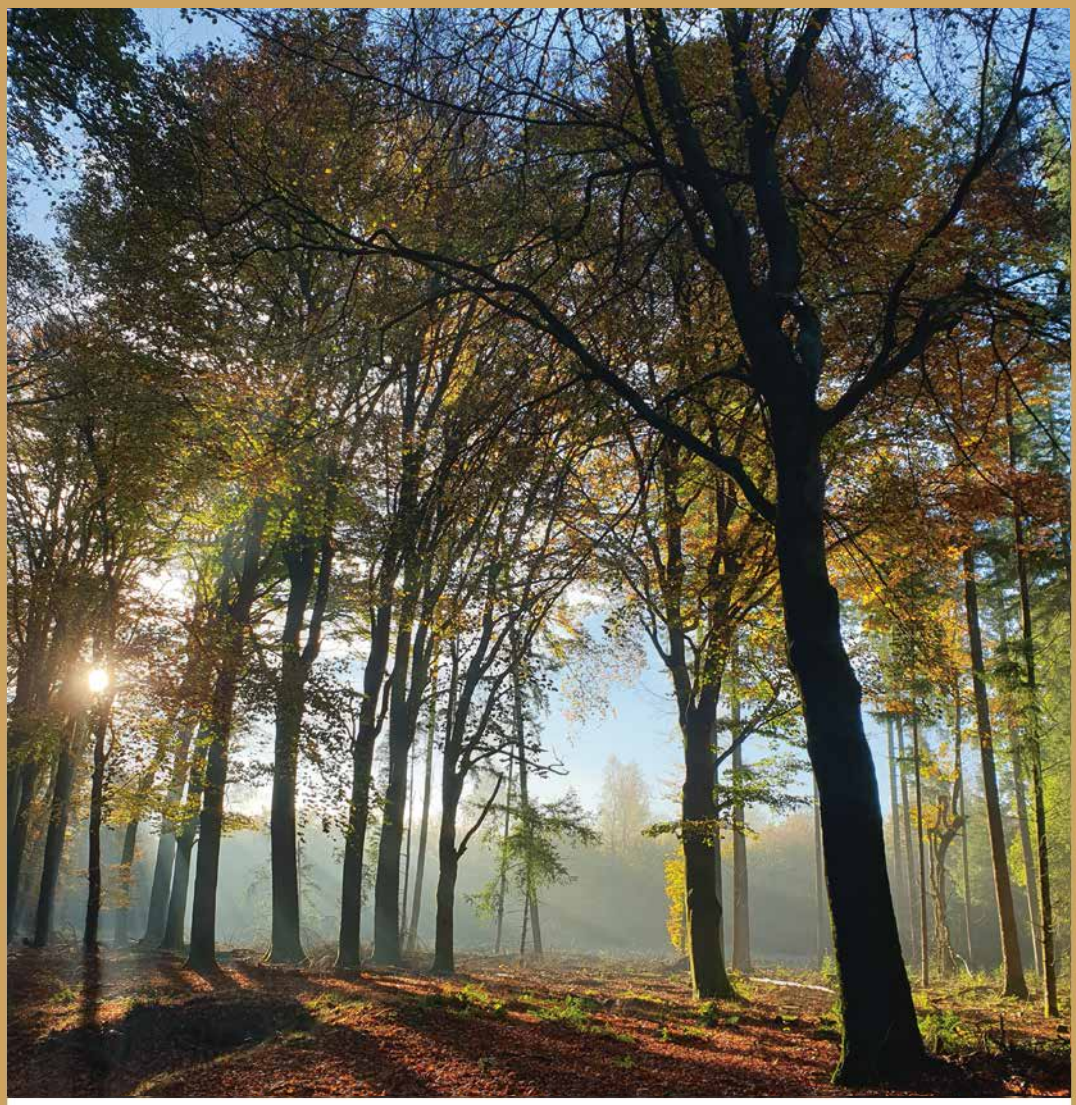
[55] Shanshan L, Okereke OI, Chang SC, et al. Religious service attendance and lower depression among women. *Ann Behav Med.* 2016;50:876-884.

[56] Vandenbroucke JP. Niveaus van bewijskracht schieten tekort. *Ned Tijdschr Geneeskunde.* 2006;150(45):2485.

[57] Vandenbroucke JP. Observational research, randomized trials, and two views of medical science. *PLOS Med.* 2008;5(3):e67(0339-0343).

[58] Vandenbroucke JP. Een recept voor klinisch-wetenschappelijk leeronderzoek. *Ned Tijdschr Geneeskunde*. 1989;133(1):34-38.

[59] Koenig HG. Religion, spirituality, and health: A review and update. *Adv Mind-Body Med.* 2015;29(3):19-26.



PART B: OVERALL RESULTS

Chapter 4

Can you be cured if the doctor disagrees?

A case study of 27 healing reports evaluated by a medical assessment team in the Netherlands

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Abstract:
The setting: between 2015 and 2020, a medical assessment team evaluated 27 reports of prayer healing in the Netherlands.
Objectives: Three research questions were formulated. What are the medical and experiential findings? Are there medically remarkable and/or unexplained healings? Which explanatory frameworks can help us understand the findings?
Methods: The reported healings were analyzed using both medical files and patient narratives, as part of a case study research design compiled by a multidisciplinary research team. An independent team of five medical consultants, representing different fields of expertise, evaluated the 27 case files. According to criteria these were selected from a larger group of 83 received reports. Experiential data was obtained by in-depth interviews and analyzed. Instances of healing could be classified as 'medically remarkable' or 'medically unexplained'. Subsequent analysis was transdisciplinary.
Results: Eleven of the 27 healings assessed were evaluated as 'medically remarkable', none were labelled as 'medically unexplained'.
Recurring characteristics were common to some degree in all healings, whether 'medically remarkable' or not: a temporal connection with prayer, instantaneity and unexpectedness of healing, strong emotional and physical manifestations, and a sense of 'being overwhelmed' and transformed. The healings were invariably interpreted as acts of God. Positive effects have persisted for 5 to 33 years, with 2 relapses.
Conclusions: Our findings on remarkable healings do not fit well in the traditional biomedical conceptual framework. All healings exhibited important non-medical aspects, whether or not they were assessed as medically remarkable. We need a broader multi-perspective approach in which all relevant data is considered to be valuable, both experiential and objective. This so-called horizontal epistemology may be helpful when trying to understand the findings, and it may bring about mutual understanding between patients, health practitioners and relevant disciplines.

Keywords:
Prayer Healing Case study research design Medical evaluations Transdisciplinary analysis

Introduction:

MARGARET

A female, Margaret had been suffering from a gradually progressive form of Multiple Sclerosis for 7 years. She was largely wheelchair bound as she could only walk 15-50 meters using crutches (EDSS score 6,5). She had difficulties balancing, had chronic fatigue and cognitive symptoms. Someone in her congregation had been healed after prayer. Margaret also started to pray for healing and was planning to visit a prayer healing service. However, before she went and without any prior indication, she woke from a short sleep and noticed that all her symptoms had gone. She discovered that she was able to walk and cycle without hindrance! And her symptoms did not return. She went to her next appointment with the specialist neurologist by motorbike. She entered the consultation room in her motorcycle suit, helmet under her arm, instead of being in a wheelchair. According to Margaret the MS was completely gone. Another MRI scan was made, which showed the lesions to be unchanged. Her doctor said that he would therefore maintain the diagnosis of Multiple Sclerosis.
Who was right: Margaret or the doctor?

Throughout history up to this very day[1] people pray for health. Multiple reports contain details of healings from various conditions. However, most of these reports[2] are non-academic, thereby creating skepticism among scientists, medical professionals and people at large.
More recently, the relationship between prayer and healing has been investigated by conducting randomized controlled trials. A Cochrane review including 10 randomized trials with a total of 7,646 patients showed inconclusive results for the effects of intercessory prayer[3]. However, such studies have considerable methodical and conceptual difficulties[4]. Background conditions are difficult to establish. Friends, family, and members of religious congregations may be praying outside the context of the study. Many find it impossible to investigate prayer as if it were a drug or a surgical procedure[5]. So, finding reproducible evidence for a relationship between prayer and healing is an ongoing journey.

[1]McCaffrey AM, Eisenberg DM, Legedza ATR et al. Prayer for Health Concerns. Results of a National Survey on Prevalence and Patterns of Use. *Arch Int Med.* 2004; 164:858-862.
[2] Bonnke R. Living a Life of Fire: an Autobiography. 2009; Orlando, US: E-R production.
[3] Roberts L, Ahmed I, Hall S, et al. Intercessory prayer for the alleviation of ill health. *Cochrane Database Syst Rev*. 2009; 2:CD000368.
[4] Sloan RP, Ramakrishnan R. Science, Medicine, and Intercessory Prayer. *Perspect Biol Med.* 2006; 49(4):504-514.
[5] Turner DD. Just another drug? A philosophical assessment of randomized controlled studies on intercessory prayer. *J Med Eth.* 2006;32:487-490.

In the Netherlands a case study research was designed[6] to explore the following research questions: *What are the medical and experiential findings when viewing reports of prayer healing? Are there medically remarkable and/or unexplained healings? Which explanatory frameworks can help us understand the findings?*

This article is about the evaluations of a medical assessment team investigating 27 individual cases, taken from a larger group of 83 individual prayer healing (HP) reports. Findings from medical files and experiential data were used. In selected cases in-depth interviews were conducted, attempting to understand the subjects and their experiences[7]. This may provide a different and richer perspective. In literature we were unable to find reports using this combined approach, although there is some overlap with studies conducted by Brown[8], Duffin[9] and Francois et al[10].

Methods:

At the Vrije Universiteit, Amsterdam, and Amsterdam University Medical Center, location VUmc, a protocol was developed to facilitate a retrospective, case study research of prayer healing (HP) reports (see footnote 6). The study took place between 2015 and 2020.

Recruitment, initial assessment and selection:

Any individual in the Netherlands or neighboring countries who claimed to have been healed through prayer could be included. The perception of prayer was pivotal, not the type or sort of prayer. The reports of healing came from multiple sources: articles in newspapers, other media, the research team's medical practices and their vicinities, prayer healers, medical colleagues.

Reports of HP were investigated systematically using a step-by-step method. Initially they were reviewed by the first author (DK). Upon consent medical data from before and after the prayer(s) was collected. A case was selected for evaluation by a medical assessment team when complying with the following criteria:

- Likelihood of medical remarkability when compared to the Lambertini criteria (outlined below): it should be a well diagnosed serious disease with changes in before and after medical data.
- Completeness of medical data.

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[6] Kruijthoff DJ, Kooi C van der, Glas G, Abma TA. Prayer healing: a case study research protocol *Adv Mind Body Med* 2017;31(3):17-22.
[7] Abma TA, Stake RE. Science of the particular: An advocacy of naturalistic case study in health research. *Qual Health Res.* 2014; 24(8):1150-1161.
[8] Brown CG. *Testing prayer*. Cambridge, Massachusets (US): Harvard University Press; 2012.
[9] Duffin J. *Medical Miracles. Doctors, Saints and Healing in the Modern World*. New York: Oxford University press; 2009.
[10] Francois B, Sternberg EM, Fee E. The Lourdes cures revisited. *Journal of the History of Medicine and Allied Sciences* 2014; 69(1):135-162.

- Duration of healing to assess if a recovery is ongoing. In serious chronic diseases or malignancies preferably at least five years.
- Healings before 1990 were excluded because of difficulties in finding medical data (there was one exception in our study).

The first author would consult one of the assessment team members when in doubt as to whether to select a case or not.

Medical Assessment:

The independent medical assessment team consisted of five consultants (internal medicine, haemato-oncology, surgery, psychiatry, neurosurgery). Other experts were consulted when deemed necessary. The assessment team used a standardized evaluation to determine whether a cure was 'medically unexplained' or 'medically remarkable'. 'Medically unexplained' indicates that no scientific explanation could be found at the time of assessment. The classification 'medically remarkable' refers to a healing that is surprising and unexpected in the light of current clinical and medical knowledge and that has a remarkable (temporal) relationship with prayer. Our classification was supported by consulting the 'Lambertini criteria'[11]. These are used by medical committees at the Lourdes pilgrimage site (France) - and elsewhere within the Roman Catholic church - to determine if a cure is scientifically unexplained[12]. With slight modifications these criteria are as follows:

- The disease has to be serious.
- The disease is known under medical classifications, and the diagnosis should be correct.
- It must be possible to verify the healing with reference to medical data, such as medical history, physical examination, further investigations.
- The cure cannot be explained by medical treatment in the past or present, nor by the natural course of the disease, such as spontaneous improvements or temporary remissions.
- The cure is unexpected and instantaneous. Although the recovery may take some time, its onset should be instantaneous and related to prayer.
- The cure is either complete or partial with substantial improvement. The individual is fully or largely returned to his or her original state of health.
- The cure is permanent.

[11] No authors listed. Expliquez-moi: Les Mirac les. Lourdes: Notre Dam e de Lourdes; 2011.

[12] Duffin J. The doctor was surprised; or, how to diagnose a miracle. *Bull Hist Med.* 2007; 81:699-729.

In-depth interviews:
When the assessment team considered a healing case to be 'medically remarkable' or 'unexplained' an in-depth interview was conducted by a senior researcher (EB). The objective was to gain insight into the individual's background history, perceptions of the HP experience(s) and health outcomes as well as outcomes in other spheres of life. It also allowed for comparison between medical and experiential data, especially at the moment of prayer. The approach followed a qualitative research methodology[13]. A topic list was used. The interviews were recorded and written out verbatim. Subsequently a report was made, which was verified with the participants by means of a member check. A phenomenological interpretative analysis[14] was completed by the senior researcher, and discussed in the assessment team.
The assessment team re-evaluated their initial decision based on the report and discussion.

Level of expectancy:
The level of expectancy 'to be healed by prayer' (as a retrospective self-report) was divided into 4 categories: none, low, moderate or high expectancy. Scoring was carried out by the first author using written entries, interviews, conversations by phone and additional data received by post and by e-mail.

Follow-up:
The HP reports were received in 2016 and 2017. Follow-up studies were carried out by one and the same research student in 2019 and 2021. As many participants as possible were interviewed to obtain actual information about the health status and the socio-religious quality of life.

Results:

We received 83 reports. Twenty seven were selected for evaluation by the medical assessment team, and fourteen individuals took part in an in-depth interview. Eleven cases were considered to be 'medically remarkable'. None were evaluated as 'medically unexplained'.
Reports came through different channels and from all over the country as well as three from Belgium and one from Germany. All participants interpreted their healing as an act of God. The setting of the prayer(s) varied from personal or group prayers, to prayer healing services, prayers in a church community or during anointing of the sick, and liturgical prayers.

[13] Green J, Thorogood N. *Qualitative Methods for Health Research*. London: Sage Publishers; 2018.
[14] Smith JA. Evaluating the contribution of interpretative phenomenological analysis. *Health Psychology review.* 2011; 5(1):9-27.

Healings, evaluated as remarkable:
Details of the eleven cases classified as 'medically remarkable' are given in table 1. Note that in cases 3, 4, 7, 8 and 10 mismatches were found between subjective and objective data: impressive functional improvements were experienced, witnessed by others as well, while objective investigations still showed abnormalities.

- Table 1: data reflecting 11 healings, evaluated as medically remarkable:

E=expectancy NE=no expectancy LE=low expectancy ME=moderate expectancy HE=high expectancy N/A=not applicable (e.g. comatose)
Age = age category at moment of healing. Duration of healing = time period from healing until 2021 or until relapse/death.

Nr/ Sex/ Age	Illness	Setting and duration of healing	Mani-festations	Course	E	Evaluation
1. F 35-40	Crohn's disease	Two prayer healing services (15 years)	1st service: sense of being touched in the digestive system, crying 2nd service: falling in the Spirit, sense of being lifted from the floor (levitation) and a wind in the hall	Instantaneous healing in 2 steps: partial after 1st service, full recovery after 2nd service. No relapse	LE	Disease duration of 13 years with remissions and exacerbations as is common in Crohn's. It was considered to be medically remarkable that all symptoms stopped abruptly in a temporal relationship with two prayers, and have not recurred since. A classification 'unexplained' was not given as up to 20% of patients may have prolonged remissions.
2. M 35-40	Acute leukemia complicated	Anointing of the sick Reformed	Feeling of support	Unexpected remission. Relapse after one	NE	A terminally ill patient with therapy resistant acute leukemia was sent home. He was expected to die within a few days because of ongoing disease with fatal complications. But when at home there was

	by fungal infections, abdominal abscesses, bowel perforation	church (one year)		year, passed away.		complete remission. Despite a relapse, the team considered the full physical recovery, lasting one year, to be remarkable.
3. F 60-65	Multimorbidity and polypharmacy: asthma, chronic arthritis with multiple disabilities, impaired hearing, incontinence et al.	Desperate personal prayer before sleep (5 years)	Strong emotions, followed by a sensation of calm and being wrapped in a blanket	Stepwise improvement of all complaints in a few weeks. No relapse, except for re-use of hearing aids recently due to aging	NE	The use of a variety of powerful and addictive drugs (prednisone, oxygen, inhalations, hydroxychloroquine, oxycodone, tramadol, fluoxetine) was discontinued. There were no withdrawal symptoms as could be expected. Invalidity turned to self-sustainability. The combination of the above was considered to be medically remarkable. Not unexplained as audiometry and spirometry were unchanged.
4. F 50-55	Advanced, rapidly progressive Parkinson's disease	Prayer during Evangelical Easter conference (8-9 years)	Warm cloud, thick air, sensed by others nearby as well; 'tight net' removed from brain	Instantaneous improvement, 90% recovery; Partial relapse after 8-9 years	NE	Instantaneous 90% recovery: regaining full functioning from being largely wheelchair bound with cognitive symptoms and maximum oral treatment. DaT-SPECT scanning was still abnormal 3-4 years after healing. Classification was medically remarkable, not unexplained because of remaining limited symptoms and scan data.
5. F 25-30	Anorexia nervosa, lowest	Desperate outcry to God while	Sense of self-acceptance and return of appetite; a	Instantaneous improvement; weight gain from	NE	Sudden healing and subsequent weight gain after 8 years of severe anorexia with repeated admissions, Body Mass Index (BMI) fluctuating between 10 and 20.

	weight 29kg (BMI 10)	non-religious (5 years)	bright light and wind in a closed room.	37kg (BMI 13) to 50kg. No relapse		
6. F 20-25	Chronic one-sided herpes keratitis, low vision; failed cornea-transplant.	Prayer healing service, the pastor had a prophecy for her eye (10 years).	She saw a bright light and fell on the floor.	Immediate relief of pain and improvement of vision. Present situation unknown, no recent contact (emigration).	NE	Repeated episodes of herpetic keratitis of the right eye from the age of 4 years, resulting in chronic pain and low vision. Cornea-transplantation was done and rejected. While a second transplantation was planned, all pain and symptoms stopped at the moment of an intercessory prayer. Right sided vision doubled 0,2 > 0,4 from before and shortly after prayer.
7. M 45-50	Type B aortic dissection with severe walking impairment	Multiple prayers in Reformed church, planning to go to a healing service (18 years)	Warm hand on his back, gladness, urge to walk	Instantaneous healing, no relapse of complaints. Aneurysmatic dilatation aorta slowly growing (scans).	ME	Iatrogenic aortic dissection (type B) as complication of cardiac catheterization. Diminished blood flow leading to pain and walking impairment. The instantaneous improvement was considered to be remarkable. Not unexplained as MRIs continued to show the dissection with a double lumen (both having flow).
8. F 50-55	Multiple Sclerosis	Different prayers, was preparing for a healing service (12 years).	None	Instantaneous healing of all disabilities after an afternoon sleep. No relapse	LE	Chronic progressive course of MS for 7 years, EDSS disability score 6,5. Diagnosis was confirmed in 2 different hospitals with corresponding MRI lesions. Although very remarkable it was not labelled as unexplained since MRI lesions were unchanged.
9. F 30-35	Ulcerative colitis, psoriasis with	Prayer healing service with 3 people	Warmth, sensation of being held as if claws were	Healed from colitis, arthritis, psoriasis, but not from asthma. The	HE	A chronic remitting and relapsing course of ulcerative colitis lasting 14 years and psoriasis of the skin (guttata) with polyarthritis for 2-3 years stopped after intercessory prayer. She regained

	arthritis, asthma	praying (7 years).	removed from her back.	onset was instantaneous. No relapse.		full capacities (restarting sports). Immunosuppressive medications (TNF-alfa blockade, prednisone) were discontinued.
10. F 30-35	Ulcerative colitis, about to undergo colectomy	Prayer healing service (7 years).	Strong physical sensations; husband had a vision before the prayer	Instantaneous healing, gross reduction of diarrhea episodes, no relapse.	ME	Incapacitating diarrhea (40 times daily) due to ulcerative colitis, two university hospitals had indicated her for total colectomy. Healing was a few days prior to surgery, the operation was cancelled. Not classified as unexplained since ulcerative lesions were still seen on follow-up coloscopy.
11. M 50-55	Medication induced hepatitis with vanishing bile duct syndrome	Intense prayers by different prayer groups at the same time (6 years).	Feeling of calm and lifted from bed at night in hospital, as if a positive power was around; neighbor also experienced a sensation	Rapid improvement starting after prayers, until full recovery	LE	Hepatitis after use of amoxycillin/clavulanic acid, evolving into a vanishing bile duct syndrome with impending liver and kidney failure. Liver transplantation was envisaged. There was a sudden rapid recovery simultaneous with praying. Although using prednisone bilirubin levels were decreasing unusually fast from that moment on, with subsequent full recovery.

All healings whether evaluated as medically remarkable or not (n=28).

In total, the assessment team evaluated 28 healings in 27 cases. Details about those healing reports not classified as medically remarkable can be found in the supplementary file.

Physical and emotional manifestations were reported in almost all instances as occurring simultaneously with a healing experience, examples can be found in table 1 and in the supplementary file. They were invariably sensed as positive. In table 2 the occurrence of such manifestations is related to the course of the disease. Most healings had an instantaneous onset combined with manifestations at the same moment.

- Table 2: Course of healing and associated manifestations

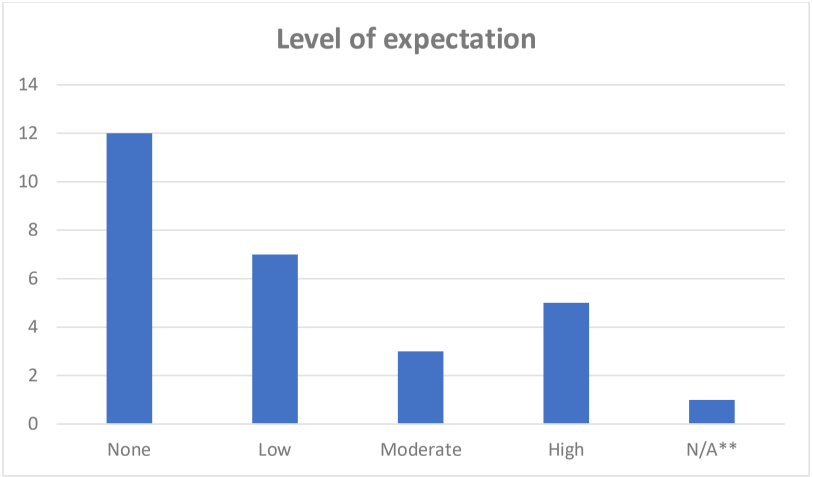
Course of healing	TOTAL	Manifestations associated with healing (physical, emotional)		
		YES	NO	UNKNOWN
Instantaneous onset	23	20	3	0
Gradual recovery	2	2	0	0
Unknown	3**	1	2	0
	28*	23	5	0

*28 healings were evaluated as 2 healings were assessed in one case
**physician/specialist reported healing to patient after investigations, instantaneity unknown (twice); comatose (once)

In this total group of 28 healings the duration of illness preceding the healing prayer ranged from 4 days to 40 years, the median being 4 years. The duration of being healed after the prayer (until 2021 or until relapse/death) varied from one to 33 years, the median being 12 years.
A relapse had occurred in 2 of the 28 healings up until 2021, one involved leukemia and the other Parkinson's disease. The healing had persisted in all other cases, some still experienced minor symptoms without influencing their physical and mental functioning. Two patients passed away due to unrelated causes, one could not be traced for follow-up as a result of emigration.

The expectation of healing was absent or low in the majority of patients. Often it came as a surprise, as shown in figure 1.

Figure 1: evaluation of expectancy 'to be healed by prayer' (as a retrospective self-report) for all 28 healings



** Not applicable: comatose state

One intriguing aspect of our project concerned the assessment team itself. Initially members considered it their primary task to make evaluations based strictly upon medical grounds. Individual cases were discussed extensively. At a later stage the team found it increasingly difficult to differentiate between 'remarkable' and 'unremarkable'. When looking at the healings from a non-medical perspective there were surprising similarities in most of them, whether medically remarkable or not.

Discussion:

In this series of 27 consecutive cases with 28 healings, the most significant finding was the remarkable similarity between the experiences accompanying the healings, including the participants' interpretations of these experiences. These similarities were not related to the context (healing service, personal or liturgical prayers) or other prayer characteristics, but rather the same set of phenomena appeared under widely

varying circumstances. Another important finding was the repeated mismatch between 'subjective' and 'objective' data, which was also discussed in previous articles[15], [16].

It is important to note that this study is about a subgroup of people praying for healing. All participants experienced a healing which they related to prayer and they decided to report the event. When interpreting the results we should therefore be aware of the limitation that this research group is a favorable subgroup. We realize that there may be negative experiences or downsides as well. However, it was our intention to study those with positive outcomes to examine their relevant medical data and experiences. Bearing this in mind we will now return to our research questions.

What are *the medical and experiential findings?*

- The dominant pattern was one consisting of the following characteristics: instantaneity and unexpectedness of healing, strong physical and emotional manifestations, and a sense of 'being overwhelmed'. The healing was not experienced as a 'normal' cure, but as a transformative experience. Involving the person-as-a-whole, a healing of 'body, mind and soul'.
  Additionally, follow-up yielded positive results up to four years after enrolment in the study: a large majority reported continuation of healing.

Are there any medically remarkable and/or scientifically unexplained healings?

- Eleven healings were considered to be medically remarkable. Most of them referred to an unusual course of the disease. There were examples of sudden cures of serious chronic diseases in particular where the best possible prognosis would be one of gradual regression. Apart from the case of acute leukemia, none of the healing reports in patients with malignancies was considered to be medically remarkable as all of them were simultaneously receiving medical treatment. Since most patients with cancer receive some kind of treatment nowadays (surgery, chemo- or immunotherapy, hormones, radiotherapy) it is very difficult to draw conclusions about this group. None of the healings were evaluated as unexplained. Unexplained cures were assessed elsewhere in rare instances

[15] Kruijthoff DJ, Bendien E, Doodkorte C, Kooi C van der, Glas G, Abma TA. "My Body Does Not Fit in Your Medical Textbooks": A Physically Turbulent Life With an Unexpected Recovery From Advanced Parkinson Disease After Prayer. *Adv in Mind-Body Medicine*. 2021; 35(2):4-13

[16] Kruijthoff DJ, Bendien E, Kooi C van der, Glas G, Abma TA, Huijgens PC. Three cases of hearing impairment with surprising subjective improvements after prayer. What can we say when analyzing them? *Explore* 2022; 18:475-482.

such as in Lourdes[17], Rome (see footnote 9) and by Romez et al.[18, 19]. At the medical desk in Lourdes less than 1% of reports received were evaluated as being unexplained (see footnotes 10 and 17). It is therefore understandable not to find such cases in our small series.

Which explanatory frameworks can help us understand the findings?

- As the study evolved the assessment team found it increasingly difficult to explain the observations in biomedical terms. Many of the healings which could not be assessed as medically remarkable did have remarkable non-medical aspects. The best option therefore was to conclude that there was a form of remarkableness other than medical remarkability. What else could be implied and why is it that the occurrences were unexpected in many instances? Answers to such questions are not straightforward. When searching for other than biomedical explanations, some explanatory options and strategies could be considered. Firstly, studies of the placebo effect could point to a better understanding. However, typical for the placebo effect is the significant role of expectancy[20, 21], which seemed to be absent in many of our cases. Secondly, one might refer to what is known about the role of contexts and labelling, for instance in the literature on medically unexplained symptoms[22], However, typically these patients only recover gradually[23]. Thirdly, one might suggest that our patients suffered from a psychiatric problem, like somatization, factitious disorder or even malingering. But the psychiatrist in the assessment team did not find any indication to that effect. Fourthly, can these healings be considered as spontaneous remissions of serious chronic diseases? Although a lot is unknown about the nature and the causality of spontaneous remissions, as Radin pointed out[24], one would expect the clinical course to be more gradual as well.

- Additionally, what can one say about our repeated observation of substantial or even full functional recovery from serious diseases in the absence of improved organic markers? Matthews et al. reported similar findings when studying the effects of intercessory

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[23] Hartman olde TC, Borghuis MS, Lucassen PLBJ et al. Medically unexplained symptoms, somatisation disorder and hypochondriasis: Course and prognosis. A systematic review. *Journal of Psychosomatic Research* 2009; 66:363-377.

[24] Radin D. The future of spontaneous remissions. *Explore.* 2021; https://doi.org/10.1016/j.explore.2021.08.007.

prayer in a group of 40 patients with rheumatoid arthritis[25]. At a 12-month follow-up there was a significant improvement in grip strength and patient-rated global functioning of 14% and 19% respectively, while ESR as a laboratory marker had not changed accordingly. Although methodologically obviously different from our study there was also this gap between functional and organic improvement.

- One wonders if there is a relationship between functional changes and an improved emotional state, perhaps mediated by (patho)physiological and biochemical pathways. Various types of stressors, such as psychological stress or visceral pain stimuli, have been shown to induce changes in the neuroendocrine system (notably the hypothalamic-pituitary-adrenal axis), autonomic functions and immune cell responses[26]. Conversely, one might think of positive effects resulting from these mechanisms in cases of an improved emotional state. But can this explain the instantaneity and the degrees of recovery shown in our study while there was often stress and no expectancy prior to the associated prayers? And can it explain the persistence of healing and personality changes? Moreover, other participants experienced both functional and organic improvement at the same time, as in the cases of anorexia, herpes keratitis and medication induced hepatitis. It is therefore difficult to find a common explanatory pathway for our healing reports, but it certainly challenges models of mind-body duality.

- Step by step we realized that we needed a broader model when trying to understand our observations. What may be needed at this juncture is a horizontal epistemology (mode of knowing)[27]. This is a way of studying and describing phenomena which considers all relevant perspectives to be valuable, both experiential and objective. The starting point should be listening carefully to the healing experiences of our participants, even more so as the same type of healing experience recurs persistently. This fits with 'person-centered forms of care' and its equivalent 'person-centered medicine' (PCM), which 'aims at a reformulation of the central mission of medicine, by recognizing the person as its fundamental focus and not simply as a carrier of disease'[28]. PCM is informed both by the wisdom of great ancient civilizations and by recent developments in clinical medicine and public health. It opens windows to other dimensions, as studied by theologians and philosophers. An inclusive and transdisciplinary approach may help provide a better

[25] Matthews DA, Marlowe SM, MacNutt FS. Effects of intercessory prayer on patients with rheumatoid arthritis. *Southern Medical Journal*. 2000 ;93(12):1177-86.

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understanding of the transformative experiences of the kind we found. This approach enables observations that can be likened to similar observations in other religious and non-religious settings[29].

- Finally, all participants interpreted their experiences as being of divine origin. Should we ignore this? Or should it lead us to consider the possibility of a 'realm beyond our senses', 'an acting God'? Certainly there is a similarity with New Testament stories of healings by Jesus[30]. Theology may be helpful in trying to find words for the healing experiences of our participants and many others with similar experiences[31]. Scientistic models, whether medical, psychological or social, assume that scientific methods are the only viable route to knowledge and truth. Such models exclude the option of an outside interference. As a result they have no vocabulary for the transformative nature of the participants' experiences in our study. Biblical narratives and other religious texts depict a wider transcendent perspective, drawing upon another language and referring to another reality. Without leaving the solid ground of medical knowledge we should not hesitate to explore these wider perspectives. By doing so, we would allow the boundary between the world of 'empirical data' and the world of 'wider perspectives' to be more porose than usually thought.

Margaret's case at the beginning of the article showed a 'gap' between 'facts' and 'experiences'. Both turned out to be relevant in our study as we found 'medically remarkable healings' and 'fascinating transformative experiences'. The patterns we observed should bring about a fruitful dialogue[32] between medical science, experiential knowledge and phenomenology as major sources of knowledge and both theology and philosophy as entrance to the rich narratives of age-old traditions. When grounded in a horizontal epistemology (see footnote 27), these perspectives will all be important and foster transdisciplinary discussions.
Future studies and more documentation are needed to further verify and clarify the patterns we found. This is a highly relevant field of study as it remains a largely understudied subject despite significant public interest.

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Supplementary File

Healings, not evaluated as medically remarkable (n=16):
It should be noted that case nr 15 reflects two healings

E=expectancy NE=no expectancy LE=low expectancy ME=moderate expectancy HE=high expectancy N/A=not applicable (e.g. comatose)
Age = age category at moment of healing. Duration of healing = time period from healing until 2021 or until relapse/death.

Nr/ Sex/ Age	Illness	Setting and duration of healing	Manifestations	Course	E	Evaluation
1. M 50-55	Frozen shoulder/ cuff rupture, cuff repair planned	Prayer healing service, with a prophecy by the prayer healer (12 years).	Sensation of internal fight between 'good and bad'.	Instantaneous healing, no relapse	LE	Healing took place before the planned cuff repair. Review of the ultrasound showed that the cuff rupture was partial, not total as initially thought. The remaining function of the cuff could explain a functional recovery. However, the instantaneity of the healing was special given the circumstances.
2. F 40-45	Pelvic instability (largely bedridden), one-sided impaired hearing	Liturgical prayer in Roman Catholic monastery (15 years)	Sensation of touch, powerful current from toes upward through entire body. Then started crying, as if 'a tap had been opened'.	Instantaneous healing of pelvic instability, instantaneous healing of impaired hearing two weeks later, no relapse	NE	Proper assessment of the pelvic instability was hampered by a lack of objective investigations. As to the deafness, audiometry was unchanged despite improved subjective hearing. Still, the instantaneous nature of the healings was extraordinary. She experienced immediate functional recovery from disabilities, which had lasted for 14 years (pelvis).

3. F 45-50	Pneumonia (lung cancer suspected)	Prayer and laying on of hands in hospital, twice (6 years).	Warm feeling on chest	Recovery, under antibiotics	HE	Pneumonia resolved on antibiotics in hospital. Lung cancer was suspected, but this diagnosis could not be confirmed.
4. M 40-45	Ankle fracture	Prayer in a Pentecostal church (14 years).	During prayer a power surge through his leg, two days later strong emotions	Instantaneous functional healing two days later, no relapse	HE	Ankle fracture with fracture lines in the medial and tertiary malleoli. Review of the X-rays showed that the fracture lines did not reach the joint surface. Therefore a rapid recovery is possible, although surprisingly fast.
5. M 50-55	Carcinoma oral cavity, with metastases In cervical nodes	Prayers in Reformed church (5 years)	None	See evaluation, no relapse	NE	The patient was treated for squamous cell carcinoma of the floor of the mouth, just left of the midline. During post-surgery radiotherapy a right sided lymph node was found, tumour positive on cytology. Radical right-sided resection followed, all 35 lymph nodes were negative. The ENT specialist was surprised, for the patient it was the result of prayer. However, a false positive initial cytology or a micro-metastasis could not be excluded.
6. M 35-40	Recurrent psychosis, obsessive compulsive disorder, suicidality	Prayers during a Christian alpha course and healing services (17-18 years)	Exceptional feeling of peace during one of the prayers	Gradual healing, full recovery, restarted work, no relapse	NE	Gradual improvement and healing of all psychiatric problems during repeated prayers, simultaneously with regular treatment (rehabilitation programme).
7. F 45-50	Thyroid tumour	Prayer by husband before sleep (9 years)	None	Tumour disappeared next morning	LE	A solid node in the thyroid (3,7 by 2,1cm), suspected cancer, could no longer be felt morning after prayer. Cytological evaluation was suggestive of subacute (lymphocytic) thyroiditis. Ultrasound 3

						months later showed a minor lesion. Nodi regularly resolve in thyroiditis, although surprisingly fast in this case.
8. M 65-70	Cerebro Vascular Accident (CVA) 24 years before, with one-sided partial spastic hemiplegia	Prayer healing service with laying on of hands (4 years).	'War in his head before healing', crying after healing	Instantaneous healing in 2 steps (first his arm, then his leg); no relapse. Passed away in 2020 due to unrelated cause.	LE	A neurologist described a right-sided CVA in 1992 with 2 small lacunar infarcts (CT-scan). Follow-up did not occur, partial right-sided hemiplegia with spasticity evolved. Only after eight years this was attended to by a physiotherapist and a rehabilitation physician. His sudden healing in 2016 was confirmed by a neurologist. Assessment was hampered because of the absence of neurological data between 1992 and 2016.
9. F 50-55	Chronic abdominal pains due to neuralgia and intra-abdominal adhesions after appen-dectomy	Prayers and a bath in Roman Catholic Lourdes pilgrimage site (26 years)	Trembling and strong emotions (continuous crying) while taking the bath	Instantaneous healing, no relapse. Passed away in 2021 due to unrelated cause.	NE	Chronic abdominal complaints after appendectomy in 1957. Although she had an impressive and instantaneous healing experience in Lourdes, there were no conclusive data of relevant medical investigations to substantiate the healing.
10. M 25-30	Non-Hodgkin lymphoma	Group prayers, also visited prayer healing services (33 years)	Before healing a vision with a strong impact, creating peace and confidence	Instantaneous after first chemotherapy. No relapse.	ME	Sudden healing of NHL after long standing prayers occurred simultaneously with chemotherapy (quit chemotherapy halfway, after four courses). No decision possible because of concurrent medical treatment.

11. F 30-35	Acute Dissemi-nated Encephalo-Myelitis (ADEM) and/or Multiple Sclerosis (MS)	Prayer by husband at home, laying on of hands with cloth of a prayer healer. He received the cloth in a prayer healing service he had just visited before (20 years).	Strong emotional experiences by husband at a healing service and by wife at home when he prayed for her while using the cloth and laying on of hands	Rapid recovery of a serious condition. She was first diagnosed with ADEM and later on with MS. No relapse after cessation of medication in 2017.	NE	Initially diagnosed as ADEM. The serious condition suddenly turned into a spectacular improvement after prayer in 2001. Some symptoms remained and there was a relapse after 4 years. Both ADEM and MS were mentioned as possible underlying disease. Since then it was treated as MS, symptoms did not recur after cessation of medication in 2017 (copaxone). No decision could be made because of various etiological uncertainties.
12. M 55-60	Angina pectoris, coronary sclerosis	Prayer healing service, prophecy (13 years)	Warmth and a strong pain on the left side, in his left arm and between the shoulder blades.	Instantaneous healing, able to cycle distances again. Mild complaints again since 2019, well controlled by medication	NE	Past history of unstable angina pectoris with 5 coronary bypasses and a small myocardial infarct some years later. Recurrent chest pains continued with a limited exercise tolerance. Functionality increased instantaneously upon prayer. On angiogram grafts were open prior to healing, the ejection fraction was normal. Therefore medical remarkability could not be substantiated. Still, the instantaneity with immediate functional recovery were special given his previous situation.
13. F 35-40	Congenital hearing impairment	Prayer healing service (8 years)	Little ‘push’ in the back when going for prayer, ears ‘popped open’.	Instantaneous healing, audiogram unchanged	HE	Instantaneous healing of lifelong impaired hearing without changes in audiometry. The instantaneous subjective improvement was spectacular initially and persistent. This was confirmed by the people around her (family, friends).

14. M 55-60	Cancer of stomach (signet-ring cell carcinoma)	Prayer healing service (10 years)	Sensation of warmth in stomach region; sure to be healed	Healing, no tumour found on surgery. No relapse	LE	After three courses of debulking chemotherapy there was a strong healing experience upon intercessory prayer. During planned operative resection after the prayer and after pre-operative chemotherapy no signs of malignancy were found. Chemotherapy alone is known to be curative in 1-3% of gastric cancer patients.
15. M 50-55	1. Addiction to alcohol and smoking 2. Post-traumatic dystrophy and nerve compression in the right leg	Ad 1: prayer with health worker in clinic (18 years). Ad2: anointing of the sick by elders of the Reformed church (15 years).	Ad1: feeling as if 'addiction was pulled out of him'. Ad2: none	Ad1: instantaneous healing, no relapse Ad2: instantaneous healing next day. No relapse	Ad 1: NE Ad 2: HE	1. Sudden healing during prayer in alcohol clinic, no more craving since then. Expert opinion: such instantaneous changes are observed in addictions, though in rare instances. 2. Instantaneous healing of longstanding (18 yrs.) symptoms and pain in rt leg. Multiple operations aiming at nerve decompression and anaesthetic injections trying to influence dystrophy and pain did not have lasting effects. Assessment impossible because of etiological uncertainties due to two conditions of the leg and intermingling symptoms. However, the instantaneity of the healing was surprising after 18 years.
16. M 50-55	Hypoxic encephalo-pathy after resuscitation, poor prognosis	Prayer by daughter at the bedside in the ICU (21 years)	Unknown (because of coma)	Woke up after prayer, gradual complete recovery	N/A	Resuscitation for cardiac arrest was started after two minutes and lasted 20 minutes with multiple defibrillations. He was admitted on ICU in a hospital with respiratory insufficiency and in a comatose state (Glasgow coma scale E1M3Vtube). Five days later he regained consciousness after a prayer, subsequently with full cognitive recovery. Such recoveries can occur, but they are rare. Assessment was hampered because data was lacking about the course of the coma.

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Chapter 5

Prayer and Healing:
A Study of 83 Healing Reports in the Netherlands

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Abstract
The setting: 83 reports of healing related to prayer (HP) were evaluated between 2015 and 2020 in the Netherlands.
Research questions: What are the medical and experiential findings? Do we find medically remarkable and/or medically unexplained healings? Which explanatory frameworks can help us to understand the findings?
Methods: 83 reported healings were investigated using medical files and patient narratives. An independent medical assessment team consisting of five medical consultants, representing different fields of medicine, evaluated the associated files of 27 selected cases. Fourteen of them received in-depth interviews. Instances of healing could be classified as 'medically remarkable' or 'medically unexplained'. Subsequent analysis was transdisciplinary, involving medical, experiential, theological and conceptual perspectives.
Results: the diseases reported covered the entire medical spectrum. Eleven healings were evaluated as 'medically remarkable', while none were labelled as 'medically unexplained'. A pattern with recurrent characteristics emerged, whether the healings were deemed medically remarkable or not: instantaneity and unexpectedness of healing, often with emotional and physical manifestations and a sense of 'being overwhelmed'. The HP experiences were interpreted as acts of God, with a transformative impact. Positive effects on health and socio-religious quality of life persisted in most cases even after a two and four year follow-up.
Conclusions: the research team found it difficult to frame data in medical terms, especially the instantaneity and associated experiences in many healings. We need a broader, multi-perspective model to understand the findings. Horizontal epistemology, valuing both 'subjective' (experiential) and 'objective' data, may be helpful. There is analogy with healing narratives in the Bible and throughout church history. Future studies and documentation are needed to verify and clarify the pattern we found.

Keywords
Prayer; Healing; Case study research design; Transdisciplinary; Science-religion debate

Introduction

Praying for health concerns has been a common practice throughout history[1] right up to today[2]. Despite secularization the topic still gains a lot of interest with people flocking to pilgrimage sites and prayer healing services. However, practices vary a lot. The setting can differ from distant, personal and group prayers, to visiting a prayer healing service or a pilgrimage site. There is also a variety of modes, such as anointing, laying on of hands, the use of a prayer cloth or taking a ritual bath[3]. Whatever the setting or mode, the intention remains the same: an appeal to God for healing of a disease.

As a general medical practitioner the first author (DK) was confronted with this when someone in his practice was suddenly healed in a prayer meeting[4]. The healing sparked nationwide interest in the Netherlands and its aftermath led us to conduct this research. Other experiences and narratives as well as a lack of knowledge further motivated the authors to set up a study.

A number of studies in the field of healing and prayer (HP) can be found in medical literature. Most of them relate to clinical trials comparing groups of patients with a specific disease. One group received prayers for healing (intercessory prayer), while the other group did not receive these prayers. Both groups did not know whether they were prayed for or not. Eventually a Cochrane review in 2009 including 10 such trials with a total of 7,646 patients showed inconclusive results for the effects of intercessory prayer[5]. However, the performing of these studies involves considerable methodological and conceptual difficulties [6][7]. It is difficult to set fixed background conditions for research on healing after prayer. For instance, friends, family, and members of religious congregations may be praying outside the context of the study. Others find it impossible to investigate prayer as if it were a drug or surgical intervention[8][9].

Few publications are about individual case reports, considered to be unexplained by a team of medical consultants. Most of them relate to Lourdes, e.g., a case report about a cure of sarcoma of the pelvis[10], or to Rome. Duffin described a miraculous cure of acute myelogenous leukemia leading to the canonization of a saint at the Vatican[11]. The Global Medical Research

[1] Paul MJ. *Vergeving en genezing. Ziekenzalving in de christelijke gemeente*. Zoetermeer (Netherlands): uitgeverij Boekencentrum. 1997.

[2] McCaffrey AM, Eisenberg DM, Legedza ATR et al. Prayer for Health Concerns. Results of a National Survey on Prevalence and Patterns of Use. *Arch Int Med.* 2004; 164:858-862.

[3] Brown CG. *Testing prayer*. Cambridge, Massachusetts (US): Harvard University Press. 2012:p. 182-184.

[4] Hakkenes E. De dokter wil wonderen gaan toetsen. *TROUW* 30/10/2009.

[5] Roberts L, Ahmed I, Hall S, et al. Intercessory prayer for the alleviation of ill health. *Cochrane Database Syst Rev*. April 2009;2:Cd000368.

[6] de Aguiar PRDC, Tatton-Ramos TP, Alminhana LO. Research on Intercessory Prayer: Theoretical and Methodological Considerations. *J Relig Health*. 2017 Dec;56(6):1930-1936. doi: 10.1007/s10943-015-0172-9. PMID: 26743876.

[7] Sloan RP, Ramakrishnan R. Science, medicine and intercessory prayer. *Perspect Biol Med.* 2006;49(4):504-514.

[8] Jørgensen KJ, Hróbjartsson A, Gøtzsche PC. Divine intervention? A Cochrane review on intercessory prayer gone beyond science and reason. *J Neg Result Biomed.* 2009;8:7.

[9] Turner DD. Just another drug? A philosophical assessment of randomized controlled studies on intercessory prayer. *J Med Eth.* 2006;32:487-490.

[10] Salmon MM. *The Cure of Vittorio Micheli*, *Sarcoma of the Pelvi France*rdes, France: Imprimerie de la Grotte. 2000.

[11] Duffin J. *Medical Saints, Cosmas and Damian in a Postmodern World*. New York: University Press. 2013.

Institute (GMRI) in the USA adopted a rigorous procedure to assess whether to consider a cure as unexplained or not, operating predominantly in circles of Pentecostal and charismatic Christians. Recently they published about two such cures, one of them from chronic gastroparesis since 16 years[12] and the other one from juvenile macular degeneration blindness[13]. Still, it is an ongoing journey to publish about these cures as there may often be mistrust among church denominations and patients involved, causing reluctance to participate[14].

More recently some qualitative HP studies[15, 16, 17] were conducted by mode of semi-structured interviews with individuals who had experienced healing of different illnesses. Experiential and spiritual aspects accompanying the healings were investigated primarily. Reports mentioned sensory manifestations and extraordinary events such as visions or 'a transformational, powerful touch'. However, these studies focused more on experiential findings rather than medical data.

When reviewing the above literature we concluded that there is a gap in our knowledge.
HP experiences relate to medical and experiential data, the analysis of the data relates to other disciplines as well such as psychology, philosophy and theology. The authors therefore decided to do a transdisciplinary study including the above fields of knowledge simultaneously. It took time to work out an innovative research proposal that combined these disciplinary fields, and to get it approved by both the medical ethics review board as well as the faculty of theology. Eventually it was decided to combine meticulous medical evaluation of individual HP reports with qualitative research pertaining to experiences and individual interpretations, as this gives us the opportunity of looking at the subject through different lenses. The perspectives can mutually enrich each other, strengthening the relevance of our findings and conclusions.

A case study research was designed[18] to explore the following research questions: *What do we find when viewing reports of prayer healing against a background of medical and experiential data? Do we find medically remarkable and/or medically unexplained cures? Which explanatory frameworks (multidisciplinary) can help us to understand the findings?*

We received 83 individual prayer healing reports, of which 27 were evaluated by a medical assessment team. In 14 cases an in-depth interview was conducted, attempting to understand

[12] Romez C, Zaritzky D, Brown JW. Case Report of Gastroparesis healing: 16 years of a chronic syndrome resolved after proximal intercessory prayer. *Compl Ther in Medicine* 2019; 43:289-294.
[13] Romez C, Freedman K, Zaritzky D et al. Case report of instantaneous resolution of juvenile macular degeneration blindness after proximal intercessory prayer. *Explore* 2021; 17:79-83.
[14] Brown CG. Pentecostal Healing Prayer in an Age of Evidence-Based Medicine. *Transformation.* 2015. 32(1):1-16.
[15] Helming MB. Healing Through Prayer: A Qualitative Study. *Holistic Nursing Practice.* 2011; 25(1):33-44.
[16] Austad A, Rodriguez Nygaard M, Kleiven T. Reinscribing the Lived Body: A Qualitative Study of Extraordinary Religious Healing Experiences in Norwegian Contexts. *Religions* 2020,*11*,563;doi:10:3390/rel11110563*".*
[17] Lundmark, M. "When Mrs. B Met Jesus during Radiotherapy. A Single Case Study of a Christic Vision: Psychological Prerequisites and Functions and Considerations on Narrative Methodology." *Archive for the Psychology of Religion*. 2010; 32(1):27-68.
[18] Kruijthoff DJ, Kooi C van der, Glas G, Abma TA. Prayer healing: a case study research protocol *Adv Mind Body Med* 2017; 31(3):17-22.

subjects and their experience, according to a naturalistic approach[19]. We will now present the results in this article.
Finally, it is relevant to realize that this article is part of a thesis together with other publications. The design article was mentioned above (see footnote 18), the other articles are mentioned elsewhere in the text to clarify the connection with this study.

Theoretical background

Praying is a highly personal, context-bound activity and the study of its possible effects on the course of illness and disease has been controversial. From a medical point of view prayer cannot be seen as an intervention in the usual sense. Therefore standard methods of studying treatment effects do not apply to prayer. This seems to suggest that from a medical point of view, prayer cannot be seen as a proper subject for medical research.
On the other hand, many patients report to have prayed for cure or alleviation of their suffering. Some of these patients tell their doctors that they have experienced improvement of their condition after these prayers, although there is no biomedical explanation for it. They attribute their unexplained improvement to religious factors such as, for instance, acts of God, the healing effect of His spiritual presence, or the mediating role of some religious ritual. Given these reports, what could be appropriate methods to study them? What are relevant theoretical frameworks for the study of patient stories about prayer and subsequent clinical improvement for which there exists no biomedical explanation? There are, obviously, many possible approaches: psychological, social, anthropological, moral, theological, as well as philosophical approaches.

Apart from randomized controlled trials and a Cochrane review (see footnote 5) we also found some observational and qualitative modes of research, combined with an overarching more philosophical perspective. Helming (see footnote 15), for instance, used Watson's[20] concept of transpersonal caring theory in nursing as a theoretical framework. The term transpersonal acknowledges that individuals are a composite of mind, body and spirit (or soul). Love, faith, compassion, caring, community are as important to healing as conventional treatment methods. The underlying worldview emphasizes the fundamental inter-connectedness of everything that exists. Austad et al. (see footnote 16) conducted a qualitative study of extraordinary religious healing experiences in Norway. To understand participants' healing experiences, they used the concept of the 'lived body' as theoretical perspective. This idea is based on the philosophy of Merleau-Ponty[21] who criticized the pervasive mind-body dualism in medicine and psychology and offered an alternative by viewing mental phenomena as fundamentally 'embodied' and bodily phenomena as expressing the tacit meaningfulness of the 'lived body' (the body subject). Medical treatment is not understood as 'fixing the machine', it addresses the lived body. Life experiences are inscribed in this body and may contribute to health or disease later in life.

[19] Abma TA, Stake RE. Science of the particular: An advocacy of naturalistic case study in health research. *Qual Health Res.* 2014; 24(8):1150-1161.
[20] Watson J. *Postmodern nursing and beyond*. Edinburgh (Scotland): Churchill Livingstone. 1999.
[21] Merleau-Ponty M. *The visible and the invisible*. Evanston (Illinois,US): Northwestern University Press. 1968 (p. 130-155).

Bendien et al.[22] use the term trans-somatic recovery in a qualitative study of prayer healing experiences. Trans suggests the presence of a transformative and transcending dimension in (some) healing experiences. It refers to aspects of healing that go beyond ('transcend') the duality of body and mind and include a spiritual ('transformative') dimension: an experience of improved wellbeing and a radical change due to an encounter with God, involving each aspect of life.

Qualitative studies on HP seem better able to include the contextual aspects and the multifaceted nature of HP experiences. It is especially challenging to not only report about experiential and contextual data, but also to relate them to well documented medical data. This is the aim of the present article. Helming and Austad et al. don't provide these 'medical' details. There exists, in general, a tendency in the literature, to split up objective ('medical') facts and subjective ('experiential') reports. This article sees it as its challenge to combine these data and to include a clinical perspective. We will therefore address three different perspectives (triangulation): the medical findings, the experiences of the patients and the clinical associations of the doctors. Abma advocates for participatory modes of research[23]. This type of research values scientific knowledge, but it gives equal weight to practical-professional (clinical) knowledge and existential-experiential knowledge developed by clients/patients (as 'experts by experience'). The broadening of horizons and greater understanding may be achieved through mutual dialogue and learning. This process of co-creation is difficult and meticulous but offers the promise of new and better understanding[24].

We will first present the medical findings, the practitioner's perspective of the clinicians, and the existential-experiential perspectives of the patients. The combined findings will then be used as starting point for a discussion on what occurs during and after HP. The transdisciplinary model that will be employed, includes inputs from medicine, social psychology, phenomenology, theology, and philosophy.

Methods

At Vrije Universiteit, Amsterdam, and Amsterdam UMC, location VUmc, a protocol was developed to facilitate a retrospective, case-based study of prayer healing (HP) reports (see footnote 18). The study took place between 2015 and 2020. The members of the research team (study, medical assessment) have different ideological and (non-) religious backgrounds.

Recruitment, Initial assessment and Selection

Any individual in the Netherlands or neighboring countries who claimed to have been healed through prayer could be included. The perception of the prayer by the individual was pivotal, not the type or sort of prayer. HP reports came via multiple sources: newspaper articles and other media, the research team and their direct vicinities, prayer healers, and medical colleagues. Attention to the study by different media triggered many reports.

[22] Bendien E, Kruijthoff DJ, Kooi C van der, Glas G, Abma TA. A Dutch study of remarkable recoveries after prayer: How to deal with uncertainties of explanation. *Under review.* 2022.

[23] Abma T. Ethics work for good participatory action research, engaging in a commitment to epistemic justice. *Beleidsonderzoek online.* September 2020, DOI: 10.553/BO/221335502020000006001.

[24] Glas G. *Person-Centered Care in Psychiatry. Self-Relational, Contextual and Normative Pespectives.* 2019; Abingdon (UK) and New York: Routledge 2019; p. 8-9.

Reports of HP were investigated systematically using a step-by-step method. Initially the reports were reviewed by the first author, if need be this was followed by a phone contact to clarify some of the issues. Upon consent medical data was obtained before and after the prayer(s) involved. A case was selected for evaluation by a medical assessment team if complying with the following inclusion and exclusion criteria:

- Likelihood of medical remarkability when compared to the Lambertini criteria (outlined below).
- Completeness of medical data.
- Duration of healing to assess if a recovery is ongoing; in serious chronic diseases or malignancies preferably at least five years.
- Healings before 1990 were excluded because of difficulty in finding medical data (there was one exception in this study).

The first author consulted one of the other assessment team members when in doubt as to select a case or not.

Medical Assessment

The independent medical assessment team consisted of five consultants (internal medicine, hematology, surgery, psychiatry, neurosurgery). Other medical disciplines were consulted when deemed necessary. With some modifications the procedure of medical assessment was based upon the procedures at Lourdes pilgrimage site (France), after a visit to Lourdes by the first author (DK).

The assessment team carried out a standardized evaluation to determine if a cure was 'medically unexplained' or 'medically remarkable'. 'Medically unexplained' indicated that no scientific explanation could be found at the time of assessment. The classification 'medically remarkable' refers to a healing that is surprising and unexpected in the light of current clinical and medical knowledge and that has a remarkable (temporal) relationship with prayer. For instance, someone with a chronic debilitating disease is suddenly cured, when the best possible prognosis would be one of gradual regression.

Classification was supported by consulting the 'Lambertini criteria'[25]. These are used by medical committees at the Lourdes pilgrimage site (France) - and elsewhere within the Roman Catholic Church - to determine if a cure is scientifically unexplained[26]. In our study we used the following – slightly modified – versions of these criteria:

- The disease has to be serious.
- The disease is known under medical classifications, and the diagnosis should be correct.
- It must be possible to verify the healing with reference to medical data, such as medical history, physical examination, laboratory and radiology investigations.
- The cure cannot be explained by medical treatment in the past or present, nor by the natural course of the disease, such as spontaneous improvements or temporary remissions.

[25] Anonym (no authors list ed). *Expliquez-moi: les miracles.* Lourdes, France: NDL éditions/sanctuaires Notre Dame de Lourdes. 2011.

[26] Duffin J. The doctor was surprised; or, how to diagnose a miracle. *Bull Hist Med.* 2007;81:699-729.

- The cure is unexpected and instantaneous. Although the recovery may take some time, its onset should be instantaneous and related to prayer.
- The cure is either complete or partial with substantial improvement. The individual is fully or largely returned to his or her original state of health.
- The cure is permanent.

Qualitative research, in-depth interviews
An in-depth interview by a senior researcher (EB) was taken in those instances when the assessment team considered the possibility of a healing case to be 'medically remarkable' or 'unexplained'. The interviews were face-to-face, mostly at the homes of the participants, lasting 1,5-2 hours. The objective was to gain insight into the individual's experiences, the background history and perceptions of the prayer healing experience(s) and health outcomes as well as outcomes in other spheres of life. It allowed for comparison between medical and experiential data, especially when relating them to the moment of prayer. The approach followed a qualitative research methodology[27]. A topic list was used. The interviews were initially recorded and written out verbatim. Subsequently a report was made, which was verified with the patient by means of a member check[28]. A phenomenological interpretative analysis[29] was completed by the senior researcher and discussed in the assessment team. Based upon the report and the discussion the assessment team re-evaluated their initial decision.

A fully documented case for evaluation thus consisted of information derived from the individual's personal written entry, the full medical file, a transcript of the interview, the report of the interviewer based on the transcript, the notes of discussions in the medical assessment team, and expert opinions when relevant.

Level of expectancy
The level of expectancy 'to be healed by prayer' (as a retrospective self-report) was divided into 4 categories: none, low, moderate or high expectancy. The scale was based upon the personal experience of the participant without using numerical parameters. Scoring was done by the first author using written entries, interviews and conversations by phone and by mail.

Follow-up
HP reports were received primarily in 2016 and 2017. Two follow-up studies were done by one and the same research student in 2019 and 2021. As many participants as possible were interviewed to obtain actual information about the health status and the socio-religious quality of life. Mostly by phone, occasionally a participant was visited. A topic list was used. Reports of the interviews were made. Positive and negative effects upon the socio-religious quality of life were documented.

[27] Green J, Thorogood N. *Qualitative Methods for Health Research*. London: Sage Publishers. 2018.
[28] Koelsch LE. Reconceptualizing the Member Check Interview. *International Journal of Qualitative Methods.* 2013; 12:168-179.
[29] Smith JA. Evaluating the contribution of interpretative phenomenological analysis. *Health Psychology review.* 2011; 5(1):9-27.

Results:

Highlights

Table 1 reflects that we received 83 HP reports, of which 27 were selected for evaluation by the medical assessment team. In this group of 27 selected participants 14 in-depth interviews were conducted. Eventually eleven cases were considered to be 'medically remarkable'. None of them was evaluated as 'medically unexplained'.

- Table 1: categories of cases after selection and evaluation/assessment

Category	**Stage**	**n=**
All healing reports	After written entry	83
Subgroup 'healings evaluated'	After selection	27
Subgroup with in-depth interviews	After initial (primary) evaluation	14
Subgroup 'medically remarkable'	After full (secondary) evaluation/assessment	11

Diagnoses of the diseases in eleven 'medically remarkable' cases are listed below:

- Crohn's disease
- Acute leukemia (temporary healing)
- Chronic herpetic keratitis one eye with low vision
- Iatrogenic aortic dissection
- Psoriasis with chronic arthritis + ulcerative colitis
- Multiple sclerosis
- Anorexia nervosa
- Parkinson's disease (90% healing, partial relapse after 8-9 years)
- Drug induced hepatitis with vanishing bile duct syndrome
- Multimorbidity: severe asthma, impaired hearing, inflammatory osteo-arthritis, incontinence
- Ulcerative colitis with debilitating diarrhea (40 times daily)

Results: data were obtained until 2021

Tables 2-4 provide basic data: participant characteristics, reasons for limited data, origin of reports, and prayer setting.

- Table 2: Participant characteristics (demographic data)

	Participants	**n=83**
Gender	Male	30
	Female	52
	Family*	1
Religious affiliation**	No affiliation	9
	Reformed	23
	Roman Catholic	5
	Evangelical	9
	Baptist	2
	Pentecostal	2
	Unknown	33

*Healing report of several members of a family (mother and two children, a daughter and a son) at the same time.
**This data was unknown in a considerable number of cases as it was not given in the written entries. Still we found it worthwhile to show data to the extent that it was obtained.

Geographically there was a fairly even distribution across the country with the densely populated provinces of South Holland (25) and North Holland (11) having most reports. The ten other provinces were all represented, sharing 43 reports. Additionally three reports were from Belgium and one was from Germany.

- Table 3: Reasons for limited availability of data

	Reason	
Loss to further follow-up*		**n=24**
	Healing before 1990**	6
	Death	5
	No more contact since initial report	4
	Other medical circumstances	3
	Personal reasons	3
	Relapse of the disease reported	2
	Emigration	1
Specific reasons for limited data		**n=7**
	Temporary loss of contact	4
	Language barrier	1
	Living abroad	1
	Privacy reasons	1

*Data was included until the moment of loss to follow-up.
**Reports with a healing experience before 1990 were included for overall analysis, but they were excluded from evaluation by the assessment team due to lack of medical data (with the exception of one case with sufficient data).

Table 4: Origin of reports, Prayer setting of prayer(s) associated with healing

Origin of reports		**n=83**
	Self-report, articles in newspapers or via other media	45
	Via a prayer healer	21
	Via a friend or a relative	7
	Via a medical doctor	7
	Self-report, other modes	3
Prayer setting*		**n=90****
	Prayer healing service	31
	Prayer(s) by others	20
	Personal prayer(s)	10
	Anointing of the sick	6
	Church service/-members	6
	Prayer(s) in a group/team	5
	Christian conference	4
	Liturgical prayer (monastery, holy communion)	2
	Bathing (at pilgrimage site)	1
	Healing rooms	1
	Unknown	4

*Additional data related to the prayer setting:
Laying on of hands was mentioned 6 times combined with one of the above settings.
Healing while preparing for a prayer healing service was mentioned three times: twice at home before the service, and once during the service while standing in line waiting for prayer.
Use of a prayer healer's cloth was mentioned twice combined with one of the above settings.
** The total exceeds 83 as one person reported 2 healings while others reported different modes of prayer related to their healing.

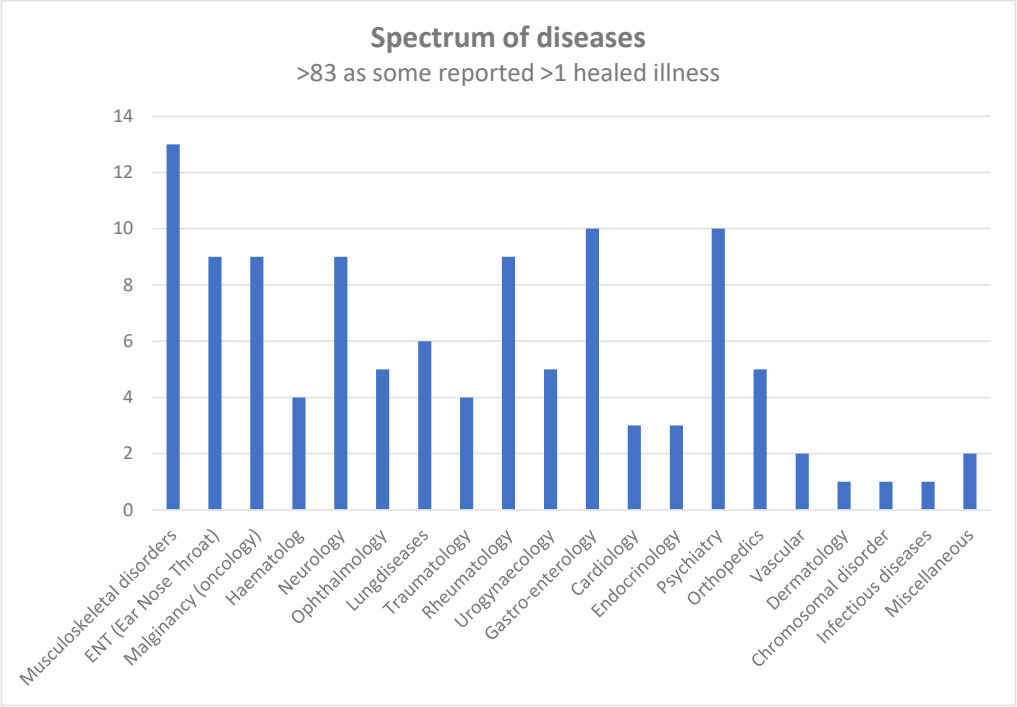
Tables 5-8 and Figure 1 are about the medical data primarily. Table 5 and Figure 1 give information about the spectrum of all diseases reported while Table 6 focuses on the 27 medical evaluations, including data about prayer setting during a healing and accompanying manifestations. Seventeen healings could not be labelled as medically remarkable/ unexplained, the reasons are listed in Table 7. In some cases mismatches were found between 'subjective' and 'objective' data, this is specified in Table 8.

Table 5: Spectrum of diseases reported (n>83 as some report > 1 healed illness):

Classification	n*	Disease/Illness
Musculoskeletal disorders	13	Pelvic instability 3; Leg length difference 2; Recurrent backache 3 (post spondylodesis once, S-scoliosis once); Cuff rupture; Whiplash syndrome; C2 abnormality cervical column (impending spinal cord injury); Post traumatic dystrophy; Hip complaints not specified
ENT (Ear Nose Throat)	9	Hearing impairment 5; Recurrent otitis media; Tinnitus; One-sided vocal cord paralysis; ; Sinusitis
Oncology (malignancies)	9	Breast cancer 3 (in situ 1); Renal cell carcinoma; Prostate carcinoma; Carcinoma floor of the mouth; Pancreatic carcinoma; Stomach cancer; Cervical cancer in situ
Hematology	4	Acute leukemia; Vitamin B12 deficiency; Non Hodgkin lymphoma; Chronic leukemia
Neurology	9	Multiple sclerosis 2; Paralysis 2 (unspecified); Gullain-Barré disease; Encephalitis; Parkinson's disease; Spasticity from cerebro-vascular accident (CVA); Coma after resuscitation
Ophthalmology	5	Descemet membrane rupture (in keratoconus); Chronic herpes keratitis; Retinal vein thrombosis; One-sided low vision; Congenital nystagmus
Lung diseases	6	Asthma 4; Pneumonia; Pleural thickening
Traumatology	4	Ankle fracture; Leg injury (muscular); Wound finger; Arm fracture
Rheumatology	9	Fibromyalgia 6; Inflammatory osteo-arthritis; Chronic arthritis (psoriatic); Rheumatoid arthritis
Urogynecology	5	Incontinence; Nocturnal enuresis; Primary infertility; Hemorrhage with shock after stillbirth; Uterine prolapse
Gastro-enterology	10	Ulcerative colitis 2; Crohn's disease; Complications after appendectomy; Chronic gastritis/ulcer; Gall stones; Chronic abdominal pain (adhesions): Gluten intolerance; Hirschsprung disease; Medication induced hepatitis/Vanishing bile duct syndrome
Cardiology	3	Pulmonary hypertension (in newborn with trisomy 8p); Endocarditis; Coronary sclerosis
Endocrinology	3	Hyperthyroidism (Graves); Thyroid tumor; Diabetes
Psychiatry	10	Depression 3; Anorexia nervosa 2; Psychosis 2 (in OCD; postnatal); Addiction 2 (alcohol; heroine); Borderline syndrome
Orthopedics	5	Knee complaints 2 (cartilage deficiency, meniscus lesion); Snapping hip; Congenital hip dysplasia; 'Dent in back'
Vascular medicine	2	Aortic dissection (iatrogenic); Complications Moya Moya syndrome
Dermatology	1	Psoriasis
Pediatrics	1	Intra-uterine chromosomal disorder, at birth no abnormalities
Infectious diseases	1	Lyme disease
Miscellaneous	2	Chronic fatigue syndrome 2

*n>83 as some participants reported more than one healed illness

- Figure 1: Spectrum of diseases reported



The assessment team evaluated 27 cases in the period between 2016 and 2020

- Table 6: data reflecting 27 evaluations (EV) by the medical assessment team:

E=expectancy NE=no expectancy LE=low expectancy ME=moderate expectancy HE=high expectancy N/A=not applicable (e.g. comatose)
Age=age category at moment of healing

EV Nr/ Sex/ Age	Illness	Year of healing/ Setting	Manifestations	Course	E	Evaluation by assessment team
EV 1 M 50-55	Cuff rupture, planned for cuff surgery	2009 prayer healing service, prophecy	Internal fight good- bad sensed	Instantane-ous healing, no relapse	LE	Cuff rupture partial, could explain healing, but surprisingly instantaneous.

EV 2 F 40-45	Pelvic instability, one-sided impaired hearing	2006 liturgical prayer in Roman Catholic monastery	Touch, current, strong emotion	Instantaneous healing pelvic instability and impaired hearing in two steps, no relapse	NE	Lack of objective investigations pelvic complaints. Audiometry was unchanged. Still surprisingly instantaneous healings.
EV 3 F 35-40	Crohn's disease	2006 two prayer healing services	1st: local touch, emotion. 2nd: fell in Spirit, lifted from floor, wind in hall.	Instantaneous healing in two steps, no relapse	LE	*Medically remarkable*: 13 - year course with remissions and exacerbations suddenly stopped after prayer.
EV 4 F 45-50	Pneumonia, lung cancer suspected	2015 two prayers + laying on of hands in hospital	Warm feeling on chest	Recovery under antibiotics	HE	Pneumonia resolved on antibiotics in hospital.
EV 5 M 40-45	Ankle fracture	2007 prayer in Pentecostal church	Prayer: power surge leg, emotion 2 days later	Instant functional healing two days later, no relapse	HE	Fracture lines were not in joint surface, recovery surprisingly instantaneous.
EV 6 M 35-40	Refractory acute leukemia, with multiple fatal complications	2015 anointing of the sick (Reformed church)	Feeling of support	Sent home to die, but there was complete remission. Relapse after one year, passed away.	NE	*Med remarkable:* Remission, very unexpected because of disseminated fungal infections, bowel perforation, abdominal abscesses.
EV 7 M 50-55	Carcinoma oral cavity Cervical metastases	2016 prayers in church, Reformed	None	No cervical metastases at surgery despite positive cytology, no relapse	NE	When reviewing cytology was not found to be conclusive.
EV 8 F 60-65	Multimorbidity and polypharmacy: asthma,	2016 own prayer before sleep while	Strong emotions, then a sensation of calm	Stepwise healing of all complaints, all drugs stopped	NE	*Med remarkable:* Gross functional improvement after prayer: powerful, addictive drugs

	disabilities + arthritis, impaired hearing, incontinen-ce et al.	desperate, wishing to die	with a sense of being wrapped in a blanket, fell asleep	except for levothyroxine No relapse, has age related hearing aids at present.		(inhalations, prednisone, oxygen, hydroxy-chloroquine, oxycodone et al.) were stopped without symptoms of withdrawal. Spirometry, audio-metry unchanged
EV 9 F 50-55	Advanced Parkinson disease, maximum oral treatment	2012 prayer at Evangeli-cal Easter conferen-ce	Warm cloud, thick air, 'tight net' removed from brain Others also felt sensation.	Instantane-ous 90% improvement Partial relapse after 8-9 years.	NE	*Med remarkable*: rapidly progressive Parkinson's, largely wheelchair bound and cognitive problems changed to full functional capabilities. DaT-SPECT scanning still abnormal 3-4 years later.
EV 10 F 25-30	Anorexia Nervosa, repeated admis-sions in clinic.	2016 desperate outcry to God while not religious	Dreams, bright light, immedia-te return of appeti-te, wind in closed room.	Instantane-ous improve-ment, weight gain to 50kg. No relapse.	NE	*Med remarkable:* Sudden healing and subsequent weight gain after 8 years of severe anorexia with Body Mass Index fluctua-ting between 10 and 20.
EV 11 F 20-25	Chronic rt herpes keratitis, low vision; failed cornea-transplant	2011 prayer healing service, pastor had prophecy.	Bright light, fell on the floor	Instantane-ous relief of pain, with vision doubled, 0,2> 0,4. Loss to follow-up	NE	*Med remarkable:* Chronic herpetic keratitis right eye from the age of 4 years, she was planned for a 2nd cornea-transplant.
EV 12 M 45-50	Type B aortic dissection, iatrogenic with cardiac catheriza-tion	2012 multiple prayers in Reformed church, (planning to go to healing service)	Warm hand at his back, gladness, urge to walk	Instantane-ous relief of walking restriction, no relapse.	ME	*Med remarkable:* Blood flow to legs was diminished, could only walk short distances. MRI's still showing the dissection with a double lumen, both having flow.

EV 13 M 35-40	Recurrent psychosis, obsessive compulsi-ve disorder, suicidality	2003-2004 prayers alpha course and healing services	Feeling of peace during one of the prayers	Gradual healing, full recovery, no relapse	NE	Gradual healing of all psychiatric problems during repeated prayers, simultaneously with regular treatment.
EV 14 F 50-55	Multiple Sclerosis, partially wheel-chair bound (EDSS disability score 6,5)	Prayers in 2009, while preparing for a healing service	None	Instantane-ous healing of all disabilities after an afternoon sleep; No relapse	LE	*Med remarkable:* 7-year course of MS, walking max 50 meters with crutches, cognitive symptoms. MRI lesions unchanged after healing.
EV 15 F 45-50	Thyroid tumor, solid node 3,7 by 2,1cm.	2012 prayer by husband before sleep	None	Tumor disappeared next morning, no relapse	LE	Cytology sugges-tive of subacute (lymphocytic) thyroiditis. Nodi can resolve, but surprisingly fast in this case.
EV 16 M 65-70	Cerebro Vascular Accident right side 1992, one-sided partial spasticity	2016 prayer healing service with laying on of hands	'War in his head before healing', crying after healing	Instantane-ous healing in 2 steps (first his arm, then his leg)	LE	CVA diagnosed by neurologist in 1992 In 2016 the healing was documented, but absence of neurological data between 1992 and 2016 hampered the evaluation.
EV 17 F 30-35	Ulcerative colitis, psoriasis with arthritis, asthma	2014 prayer healing service (group of 3 people)	Warmth, sensation as if claws were removed her back.	Healed from colitis, arthritis, psoriasis, not from asthma Medications (prednisone, TNF-alfa blockade) discontinued. No relapse.	HE	*Med remarkable:* 14-year course of chronic remitting and relapsing colitis and 2-3 year course of psoriasis and polyarthritis stopped after prayer. Regained full capacities, restarted sports.
EV 18 F 50-55	Chronic abdominal pains due to	1995 prayers and a bath in Lourdes	Trembling and strong emotions (continu-	Instantane-ous healing, no relapse.	NE	Although she had an impressive and instantaneous healing experience,

	neuralgia and adhesions post appendec-tomy	pilgrimage site (Roman Catholic)	ous crying) while taking the bath	Passed away in 2021 due to other reason.		there were no conclusive data of relevant medical investigations to substantiate the healing.
EV 19 M 25-30	Non Hodgkin lymphoma	1988 Group prayers and prayer healing services.	Vision prior to healing, creating peace and confiden-ce	Instantane-ous after first chemothera-py course; had 3 more courses, then quit chemo-therapy. No relapse.	ME	Sudden healing after longstanding prayers, simulta-neously with start chemotherapy. No decision possible because of concurrent medical treatment.
EV 20 F 30-35	Ulcerative colitis, about to undergo total colectomy	2008 prayer healing service	Strong physical sensations Husband had a vision	Instantane-ous healing, gross reduc-tion of diar-rhea, from 40 times daily, now up to 6 times daily	ME	*Med remarkable:* 7-year course of invalidating diarrhea turned to normal functioning Lesions still visible on follow-up coloscopy
EV 21 F 30-35	Acute Dis-seminated Encephalo Myelitis (ADEM) and/or Multiple Sclerosis (MS)	2001 prayer by husband, laying on of hands, also using a cloth of the prayer healer.	Strong emotional experien-ces both husband and wife.	Rapid recove-ry of serious condition. Temporary relapse. First diagnosed ADEM, later MS. Now no complaints.	NE	Evaluation hampered by etiological uncertainties. Extraordinary course, medication for MS was stopped in 2017.
EV 22 M 55-60	Angina pectoris, coronary sclerosis. Past histo-ry of 5 coronary bypasses and a small infarct.	2008 prayer healing service, prophecy	Warmth. Strong pain at the left side and in the left arm.	Instantane-ous healing longstanding chest pains and limited exercise tolerance. Since 2019 mild com-plaints again, controlled by medication	NE	Etiological uncertainty of complaints. Grafts were open when reviewing the angiogram prior to prayer.
EV 23 F	Congenital hearing impair-	2009 prayer	Little push in back before	Instantane-ous healing,	HE	Sudden normal hearing, confirmed by family, friends

35-40	ment (from childhood) Bilateral hearing loss 45dB.	healing service	prayer, ears 'popped open'.	at present mild complaints, not interfering with daily life.		and a validated questionnaire. Functioning at work much improved. Audiometry unchanged.
EV 24 M 55-60	Cancer of stomach, signet-ring cell carcinoma	2011 prayer healing service	Strong experience, warmth in stomach region; sure to be healed	Healing, no tumor found on surgery 2 days later; no relapse	LE	The healing coincided with 3 courses of debulking chemotherapy This is known to be curative in 1-3% of cases as a sole treatment.
EV 25 M 50-55	1. Alcohol and smoking addiction	2003 prayer with health worker in clinic.	Felt as if addiction was 'pulled out'.	Instantaneous healing, no more craving, no relapse	NE	Expert opinion: in addiction such instantaneous changes can be observed, though in rare instances.
	2. Post-traumatic dystrophy + nerve compression right leg	2006 anointing of the sick (by elders Reformed church)	None	Instantaneous healing of 18-year course of pain and functional restrictions next day. No relapse.	HE	Surprising course. Evaluation hampered by etiological uncertainties due to two conditions of the leg and intermingling symptoms.
EV 26 M 50-55	Hypoxic encephalopathy after resuscitation lasting 20 minutes with multiple defibrillations	2000 prayer by daughter at the bedside in the ICU	Unknown (because of coma)	Woke up after prayer when he was 5 days in coma, gradual full cognitive recovery	N/A	Admission ICU: comatose (Glasgow coma scale E1M3 Vtube), respiratory insufficient. Poor prognosis, full recovery only in rare instances. Evaluation was hampered due to lack of data concerning depth and course of coma.
EV 27 M	Medication induced hepatitis	2015 prayers by different prayer	Feeling of calm and lifted from bed at	Rapid improvement starting after the prayers,	LE	*Med remarkable:* Transplantation of liver was discussed, when there

50-55	(amoxy-cillin/clavulanic acid) with Vanishing bile duct syndrome, impen-ding liver- and kid-ney failure	groups at the same time	night in hospital, as if a 'good power' was around; neighbor also had a sensation	full recovery		was sudden rapid recovery. He received treatment simultaneously (prednisone) , but bilirubin levels decreased unusually fast, with full recovery afterwards.

- Table 7: Seventeen healings could not be evaluated as medically remarkable or unexplained by the medical assessment team, reasons are listed below.

Reasons for not listing as medically remarkable	n=17
Treatment could be explanatory	4
The assessment team came to a different conclusion when reviewing medical data, such as imaging studies, cytology	4
No corresponding changes in additional investigations (radiology, audiometry)	3
Relevant data was lacking in files	3
Uncertainty about diagnosis	2
The natural course of the disease could also be an explanation of recovery	1

- Table 8: Mismatches between subjective and objective data were outspoken in seven cases

Mismatch	Case no
Strong and lasting healing experience in impaired hearing without numerical changes in audiometry	2, 8, 23
Parkinson disease: DaT-SPECT scan showing clear abnormalities despite gross improvement of symptomatology	9
Aortic dissection: MRI still showing the same double lumen when all symptoms had spontaneously disappeared	12
Multiple sclerosis: instantaneous healing of debilitating MS, MRI lesions remaining the same	14
Ulcerative colitis: instantaneous improvement of severe diarrhea (40 times/daily), but lesions were still seen in follow-up coloscopy	20

Table 9 reflects data about all reports, which were not evaluated by the assessment team. Data in this group provide us with information about instantaneity of healing, setting of the prayer(s) and accompanying manifestations. No medical conclusions can be drawn since they were not evaluated. The availability of medical data alternated.

- Table 9: data of 56 reports, which were not evaluated by the assessment team:

Nr/ Sex	Illness	Year of healing, Prayer setting	Medical course	Manifestations during healing
1. F	Breast cancer in situ	2009 anointing of the sick, Reformed church	Unknown	Strong sensation of God's presence
2. F	Complications of encephalitis	+/- 1950: prayers by her mother	Gradual improvement	Unknown
3. F	Congenital nystagmus	2013 prayer healing service	Instantaneous improvement; relapse after 2 years	Strong emotions
4. M	Renal cell + prostate carcinoma	2015 anointing of the sick, Reformed church	Improvement while having treatment; relapse, passed away	Feeling of support
5.M	Leg injury from kickboxing	2015 prayer in Full Gospel church	Pain flowed away, no relapse	Unknown
6.M	Scoliosis, leg length difference	1995, setting unknown	Legs became equal while seated; no relapse	Unknown
7.M	Complications of appendicitis	1978 prayer by his father, in hospital	Favorable rapid recovery	Unknown
8. F	Moya Moya syndrome with brain complications	+/- 2015 own prayer	Neurosurgery was cancelled; further course unknown	Unknown (child)
9. M	Pulmonary hypertension in chromosomal syndr (trisomy)	2001 prayer with cloth from prayer healer at bedside in hospital	Life threatening pulmonary hypertension stopped (no data from hospital)	Neonate, impossible to establish
10. F	Hyperthyroidism (Graves' disease)	2002 Holy Communion in a Reformed church	Instantaneous relief of persistent symptoms under treatment; no relapse	Tiredness suddenly gone, 'filled by Spirit'

11. F	Chronic fatigue, Fibromyalgia	2004 and 2005 Christian conferences	Instantaneous improvements in 2 steps, no relapse	Sense of touch, warm feeling in area with pains
12. F	Descemet membrane rupture right eye with hydrops cornea in keratoconus	2005 prayer by a pastoral worker twice with instantaneous improvements	Could instantly read license plates again (corneal transplants both eyes in 2019)	A shock from top to toe both times
13. F	1. Finger wound 2. A 'dent' in her back due to childhood injury	2015; 1: prayer by Christian group on street. 2: prayer Facebook contact	1: rapid healing of wound 2: partially improved	1: 'dream': she could forgive people 2: unknown
14. F	Fibromyalgia/ Early arthritis	1992 prayer healing service	Instantaneous healing	Unknown
15. F	Chronic back complaints. Leg length difference.	2017 prayer in Healing rooms (USA)	Instantaneous healing, no relapse	Sensation of sparkling water in legs, radiating into both feet
16. F	Cartilage deficiency, knee surgeries. Crut-ches, wheelchair	2006 prayer healing service, prophecy	Instantaneous relief of pain, walking distances without crutches. No relapse.	Unknown
17. F	Retinal vein thrombosis right eye	1996 prayer group at work, she was not aware of these prayers.	Gradual improvement	None
18. F	Duodenal ulcer	2014 prayer healing service	Instantaneous healing Medication stopped	Unknown
19. F	Congenital bilateral hip dysplasia, multiple surgeries	2005 prayer by husband before visiting the specialist	Instantaneous relief of symptoms	Glowing and trembling legs after the prayer.

				Husband: gladness during prayer.
20. F	Fibromyalgia	2009 anointing of the Sick (Reformed church)	Instantaneous relief next day, no relapse	Feeling of heat twice in the night after the prayer
21. F	Postnatal depression, Psychotic features	2015 breakthrough prayer (long continuous group prayer)	Instantaneous healing	Prophecy, during prayer a vision of a pillar above her head
22. M	Nocturnal enuresis from childhood	1988 prayer when converting to Jesus in evangelism bus	Instantaneous healing No relapse until 2017 (at present unknown)	Unknown
23. F	Disability, backache after spondylodesis	2003 prayer healing service	Instantaneous healing, no relapse	None
24. F	Guillain Barré disease	2009 prayer healing service own church, Evangelical	Rapid recovery, not instantaneous. After 4 years limited relapse.	None
25. M	Recurrent backache, very painful episodes	2008 own prayer at home, reading the Bible	Instantaneous healing, no recurrence	Strong emotions, paresthesias
26. F	Pancreas carcinoma with metastases	+/- 1950 prayer services in different churches	Report from son: survived after prayers, while expected to die	Unknown
27. M	Complaints of stomach since 1963	1968 prayer, laying on of hands during a conference	Healing after prayer, no recurrence	Intense gladness
28. F	Endocarditis, no further data	1991 distant prayers	No complaints, no recurrence	Experience of peace
29. M	Recurrent ear infections	1966 distant prayer by woman in village with gift of healing	Pain disappeared instantly, no recurrence	None
30. M	Tinnitus 2015, all encompassing	2016-2017 own prayer + diet	Gradual healing, complete	Unknown

31. M	Gall stones, discovered after a colic in 1992	1992/1993 prayers, anointing with oil by elders	Gall stones gradually disappeared on ultrasounds	Unknown
32. M	Severe depression: multiple ECT, lithium	2014 own prayers, and together with others as well.	Healing after prayers, lithium stopped; relapse later on.	Unknown
33. F	Couple, both with heroin addiction: wife since one year, husband since six years	1987 desperate prayer by wife. Prayer by husband elsewhere.	Instantaneous healing wife and husband at the same moment, while at different locations.	Both of them felt heat waves going through body at that same moment.
34. M	One sided vocal cord paralysis, after intubation	1969 healed upon prayer (according to his parents)	Healed	Unknown
35. F	Infertility and anorexia	Late seventies desperate prayers for fertility	Gained weight, had 3 children afterwards	Vision of Jesus on doorstep of room, thankfulness, knew she would become pregnant
36. F	Stillbirth with life threatening hemorrhage	1984 prayer of husband in adjacent room of hospital. He felt a touch.	Fluxus stopped	She also felt a touch at the moment of her husband's prayer, and gladness.
37. F	Whiplash	1994 distant prayers in Brazil, prophecy.	Instantaneous healing	Unknown
38. F	Breast cancer with bone metastases	2000 prayer in own church (Evangelical) by missionary	Metastases stable since 20 years, no treatment (limited medical data)	Unknown
39. F	Breast cancer: surgery, radio-/ chemotherapy; bone metastases found (jawbone and skull) after treatment	2016 prayer healing service	Healed, scans normal after prayer. (no medical data obtained)	Strong emotions, feeling as if walking on a cloud

40. M	Deficiency Vitamine B12; gluten intolerance	2016 prayer and baptism by his father at the beach	Instantaneous healing	Sense of certainty of being healed during baptism
41. F	Fetus with chromosomal abnormalities in pregnancy, abortion was advised	Prayer healing service, date unknown	Normal child was born, no further data	Unknown
42. M	Pleural thickening, suspicion of mesothelioma (not confirmed)	2009 prayer healing service	Sudden improve-ment of complaints, restoration of relationships with relatives; no relapse	Experience of love and peace, sure to be healed
43. M	Lyme disease	Prayer healing service, date unknown	Instantaneous healing; no further data	Unknown
44. F	'Paralysis', no further data	Prayer healing service, date unknown	Instantaneous healing	Unknown
45. F	Borderline disorder (psychiatry)	Prayer healing service, date unknown	Instantaneous healing, no further data	Unknown
46. F	Hirschsprung disease, diagnosed at age 27, multiple surgeries Note: no medical data obtained.	2001 prayer healing service	Instantaneous healing, normal bowel movement; no relapse.	Felt a touch, especially in the abdomen, a beneficent healing power
47. F	Neck- and backache, abnormality cervical vertebral column (aberrant position C2) with impending spinal cord injury.	2008 prayer healing service	Instantaneous healing; no relapse Note: no medical data obtained.	Tingling from top to toe, dizziness, coldness, as if C2 was shifting position.
48. F	One sided low vision (juvenile cataract) and one sided impaired hearing post ENT surgery	2010 prayer healing service	Instantaneous healing, no relapse. Limited data, only patient history	Feeling of embrace and warmth
49. F	Pelvic instability, in wheelchair	2000 Prayer healing service	Instantaneous healing, no relapse	Overwhelming experience

50. F	Pelvic instability, fibromyalgia	2001 Prayer healing service	Instantaneous healing, no relapse	Feeling as if hands were laid on pelvis
51. M	Fibromyalgia, chronic fatigue syndrome	1. 2005 prayer with reverend 2. 2006 prayer healing service	Healing in 2 steps, instantaneous on both occasions. No relapse	1. Feeling of rest, peace 2. Feeling of warmth, pain instantly gone
52. F	Fibromyalgia since 42 years	+/- 2014 Prayer healing service	Instantaneous healing	Feeling of warmth in body, pain gone.
53. Mother, son, daughter	Migrant family with multiple diseases: deaf, diabetes, asthma, depression, 'broken' arm (no medical data)	Prayer healing service, date unknown	Instantaneous healing of diseases in 3 family members at the same time.	Unknown
54. F	Snapping/slipping hip, longstanding backache	2009 Prayer healing service	Instantaneous healing when standing in the line before the prayer. No relapse.	Touch in the side of the body and the back, 'moved in her soul'.
55. F	Several diseases: Chronic leukemia, asthma, uterine prolapse and other problems	Prayer team; Dates unknown	Several healings. Passed away, reason unknown. Note: no medical data obtained.	Vision about wine and holy communion
56. F	Cervical cancer (in situ?), other problems (sinus, meniscus). Note: no medical data obtained.	1989-1991 prayer group	PAP smears became normal, other conditions healed	Visions of Jesus

Tables 10-12 and Figure 2 focus upon experiential manifestations accompanying reported healings and upon expectancy. Table 10 lists all reported manifestations including frequencies. A pattern of instantaneity of healing associated with physical and emotional manifestations was found to be dominant, which is reflected in Table 11. This is true both for the subgroup of evaluated healings and for all reported healings. Levels of 'expectation to be healed are indicated in Table 12 and Figure 2.

- Table 10: Reported manifestations (physical, emotional, existential) accompanying a healing experience

Manifestations	n=
Strong emotions/incessant crying	13
A sensation of being touched*	13
A sensation of warmth	12
Experience of quiet/love/peace/support	9
A current or wave through the body/paresthesia	8
A vision or strong meaningful dreams	7
A bright light	3
Internal fight between good and bad	2
Strong sensation of God's presence/angel	2
Falling (in the Spirit)	2
Levitation (being lifted from floor or bed)	2
Wind in a closed room	2
Others nearby having sensations as well	2
Feeling of intense gladness	2
Feeling as if sickness is pulled out of body	2
Shivering/trembling	2
A feeling of being liberated	1

* In 6 instances this was said to be a touch at the location of the disease

- Table 11: Course of healing and associated manifestations for the subgroup of evaluated healings (EV) and for all reported healings (ALL)

Course of Healing	TOTAL		Manifestations Associated with Healing (Physical, Emotional)					
			YES		NO		UNKNOWN	
	EV n = 28	ALL n = 84	EV	ALL	EV	ALL	EV	ALL
Instantaneous onset	23	61	20	43	3	5	0	13
Gradual recovery	2	12	2	5	0	3	0	4
Unknown	3	11	1	3	2	2	0	6
	28 *	84 *	23	51	5	10	0	23

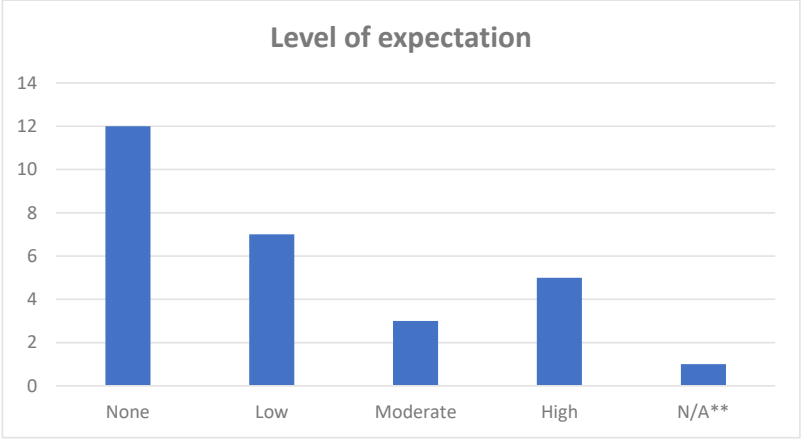
*28 healings were evaluated as 2 healings were assessed in one case, giving a total of 84 for all healings.
**physician/specialist reported healing to patient after investigations, instantaneity unknown (twice); comatose (once).

- Table 12: level of expectation to be healed by prayer in retrospective self-report, for all healings (n=84) and for those evaluated (n=28)

Level of expectation	All healings (n=84)*	Subgroup evaluated healings(n=28)*
None	25	12
Low	11	7
Moderate	7	3
High	10	5
N/A (newborn, comatose)	3	1
Unknown	28	0

*n>83 and n>27 as 2 healings were reported in one case

Figure 2: level of expectation 'to be healed by prayer' (as a retrospective self-report) for 28 healings evaluated



** Not applicable: comatose state

Table 13 reflects the explanations which the participants gave for their healings.

- Table 13: Explanation of healing

Explanation of healing	All cases (n=83)	Subgroup evaluated cases (n=27)
It was God	48	25
Higher power	3	0
God and/or a physical mechanism	2	1
God and a positive drive	1	1
God and/or Mary	1	0
Doubting (after relapse)	2	0
Unknown (no data)	26	0

Results of follow-up in 2019 and 2021

Table 14-16 reflect results of two follow-up studies.
In 2019 and 2021 a follow-up was done by re-contacting as many participants as possible, asking them about their actual health status and socio-religious quality of life.
There is a considerable overlap between the 2019 and 2021 follow-up groups, but no complete overlap. In 2021 we managed to contact some people whom we did not contact in 2019 and vice versa. One should therefore be cautious when comparing the two groups.
Additionally we understood that five people had passed away in the meantime: two of them because of a relapse of the disease reported, one because of another disease and in two cases the cause of death is unknown to us.

- Table 14: Health outcome and socio-religious quality of life (QOL)

Subject investigated	Outcome	Follow-up study 2019 n=56*	Follow-up study 2021 n=59*
Health outcome	Complete healing	43	50**
	Incomplete healing	11	2
	(Partial) relapse	2	7
Outcome of socio-religious quality of life (QOL)	QOL improved	42	45
	QOL unchanged	13	12
	QOL decreased	1	2

*There is no full overlap between the 2 follow-up studies (see the remarks above).
**It should be noticed that 15 participants still had minor symptoms of the disease. But they indicated that healing was complete as these symptoms did not influence their physical and mental functioning.

- Table 15: positive effects mentioned on socio-religious life

Frequency of reported positive effects on socio-religious life	2019	2021
Sharing the healing experience, talking about faith more easily	15	12
Deepening of faith	8	20*
More active (or newly active) in church	7	8**
Increased social activities, helping others	6	10**
Closer to God, 'permeated by his love'	4	3
Deepening of prayer life/praying for sick people	4	17*
Strengthening (confirmation) of faith	2	12*
Writing books	2	1
Missionary activities	2	6**
Increased activities in coaching/pastoral care	2	4**
Restoration of relationships (relief of bitterness)	2	5**
Bible school	1	0
Different view on healing	1	0
Self-confirmation (increased awareness of own strength)	1	3

Strong wish to know more about God/Bible	0	5
After healing it was more easy to empathize with people having a chronic disease	0	1

*The three items indicated were scored more often in 2021, probably as the interviews in 2021 were more extensive. Many participants said they had undergone profound changes, often having turned their lives upside down. They expressed their feelings with words like being overwhelmed by love and gratitude or a sense of calm and peace. For 12 participants this coincided with a moment of conversion.
**For 23 participants their healing experience had obvious practical social consequences with an increased willingness to help people in need. This was manifested through church or missionary activities, direct social actions (aiding marginalized, poverty stricken and health afflicted humans), coaching, efforts to restore relationships et al.
Note: n>23 as some participants indicated > 1 activity.

- Table 16: negative effects mentioned on socio-religious life

Frequency of reported negative effects on socio-religious life	2019	2021
(Partial) bitterness because of difficult life events in the years after healing	0	3
Bitterness after relapse	1	0
Negative experiences in church/with Christians after healing		17*

*This item was not reflected in 2019. We noticed that a lot of participants were faced with negative responses from within their churches and from other Christians. Some statements: 'In church people did not believe me. I felt angry, sad and hurt' and 'Church people said to me – it's between your ears'.

A secondary result

An intriguing observation of the research was a process developing within the supervisory and assessment teams. Initially the members of the assessment team considered it to be their primary task to make evaluations strictly based on medical grounds. Individual cases were discussed extensively, but in due course there was some discomfort. The team found it increasingly difficult to differentiate between 'remarkable' and 'unremarkable'. When looking at the healings from non-medical angles there were surprising similarities in most of them, whether or not medically remarkable: instantaneity and unexpectedness of healing, associated sensory manifestations and transformative experiences. Just viewing these healings from a medical perspective was not enough. In order to interpret them, it seemed to be necessary to look at them from other perspectives.

Discussion

Major observations

- When evaluating 27 selected cases out of 83 prayer healing reports, a medical assessment team concluded there were 11 'medically remarkable healings', no 'unexplained healings'.
- The study population was diverse.
- Diseases reported covered the entire medical spectrum.
- The setting of prayers varied considerably: personal prayers, group prayers, holy communion, liturgical prayers, prayer healing services, anointing of the sick, these could all lead to healing experiences.
- Healing experiences took place across all church denominations, and also when there was no church affiliation at all.
- Healing experiences were often unexpected. Expectancy does not seem to play a major role.
- A large majority of the participants reported an instantaneous onset of their healing, very often associated with physical and emotional manifestations at the same time.
- Manifestations varied a lot, but in all cases they were sensed as being positive and meaningful.
- Most healings had a multidimensional character, invariably interpreted as an act of God. Transforming people, often referred to as a healing of 'mind, body and soul'.
- Due to the multidimensional aspects involved, the assessment team found it increasingly difficult to differentiate 'medically remarkable' from 'a remarkability in a broader sense'.
- Pronounced mismatches were found repeatedly between 'subjective' data and 'objective' investigations.
- In our follow-up the majority of the participants were still healed 2 and 4 years afterwards with a lasting positive effect on their socio-religious quality of life. It had often triggered a life of benevolence.
- Participants were frequently confronted with negative reactions from outside, in particular from other Christians and from within their churches.

These observations will now be taken as point of departure for our further discussion.

The research population

In line with known gender differences on religiosity[30, 31], there is some over-representation of females (Table 2).

Geographically it is noteworthy that reports were received from all provinces in the country as well as a few from outside the Netherlands.

[30] Maselko J, Kubzansky LD. Gender differences in religious practices, spiritual experiences and health: Results from the US General Social Survey. *Social Science & Medicine.* 2006; 62:2848-2860.

[31] Levin J. Prevalence and Religious Predictors of Healing Prayer Use in the USA: Findings from the Baylor Religion Survey. *J Relig Health.* 2016; 55:1136-1158.

As is reflected in Table 4 reports came from multiple sources. Media coverage was from different sources such as newspapers, TV channels and social media, with varying ideological backgrounds (liberal, secular, orthodox Christian).
In summary, one may say that the study had access to large parts of society, the study population being sufficiently diverse to allow for the making of conclusions.

Spectrum of diseases reported

The diseases represented the whole medical spectrum (Table 5, Figure 1). Psychiatric disorders were reported in 10 out of 83 cases. Apart from fibromyalgia, which was mentioned 6 times, illnesses of unspecified nature or possibly psychosomatic origin do not appear to be over-represented.
This is contrary to a Dutch study of Van Saane and Stoffels[32], who concluded in 2008 that in cases of prayer healing mainly psychosomatic disorders were involved. They did a questionnaire among 900 members of an Evangelical Christian broadcasting organization. Many of them apparently believed that God is able to heal through prayer. A subgroup of 81 reported actual healings. Reports of recovery were from depression, chronic fatigue, backache, headache, fibromyalgia et al. Predominantly illnesses with significant underlying psychological mechanisms, according to Van Saane (28). However, a list specifying diagnoses in the 81 cases was lacking in the book (see footnote 32).

Jacalyn Duffin studied miraculous healings as registered over the centuries in the canonization records of the Vatican. For the period 1950-1999 she listed 134 miracles[33]. All diseases were serious, often life threatening. Cancer was recorded 25 times.
The studies mentioned above were influenced by study related selection biases: a subgroup of Evangelical Christians (Van Saane), an advanced medical selection procedure (Duffin) or a request for positive prayer healing reports (ours). We should therefore be cautious when interpreting them. But one may say that both prayer requests as well as healing reports cover wide ranges of illnesses.

Modes of presentation and prayer settings

In 31 cases a prayer healing service was said to be the setting of a healing experience (Table 4). This picture is distorted as 21 healings were reported by prayer healers themselves. We get a different impression when excluding them: in that case ten healings were reported during a prayer healing service, which is less prevalent than 'prayers by others' (20) and equally prevalent to 'personal prayer' (10). Other settings are common as well: anointing of the sick, prayers by the church community or by a group. In other words: prayer healing services are not the dominant setting for healing experiences. Rather, there is a rich variety of settings.

[32] Van Saane J. *Gebedsgenezing. Boerenbedrog of serieus alternatief?* Kampen (Netherlands): Ten Have. 2008.
[33] Duffin J. *Medical Miracles. Doctors, Saints and Healing in the Modern World.* New York: Oxford University press. 2009 (p. 110-111).

Level of expectation versus explanation

Nearly all participants explained their healing as an act of 'God or a higher power'. From the perspective of the study design this is not surprising when asking people to come forward with prayer healing reports. But something else did surprise us. We expected a positive relationship between expectancy and prayer healing experiences, as a contributing factor explaining such experiences. There is evidence in literature for the relevance of expectancy. Research by Evers et al.[34] and a review by Finniss et al.[35] concluded that physical complaints can be altered by placebo and nocebo effects due to induction of positive or negative expectations. This was demonstrated in different medical settings.
However, in our study a vast majority had a low level of expectancy or no expectancy at all prior to their prayers, versus a minority with a moderate or a high level of expectancy (Table 12, Figure 2). This is in line with empirical research by Candy G Brown on HP in the US and Brazil, through written surveys and telephone interviews of people attending Pentecostal healing conferences. In *Testing Prayer* (see footnote 3) she concluded: 'Analysis of the available evidence suggests that, for both Brazilians and North Americans, faith and expectancy may be less significant in predicting healing than either Pentecostal or biomedical theories have supposed'.
These results differ from our initial assumptions. They also contradict the view of some theological opinions emphasizing the degree of faith as a precondition for healing.

An additional remark should be made about the role of a 'spiritual journey'. When analyzing 14 in-depth interviews, Bendien et al. (see footnote 22) notice: 'at some point in their life they (i.e. the respondents) embark on a quest for faith, for their God'. One wonders about the association of these spiritual quests and the occurrence of a healing experience. Some of our participants, notably the ones with MS (EV14 Table 6) and aortic dissection (EV12 Table 6), had a heightened awareness of the relevance of prayer. There was increased prayer activity coinciding with the intention of visiting a healing service, when they experienced healing very unexpectedly. One of them experienced healing during an afternoon sleep, the other while doing a little job at home. At that specific moment there was no expectancy of healing at all, but they had embarked on a quest. Although the role of such spiritual journeys has not been clarified, it is interesting to take note of it for further investigation.

Course of healing

We considered it a noticeable finding that instantaneous onset of healing was reported in 61 out of 84 instances of an HP experience (Table 11), this was emphasized even more when excluding those cases lacking sufficient data about the course of healing (61 out of 73). Gradual recovery, without instantaneous onset, was reported 12 times. Additionally there was a considerable fraction of 43 participants reporting physical or emotional manifestations (Table 11) in the group of 61 instantaneous healing experiences. This fraction was even higher when excluding those without clear data about accompanying manifestations (43 out of 48).

[34] Evers AWM, Bartels DJP, Laarhoven van AIM. Placebo and Nocebo Effects in Itch and Pain. In: Benedetti F, Enck P, Frisaldi E, Schedlowski M. (eds) *Placebo. Handbook of Experimental Pharmacology, vol 225.*
Springer, Berlin, Heidelberg. 2014 (p 205-214).
[35] Finniss DG, Kaptchuk TJ, Miller F, et al. Biological, clinical, and ethical advances of placebo effects. *Lancet* 2010; 375:686-695.

For those with gradual recovery and unknown course of healing (n=23) eight participants reported manifestations.
The subgroup, which was evaluated by the assessment team, gave the same picture. Even more so, as this subgroup had the advantage of an increased availability of data (Table 11).

A dominant pattern thus evolved of a particularly large group with a sudden onset of their healing experience, very often associated with strong physical and emotional experiences.
The same was found by Francois et al., who studied 411 healings at the Lourdes pilgrimage site in France in 1909-1914 as well as 25 cures acknowledged between 1947 and 1976[36]. They concluded that 'in two out of three cases the clinical cure was instantaneous, sometimes heralded by an electric shock or pains and, more often, a perception of faintness, or of relief, or of well-being'. And Duffin, who investigated many healings in the Vatican archives, stated: 'The speed at which patients recovered occasioned many comments of astonishment. When asked if such a cure might have taken place naturally, the doctor would reply – 'perhaps, but not so quickly'[37].

There is also resemblance with many instantaneous healing experiences, described between 1885 and 1968 in the orthodox Ostrog monastery in Montenegro, Eastern Europe[38] as well as healings reported by St Augustine in his book the City of God in the 4th/5th centuries AD[39] and Kathryn Kuhlmann[40] in the 20th century in North American prayer healing services. It is interesting to see the same pattern in different eras, at different locations and within varying Christian religious traditions.

Manifestations

Table 10 lists manifestations accompanying a healing experience during prayer. These occur frequently. Some of them, notably levitation and wind in a closed room, seem to be contradictory to physical laws. In two other cases it was surprising to understand that bystanders had experiences to some extent as well.

All manifestations reported had in common that they were experienced as positive and meaningful, as something which is good. People often felt accepted beyond words, being overwhelmed by a loving power, invariably interpreted as having a divine origin.
Brown (see footnote 3) and Ouweneel[41] also gave examples of HP experiences with manifestations.

[36] Francois B, Sternberg EM, Fee E. The Lourdes cures revisited. *Journal of the History of Medicine and Allied Sciences* 2014; 69(1):135-162.
[37] Duffin J. *Medical Miracles. Doctors, Saints and Healing in the Modern World.* New York: Oxford University press. 2009 (p. 140).
[38] Nikchevich V, Smylyanich A. *Life and Miracles of Saint Basil of Ostrog (with brief history of the Ostrog monastery).* Cetinje (Montenegro): Svetigora Press. 2017.
[39] Augustine St. *The City of God, book XXII, ch 8* (different translations).
[40]Kuhlman K. *I believe in miracles.*Bridge-Logos, Gainesville (FL, US): Bridge-Logos. 1992; *God can do it again.* Gainesville (FL, US): Bridge-Logos. 1993; *Nothing is impossible with God.* Gainesville (FL, US): Bridge-Logos. 1999.
[41] Ouweneel WJ. *Geneest de zieken! Over de Bijbelse leer van ziekte, genezing en bevrijding*. Vaassen, the Netherlands: Miedema. 2003.

Similar experiences are also documented without healing. Poloma and Lee, two sociologists, presented five cases of religious experiences with accompanying manifestations[42]. All of them reported that they experienced a touch by God, manifested by different phenomena: a gust of wind, an appearance of Mother Mary, a 'hand' on the head or in the back, a vision of 'Angels' or 'a rainfall of liquid love'. But none of them described a simultaneous recovery of a disease.
Levin and Steele used the term transcendent experience as an event 'evoking a perception that human reality extends beyond the physical body and its psychosocial boundaries'[43]. Basic characteristics are ineffability, a sense of revelation (or 'a new sense of life'), positive moods and positive changes in attitudes and behavior. An agenda was proposed for research on the role of transcendent experiences in health. The frequently observed combination of healing with powerful experiences in our study seems to underline the necessity. Clarification and uniformity of terminology should be a starting point, as Levin and Steele also indicated.

Medical assessment

Eventually 11 out of 28 healings presented were considered to be medically remarkable by the assessment team (Table 6). In 10 cases this was primarily associated with a highly unusual course of the disease: instantaneous healing experiences of serious diseases (Parkinson disease, Multiple Sclerosis, Anorexia Nervosa, Inflammatory Bowel Disease et al.) with gross reduction or complete disappearance of all symptoms. In the remaining case there was a totally unexpected remission of acute leukemia in a terminally ill patient with major complications, which were considered to be incompatible with life. The assessment team could not explain this recovery. However, the relapse after one year did not comply with the requirement of a permanent cure (see Lambertini criteria under *Methods*).

A separate remark should be made about the assessment team's evaluation of malignancies. Apart from the case of leukemia the team went through the data of three other patients with reported healing of a malignancy. In all of them there was a medical mode of treatment possibly explaining the recovery. E.g., it is only in rare instances that treatment with chemotherapy can be successful in carcinoma of the stomach (EV 24, Table 6). In malignancies it may therefore be very difficult to find unexplained healings, as the vast majority of them also have parallel medical treatments.

Eventually none of the healings was evaluated as unexplained. Unexplained cures were assessed elsewhere in rare instances such as in Lourdes[44], Rome (see footnote 33), and by Romez et al. (see footnotes 12 and 13). At the medical desk in Lourdes less than 1% of reports received since 1972 was evaluated as being unexplained (see footnote 36). It is therefore understandable not to find such cases in our series of 83.

[42] Poloma MM, Lee MT. From Prayer Activities to Receptive Prayer: Godly Love and The Knowledge that Surpasses Understanding. *Journal of Psychology and Theology.* 2011; 39(2):143-154.
[43] Levin J, Steele L. The Transcendent Experience: Conceptual, Theoretical, and Epidemiologic Perspectives. *Explore.* 2005; 1(2):89-101.
[44] Dowling StJohn. Lourdes cures and their medical assessment. *Journal of the Royal Society of Medicine.* 1984; 77:634-638.

'Mismatches' and 'matches'

An unexpected finding was the occurrence of repeated mismatches between lasting healing experiences with gross functional improvements on one hand and remaining abnormalities in objective medical investigations on the other (EV 2,8,9,12,14,20,23, all in Table 6). There is an interesting paradox here: in these instances 'subjective' data was better at reflecting the patient's state rather than 'objective' investigations. We recently published two articles covering some of these cases[45, 46]. In other cases (EV 3,10,11,27, all in Table 6) we found matches as well: subjective recoveries were accompanied by measurable improvements.

The mismatches evoke a discussion of hierarchical views on medical evidence. In medicine there is a strong tendency for 'objective' investigations to prevail over 'subjective' data such as patients' narratives, hetero anamnesis, and clinical experience[47]. Our cases considered here however, point us in a different direction where both 'objective' and 'subjective' data should be taken seriously and interpreted within their context. A horizontal epistemology (i.e. mode of knowing) would therefore better fit our findings[48]. The term horizontal implies that equal weight is given to objective and subjective data in the assessment of the clinical outcome.

Huber et al. evaluated a new dynamic concept of health[49], addressing people as 'more than their illness', covering six dimensions: bodily and mental functions, spiritual dimension, quality of life, social participation, daily functioning. A qualitative study and a survey were held under 140 and 1,938 participants respectively. 'Patients considered all six dimensions as being almost equally important, thus preferring a broad concept of life, whereas physicians assessed health more narrowly and biomedically'. Is this part of the paradox we face?
Could it be that we are overlooking important aspects in medical practice by adopting a hierarchy in our assessment when valuing 'objective' data above data from other dimensions?

Follow-up: health related and socio-religious outcomes

Health-related long term outcomes were positive for most participants (table 14, 15). A large majority reported complete or partial healing when re-contacting them in 2019 and 2021, which was on average two and four years after registration in our study.
These positive results could be expected to some extent as this study was a retrospective one with many participants who had experienced healing 5 to 20 years previously or even more.

[45] Kruijthoff DJ, Bendien E, Doodkorte C, Kooi van der C, Glas G, Abma TA. "My Body Does Not Fit in Your Medical Textbooks": A Physically Turbulent Life With an Unexpected Recovery From Advanced Parkinson Disease After Prayer. *Adv in Mind-Body Medicine*. 2021; 35(2):4-13

[46] Kruijthoff DJ, Bendien E, Kooi van der C, Glas G, Abma TA, Huijgens PC. Three cases of hearing impairment with surprising subjective improvements after prayer. What can we say when analyzing them? *Explore.* 2021; 18(4):475-482.

[47] Glas G. *Person-Centered Care in Psychiatry. Self-Relational, Contextual and Normative Pespectives.* London and New York, Routledge. 2019.

[48] Abma T. Ethics work for good participatory action research, engaging in a commitment to epistemic justice. *Beleidsonderzoek online.* September 2020, DOI: 10.553/BO/221335502020000006001.

[49] Huber M, Vliet M van, Giezenberg M. Towards a 'patient-centred' operationalisation of the new dynamic concept of health: a mixed methods study. *BMJ open.* 2016Jan12;6(1):e010091. doi.10.1136/bmjopen-2015-010091

Socio-religious outcomes were favorable as well. Most of the participants experienced improved socio-religious quality of life, being more involved in various religious activities.
At the level of psycho-social outcomes there was a considerable group reporting positive effects: social activities, helping others, restoration of disrupted relationships (relief of bitterness), increased self-confidence. Not only did the healing improve the socio-religious quality of life, people tended to focus more on non-materialist values, starting or participating in social activities, willing to help others.
Lee, Poloma and Post noticed that there is a positive relationship between religious experiences and benevolent activities[50]: 'An encounter with a divine energy that is profoundly loving and accepting beyond words, followed by a radical shift in which core values are turned upside down, resulting in insights that appear to rewire the person and their approach to life. ….It empowers a life of benevolence'.

A separate remark needs to be made concerning negative reactions from within churches and from Christians in general when participants were communicating their healing experience (Table 16). Seventeen of them mentioned this explicitly during follow up. Evidently it is not rare. Corlien Doodkorte, who had a healing experience from Parkinson's disease (see footnote 41), gave quite a few examples in her book[51]. It underlines the necessity that we should listen carefully to those having a healing experience without confronting them with our own opinions and it underlines the necessity for churches to develop a balanced view on healing and prayer.

A pattern of a healing touch with a spiritually transformative impact

In summary, a pattern of healings is emerging accompanied by sensory manifestations, with a strong and lasting transformative impact on life. Extrasensory perceptions such as visions, vivid dreams, a sense of presence were described as well. These healings were found to be medically remarkable in a number of instances. However, the same pattern was also found in a majority of the cases, which could not be labelled as medically remarkable.

It is now interesting to compare our data with those found in other qualitative studies. The conclusion of Francois et al. (see footnote 36) was already mentioned above in *Course of healing.*
In the study of Austad et al. (see footnote 16) in-depth interviews were conducted with 25 respondents with a healing experience related to prayer. They found similar sensory and extrasensory manifestations in a variety of settings and contexts, writing: 'In analyzing the participants' stories of what happened during their healing events, we found that these moments, in different ways, could be characterized as someone or something touching the lived body'. They also noticed that these powerful touches, 'hitting the target of the participants' burden', had a transformative impact on people's lives. Finally, they conclude: 'Based on the stories of these 25 participants, we argue that the experienced healing events, which we have characterized as involving the sense of a powerful touch that is targeted, energetic, emotional and love-providing, can be hermeneutically conceptualized as re-inscriptions that affected the lived body and spurred renewed health and lived meaning'.

[50] Lee MT, Poloma MG, Post SG. *The Heart of Religion. Spiritual Empowerment, Benevolence, and the Experience of God's Love.* New York: Oxford University Press. 2013.
[51] Doodkorte C. *Geen grappen God.* Aalten (Netherlands): Stichting Vrij Zijn 2016 (p 118-144).

Helming (see footnote 15) did a qualitative study of HP. Twenty participants were interviewed: 'Sixteen of the 20 participants felt as though they had experienced spiritual transformation through this prayer and healing experience; they were not the same people thereafter'.

It is fascinating that the above studies and ours all seem to point in the direction of a recurring pattern, moreover occurring in different countries and in different settings. Traces of the same pattern can also be found in our qualitative study by Bendien et al. (see footnote 22). Further studies focusing on these findings will be very worthwhile. Is it indeed a recurring pattern? And what will be the relevance of it for churches and society as a whole? And for prayer practices specifically?

An explanatory framework

In this study we observed many healings with prominent non-medical aspects. Apparently there was a form of remarkableness apart from medical remarkability. Also, in some cases there were mismatches between functional and organic improvement. This was outstanding in three cases with hearing impairment (see footnote 45): strong 'subjective' hearing improvements were confirmed by an 'objectifying validated' questionnaire, but not by 'objective' audiometry testing. At the same time it was confusing that there were matches between functional and organic improvement in other instances. Eventually we were unable to capture the observations within a biomedical model only. To do so we would require a broader explanatory framework.

When searching for non-biomedical explanations, alternative options can be considered. Unexplained subjective improvements may result from placebo effects. It was argued above that our findings regarding a lack of expectancy and instantaneity of healing, differ distinctly from these effects. A patient who trusts the doctor or a drug may benefit from placebo effects, but usually not in a surprising instantaneous way accompanied with lots of other sensory experiences. The same is true for recoveries in cases of Medically Unexplained Symptoms (MUS) as we indicated in another article[52]. Moreover, most of the participants in our study had well established diagnoses explaining signs and symptoms. Also, can these healings be considered as spontaneous remissions of serious chronic diseases? Although a lot is still unknown about the nature and the causality of spontaneous remissions, as Radin pointed out[53], one would expect the clinical course of recovery to be more gradual as well. Finally, one may suggest that our patients suffered from psychiatric problems such as somatization, factitious disorder or, even, malingering. But the psychiatrist in the assessment team did not find any indication to that effect. Nor did one of the supervisors and co-author, who is a psychiatrist as well (GG). This observation is also in line with the wide spectrum of diseases which were reported (Table 5), in which there was no over-representation of psychiatric or psychosomatic illness.

Beyond this, none of the above models can explain the transformative impact of the HP experiences which were documented. Clinically they were not 'ordinary healings', but life events with far-reaching consequences for the rest of life.

[52] Kruijthoff DJ, Bendien E, Kooi C van der, Glas G, Abma TA. Can you be cured if the doctor disagrees? A case study of 27 prayer healing reports evaluated by a medical assessment team in the Netherlands. *Explore.* 2022; https://doi.org/10.1016/j.explore.2022.07.008.

[53] Radin D. The future of spontaneous remissions. *Explore.* 2021; https://doi.org/10.1016/j.explore.2021.08.007.

Austad et al. (16) and Helming (15) positioned HP experiences in a holistic perspective. Biological, psychological, spiritual aspects are all relevant. Body-mind duality and a subjective-objective hierarchy are not helpful when trying to understand the participants. Simply collecting the medical files, as we did initially, was insufficient, as we observed that experiential and existential data were as important.

Although a holistic approach is indicated when studying HP experiences, it is not enough when interpreting them. The manifestations of a 'touch' and the resulting 'transformation' exceed the holistic perspective, it seems as if something happens beyond the capacities of the persons themselves. Something which is not occurring from within the inside of an individual, but is rather sensed as an interference from outside. An 'inscription' from elsewhere. This was indeed invariably the interpretation of the participants, when they attributed their healing and all events surrounding it and after it, to God (Table 13).

Can theology be helpful here when articulating these HP experiences? It is a discipline studying relationships between humans and external dimensions such as a divinity. Biblical narratives relate many healing experiences[54], especially by Jesus, with the same 'ingredients' of instantaneity and transformation. These narratives are also about radical changes in life, turning-points after prayer and encounters with God. The same is true for accounts throughout church history (see footnote 1) and today, a pattern which has been highlighted above in *Course of healing*. There is indeed an analogy between the HP experiences we observed and healing narratives in the Bible and throughout church history. They are being interpreted as a 'gift' or an 'act from God'. The word 'charism' is often used in the New Testament when referring to 'a gift of grace'. Baumert, a German New Testament scholar, defines a charism as an act of God's Spirit in favor of the church or the world, working momentarily as a 'generous and unmerited bestowal'. This would indeed articulate very well the experience of many of the participants, irrespective of religious or non-religious background.

But to some scientists shaking hands with theology is like shaking hands with other people during a pandemic. However, it can be very worthwhile to do so. Ian Barbour presented a famous typology, according to which the relationship between science and religion can be described in terms of conflict, independence, dialogue and integration[55]. Based upon our findings we would advocate a dialogue between them. The wisdom and narratives of religion and ancient civilizations and modern insights in science and clinical medicine may both be helpful when trying to understand HP experiences.

Gutierrez et al.[56] conducted a cross-faith study of life-changing religious and spiritual experiences in the US. Such experiences were also encountered in other religious and non-religious settings. Our study was about HP experiences in Christian settings, although there was a group of participants who considered themselves not religious prior to the prayer involved. Future research may include studies of HP experiences in other backgrounds as well.

[54] Roukema R. Van wonderen gesproken. *Bulletin voor Charismatische Theologie.* 1989; 24:2-13.
[55] Barbour IG. When science meets religion. New York: Harper Collins. 2000.
[56] Gutierrez IA, Hale AE, Park CL. Life-Changing Religious and Spiritual Experiences: A Cross-Faith Comparison in the United States. *Psychology of Religion and Spirituality.* 2018; 10(4):334-344.

Strengths and limitations

A major strength of this study is its multidisciplinary approach combining medical and experiential data. The subsequent transdisciplinary analysis by different disciplines allows for tri-angulation, viewing the findings from different perspectives. The complexity of the subject requires that it is not approached as just a medical issue, nor as mainly theological, nor in terms of any other discipline solely. HP touches on several fields.

A major limitation relates to the group we studied: all participants experienced a healing which they related to prayer and they decided to report the event. Their self-interpretation determined who was included in the research sample. This is a subgroup of those who pray for healing, therefore the results cannot be extrapolated to all people praying for healing. However, it was our aim to study individuals with positive outcomes and to learn from their medical data and experiences.
We also realize that there can be negative experiences or downsides as well pertaining to HP. Prayer healing practices can be potentially damaging, e.g. if these practices interfere with medical treatment. They can also lead to negative psychological consequences if there is no cure and prospects about cure have been presented too favorably. We intentionally studied a specific group, while remaining aware of other possible effects as well.

Conclusions

We will now return to our three research questions.

Firstly, with regard to *the medical and experiential findings* a wide variety of illnesses were presented, there was no clear over-representation of particular disease categories. A dominant pattern was found when studying the data: instantaneity and unexpectedness of healing accompanied by physical and emotional manifestations, and a sense of being 'overwhelmed' or 'touched'. These healing experiences were transformative and life-changing. Orientation in life changed, with an increased focus on non-materialist aspects, such as benevolent activities. The healings were invariably interpreted as acts of God. Medically the pattern differed significantly from cures as 'normally' seen in medical practice.
The healings and positive socio-religious effects persisted in the majority of cases when followed up two and four years after enrolment in the study.

Secondly, there were no *medically unexplained* healings. However, eleven healings were considered to be *medically remarkable.* The remarkability concerned the unusual course of the disease in most cases. In particular, there were several examples of sudden cures of serious chronic diseases while the best possible prognosis would be one of gradual regression.

Thirdly, when looking for *explanatory frameworks trying to understand the findings* the research team found it increasingly difficult to capture the observations in biomedical terms. The same was true for psychiatric conditions, placebo effects and models of medically unexplained symptoms. The transformative impact seemed to exceed holistic frameworks as well. The healing experiences involving a divine touch with resulting life-changing impact may

very well be articulated by theology and philosophy as an entrance to wisdom and the rich narratives of age-old traditions.

A fruitful dialogue between science and religion will be helpful when interpreting HP experiences (see footnote 54). We may come across an interface between them, or a 'porosity' as we have called it elsewhere (see footnote 51). Insights from medicine, biopsychosocial disciplines, theology, philosophy, and good cooperation between them may all contribute to the dialogue. Future studies will be important. Although HP attracts a lot of public interest the subject is understudied. The authors of this article believe that such research should preferably be transdisciplinary, case based and qualitative.

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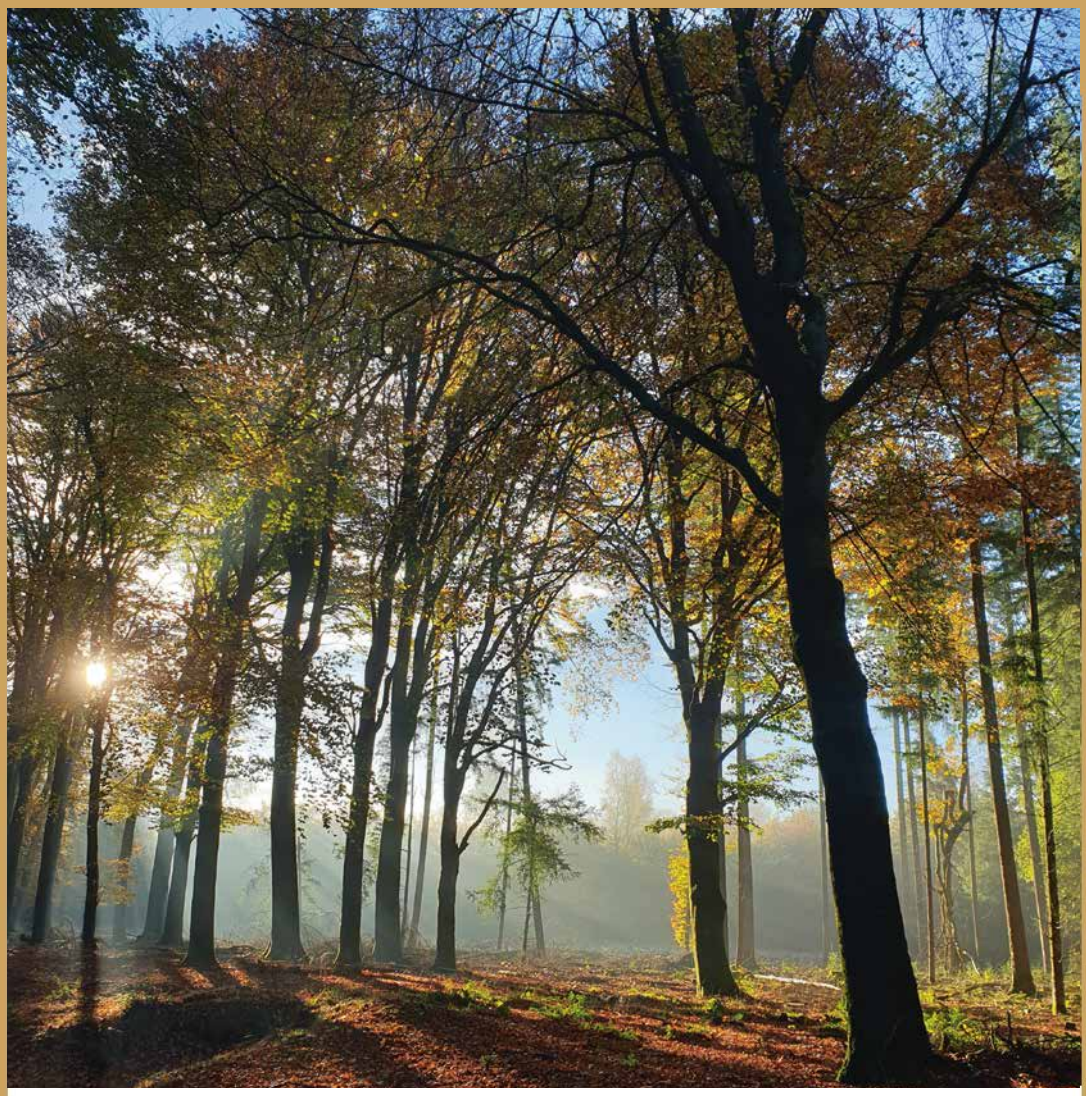

PART C: DETAILED CASE STUDIES

Chapter 6

'My body does not fit in your medical textbooks':

a physically turbulent life with an unexpected recovery from advanced Parkinson's disease after prayer

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Kruijthoff DJ, Bendien E, Doodkorte C, van der Kooi C, Glas G, Abma TA.

Abstract
Aim: the purpose of this article is to enhance our understanding of prayer healing by studying a case which was described as a 'remarkable healing' by a medical assessment team at the Amsterdam University Medical Centre (UMC) in the Netherlands.
Method: this retrospective, case-based study of prayer healing investigated numerous reported healings, using both medical files and patients' narratives. A medical assessment team evaluated the associated medical files, as well as any experiential data. The instances of healing could be classified as 'remarkable' or 'unexplained'. Experiential data were obtained by qualitative, in-depth interviews. The study was transdisciplinary in nature, involving medical, psychological, theological and philosophical perspectives. The object was to understand such healings within the broader framework of the science-religion debate.
Results: we present the case of a female patient, born in 1959, with Parkinson disease who experienced instantaneous, nearly complete healing in 2012 after intercessory prayer. At that point the disease was at an advanced stage, rapidly progressive, with major debilitating symptoms. High doses of oral medication were required. Following this healing there was no recurrence of her former symptoms, while the remaining symptoms continued to improve. She regained all of her capacities at work, as well as in daily life. The medical assessment team described her recovery as 'remarkable'. The patient reported that she had always 'lived with God', and that, at a point when she had given up hope, 'life was given back to her'. This recovery did not make her immune to other illnesses and suffering, but it did strengthen her belief that God cares about human beings.
Conclusion: this remarkable healing and its context astonished the patient, her family and her doctors. The clinical course was extraordinary, contradicting data from imaging studies as well as the common understanding of this disease. This case also raised questions about medical assumptions. Any attempt to investigate such healings requires the involvement of other disciplines. A transdisciplinary approach that included experiential knowledge would be helpful. Against the background of the science-religion debate, we feel that the most helpful approach would be one of complementarity and dialogue, rather than stoking controversy.

Keywords
Prayer, healing, Parkinson's disease, transdisciplinary, science-religion debate

Introduction

All physicians occasionally encounter phenomena that cannot easily be explained and which are not described in medical textbooks. Over the centuries, cases of this kind – which include unexpected recoveries after prayer – have intrigued many of those who witnessed them[1] The available records have mainly been drawn from sources such as theological and historical literature, novels and non- or semi-academic works. However, from a scientific point of view, little is known about the effects of prayer healing. Attempts to investigate the subject are usually framed in terms of the traditional biomedical approach. The Cochrane review of Intercessory Prayer (IP)[2], for instance, was an attempt to measure the effectiveness of prayer healing within the context of the dominant medical discourse. That review included ten randomized controlled trials (RCT) on IP. It concluded that IP has little or no demonstrable effect (either beneficial or adverse) on people with health problems. However, these trials were heavily criticized, partly due to their methodological weaknesses[3], but mostly because they were based on the premise that prayer can be studied in much the same way as surgical procedures or drug treatments[4]. Prayer, it is alleged, cannot be reduced to the status of a standard medical intervention[5]. Both philosophically and theologically, that may very well be contrary to the very nature of prayer itself[6].
Aside from RCT's, the medical literature on prayer healing consists of just a few case reports. The majority of these are related to the Roman Catholic church and the Lourdes pilgrimage site[7]. These reports tend to emphasize the significance of such cases for the church and its adherents.

A single-minded focus on the medical discourse alone causes people to overlook interpretative resources that could help us to better understand the phenomenon of prayer healing. The biomedical knowledge paradigm may have its limitations in this regard.
With this in mind, we are introducing a new transdisciplinary approach to the analysis of cases of prayer healing. This approach is based on the integration of different types of knowledge, including the results of medical assessment, as well as psychosocial, theological and phenomenological analyses (triangulation). Our premise is that an integral approach of this kind is better suited to the complexity of the available data. These data may be complex as they will not only refer to a healing experience, but to psychosocial consequences and religious meaning as well.

In this article we will present the case of an instantaneous recovery from advanced Parkinson disease (PD), which took place after Intercessory Prayer. The goal of the study is to enhance our understanding of prayer healing by using an in-depth transdisciplinary analysis of the case.

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[1] Hakkenes E. (2010). Deze genezing is niet te verklaren. *Trouw* 22 February 2010.
[2] Roberts L, Ahmed I, Hall S. Intercessory prayer for the alleviation of ill health *Cochrane Database Syst Rev* 2009;2:CD000368.
[3] Sloan RP, Ramakrishnan R. Science, medicine and intercessory prayer. *Perspect Biol Med* 2006;49(4):504-514.
[4] Jørgensen KJ, Hróbjartsson A, Gøtzsche PC. Divine intervention? A Cochrane review on intercessory prayer gone beyond science and reason. *J Neg Result Biomed* 2009;8:7.
[5] Turner DD. Just another drug? A philosophical assessment of randomized controlled studies on intercessory prayer. *J Med Eth.* 2006;32:487-490.
[6] Brummer V. *What are we doing when we pray?* Hampshire, United Kingdom: Ashgate Publishing Ltd; 1984.
[7] Duffin J. Medical Miracles: Doctors, Saints and Healing in the Modern World. Oxford: Oxford University Press; 2009.

Our approach was to integrate both medical and various non-medical forms of assessment, including the experiences of the patient herself.

The results are summarized in the form of a narrative account, as presented by the patient. This presentation format is in keeping with the patient's stated wish to tell 'her own truth' and to let 'her voice be heard'. In discussing the case, we draw on both medical and non-medical types of knowledge to identify new ways of interpreting the complex phenomenon of prayer healing within the modern academic discourse.

Background of Parkinson disease

PD is a chronic neurodegenerative disease with a progressive course[8, 9, 10]. It leads to disabling motor symptoms such as bradykinesia, rigidity, tremor and postural instability. This complex of symptoms is referred to as hypokinetic-rigid syndrome. Its etiology in PD is unknown, unlike hypokinetic-rigid syndromes with known origins, such as those that are drug-induced or that involve vascular origins. Over the past 20 years, a range of non-movement related symptoms have also been identified. These include depression, psychosis, dementia, fatigue, and sleep disturbance, as well as disorders of autonomic function, such as orthostatic hypotension, erectile problems, urinary incontinence, and constipation[11]. Parkinson disease is, therefore, a multi-faceted disease that involves all aspects of life, both physical and mental. Patients experience a progressive decline in motor and cognitive function and an increased risk of mortality[12, 13].

Following the introduction of levodopa in 1967, there was considerable improvement in the survival rate of patients with PD[14]. At present, the most effective treatment is a combination of carbidopa and levodopa. Dopamine agonists and monoamine oxidase-B inhibitors are also effective (see footnote 11). Deep brain stimulation is a last resort treatment in patients for whom optimum medical therapy has failed to effectively control their symptoms (see footnote 11). The pathological hallmarks of PD are the loss of dopaminergic neurons in the substantia nigra and the development of Lewy bodies in the residual dopaminergic neurons. Both of these changes lead to reduced dopamine levels in the brain. As a consequence, these patients go on to develop the motor symptoms described above (see footnotes 8 and 11). The clinical diagnosis is based on these typical movement disorders (see footnote 11). MRI and other scans are recommended only in cases of doubt, where there is a need to differentiate PD from other diseases.

[8] Xia R, Mao Z-H. Progression of motor symptoms in Parkinson's disease. *Neurosci Bull* 2012;28(1):39-48.
[9] Poewe W. Clinical measures of progression in Parkinson's disease. *Mov Disord* 2009;24Suppl2:S671-676.
[10] Poewe W, Mahlknecht P. The clinical progression of Parkinson's disease. *Parkinson Relat Disord* 2009;15Suppl4:S28-32.
[11] Gazewood JD, Roxanne Richards D, Karl Clebak. Parkinson disease: an update. *American Family Physician* 2013;87(4):267-273.
[12] Driver JA, Kurth T, Buring JE et al. Parkinson disease and risk of mortality: a prospective comorbidity-matched cohort study. *Neurology* 2008;70(16pt2):1423-1430.
[13] Lau LM de, Schipper CM, Hofman A. Prognosis of Parkinson disease, risk of dementia and mortality: the Rotterdam study. *Arch Neurol* 2005;62(8):1265-1269.
[14] Roos RAC, Jongen JCF, Velde EA van der. Clinical course of patients with idiopathic Parkinson's disease. *Mov Disord* 1996;11(3):236-242.

At best current treatments can only alleviate symptoms, so an increasing number of patients are resorting to complementary and alternative medicine (CAM). The actual percentage varies from one country to another, and ranges from 25,7% to 76% of all patients with PD[15] (in Asia, Europe, North and South America). The treatments involved may include acupuncture, massage, herbs, supplements, tai-chi, dance, yoga, mindfulness, and other CAM therapies. In general, 85% of patients[16] feel that these therapies are helpful in terms of alleviating their motor and non-motor symptoms. However, well performed systematic evidence-based research is largely lacking in this area. Many of the studies include various forms of CAM with small patient numbers and a lack of standardization of the approaches studied[17].

The Global Burden of Disease Study estimates that 6,2 million Individuals are currently suffering from PD, making it one of the main global causes of disability[18]. From 1990 to 2015, the prevalence of the disease has more than doubled (see footnote 13).

Methods

At Vrije Universiteit Amsterdam, and Amsterdam UMC, location VUmc, a case study research protocol was developed to facilitate a retrospective, case-based study of prayer healing[19]. A naturalistic approach was used, involving an attempt to understand subjects in their own environment[20]. This is emphasized as one of the co-authors of the article (CD) is the very patient whose case is presented here. She is an expert-by-experience, who participated in our discussions and commented on draft versions of the text (participatory member check[21]).
The research team itself consists of a practicing general practitioner (DK), a theologian (CvdK), a psychiatrist-philosopher (GG), a senior researcher in qualitative research (EB), and an expert on participation and participatory research (TA). This team is supported by an independent medical assessment team consisting of five medical consultants (internal medicine, hematology, surgery, psychiatry, neurology). Other medical disciplines may be consulted when necessary.

Various reported instances of prayer healing were investigated systematically in accordance with a step-by-step methodology. The focus was on understanding the healing by studying it from a range of perspectives, including formal medical opinions and patient' narratives collected using qualitative methods. Inclusion in the study was limited to individuals in the Netherlands or neighboring countries, who claimed to have been healed through prayer. The reports of healing were from different sources, including the research team's medical

[15] Yan-Wang, Cheng-long Xie, Wen-Wen Wang et al. Epidemiology of complementary and alternative medicine use in patients with Parkinson's disease. *J Clin Neurosc* 2013;20(8):1062-1067.
[16] Donley S, McGregor S, Wielinski C, Nance M. Use and perceived effectiveness of complementary therapies in Parkinson's disease. *Parkinsonism Relat Disord* 2019;58:46-49.
[17] Subramanian I. Complementary and Alternative Medicine and Exercise in Nonmotor Symptoms of Parkinson's Disease. *Int Rev Neurobiol* 2017;134:1163-1188.
[18] Ray Dorsey E, Bloem B. The Parkinson pandemic – a call for action. *JAMA neurol* 2018;75(1):9-10.
[19] Kruijthoff DJ, Kooi C van der, Glas G, Abma T. Prayer healing: a case study research protocol *Adv Mind Body Med* 2017;31(3):17-22.
[20] Abma TA, Stake RE. Science of the particular: An advocacy of naturalistic case study in health research. *Qual Health Res.* 2014;24(8):1150-1161.
[21] Doyle S. Member Checking With Older Women: A Framework for Negotiating Meaning. *Health Care for Women International.* 2007;28(10):888-908.

practices and their immediate circles, newspaper articles, prayer healers, medical colleagues, and various other individuals.

Medical data was obtained before and after the prayer sessions in question. The medical assessment team then carried out a standardized evaluation to determine if a cure was 'medically explicable', 'remarkable', or 'unexplained'. A classification of 'unexplained' means that no scientific explanation for the healing could be found at the time of assessment. A classification of 'remarkable' means that, while there is a possible explanation, the healing was considered to be unusual under the circumstances. For instance, someone with a chronic debilitating disease is suddenly cured, when the best possible prognosis would be one of gradual regression. In the interests of reaching a well-founded decision, the medical assessment team consulted the Lambertini criteria[22]. These criteria have been used by medical committees at the Lourdes pilgrimage site (in France) – and within the Roman Catholic church – to determine whether or not a given cure can be considered to be medically unexplained[23].

In our study we used the following, slightly modified, versions of these criteria:

- The disease reported must have been serious.
- The disease must have been one known under medical classifications, and the diagnosis should be correct.
- It must be possible to verify the healing with reference to medical data, such as medical history, physical examination, laboratory and radiology investigations.
- The cure must not be able to be explained by medical treatment in the past or present, nor by the natural course of the disease, such as spontaneous improvements or temporary remissions.
- The cure must have been unexpected and instantaneous, and although the recovery may take some time, its onset must have been instantaneous and related to prayer.
- The cure must have been either complete or partial with substantial improvement and the individual fully or largely returned to his or her original state of health.
- The cure must have been permanent.

The participants' experiences were studied by means of in-depth interviews in accordance with a qualitative research methodology[24, 25]. The objective was to gain insight into people's perceptions of the prayer healing experiences, and the participants' own explanations of their cures. The interviews were guided by the following list of topics: general information including education, employment, marital status and religious background; the history of the illness as experienced by the respondent, and details of their coping strategies; knowledge of intercessory prayer prior to the healing, and details of how they interpreted events; the symptoms experienced by the respondent and a description of their interactions with medical specialists; a detailed description of the healing, including the respondent's corporeal

[22] No authors listed. Expliquez-moi: Les Miracles. Lourdes: Notre Dame de Lourdes; 2011.
[23] Duffin J. The doctor was surprised; or, how to diagnose a miracle. *Bull Hist Med.* 2007;81:699-729.
[24] Lucassen PLBJ, Olde Hartman TC. Kwalitatief onderzoek, Praktische Methoden voor de Medische Praktijk. Houten: Bohn Stafleu van Loghem; 2007.
[25] Green J, Thorogood N. Qualitative Methods for Health Research. London: Sage Publishers; 2018.

sensations; the temporal correspondence between the prayer session and the healing event as experienced by the respondent; reactions to the healing and its impact on the respondent's life; the meaning of the healing, as understood by the respondent.

The interviews, which lasted about one-and-a-half to two hours, were conducted by an experienced interviewer (EB). Almost all of these took place in the homes of the participants. The interviews were initially recorded and later written out verbatim. The credibility of the analysis and interpretations were verified with the patient by means of a member check', a validity strategy in qualitative research[26]. The members of the medical assessment team received a report of the interview to supplement their information concerning the case with details of the patient's personal experiences.

The fully documented case consists of information derived from the individual's personal written entry, their full medical file, the transcript of the interview, the report of the interviewer based on the transcript, the notes of discussions in the medical assessment team, and expert opinions when relevant.

The medical findings and participants' experiences were weighed and interpreted in the context of a transdisciplinary framework that includes biopsychosocial and theological perspectives. This framework draws on concepts derived from Ian Barbour's typology of positions in the relationship between science and religion[27]. Barbour has published extensively on the subject, differentiating four categories to describe this relationship: conflict – independence – dialogue – integration. Our findings will be located against this background, as will be clarified in *transdisciplinary discussions*.

Case selection

Parkinson is a grave and dramatic disease due to its debilitating consequences at many levels. It often leads to psychological depression or triggers profound existential questions. It was partly due to the multifaceted nature of the disease that a case of PD was selected for a study and presentation along the lines of our approach.

Results

The *Results* section starts with an extract from the letter that Corlien, the subject of healing, wrote in response to the call for cases of prayer healing. This is followed by medical data pertaining to PD and to the patient's full medical history. The closing paragraph describes Corlien's lived experiences and includes various relevant quotes.

[26] Koelsch LE. Reconceptualizing the Member Check Interview. *International Journal of Qualitative Methods.* 2013; 12:168-179.

[27] Barbour IG. When science meets religion. New York: Harper Collins; 2000.

Respondent's written entry

Corlien, who is a female born in 1959, signed up for the study in January 2017. She wrote:

> *'I received the diagnosis of Parkinson's disease in 2009 at the age of fifty years. The disease was very progressive and by early 2012 it was already at an advanced stage. My facial expressions had disappeared completely, I had difficulty in swallowing and experienced profuse salivation. It was also hard to concentrate, I couldn't keep up with 50% of the conversations, and just couldn't find the words. When moving, I felt wooden and stiff, and could hardly turn over in bed. Without my medication I couldn't even get out of bed. I shambled along, stumbled, and couldn't walk more than 70 meters. I needed a wheelchair more and more. Trembling, rigidity, lack of balance and being slow made it very hard to cook, just stirring a sauce pan was difficult. Driving a car would have been totally irresponsible. In short, I was an old woman in a young body. The specialist neurologist said a DBS operation should be considered (in Deep Brain Stimulation electrodes are inserted into the brain to control Parkinson-related symptoms. It is a last resort operation when other treatments are failing).*
>
> *I find it important to be mentally serious and to nuance, but I also believe-- and I know-- that more things are possible than we can imagine. On the April 6, 2012, I was instantaneously cured for 90% of the disease after a prayer at a conference. I had no idea what had happened to me, and I needed a long time to process my thoughts and feelings before I could restart a life to which I had said goodbye. I am happy you are doing this research, therefore I am offering to co-operate'.*

Parkinson: presenting symptoms, clinical findings and course of the disease

Corlien consulted a neurologist in September 2009, complaining of stiffness of the right side of her body. She also found it difficult to write with her right hand. Her mother and grandfather were known to have PD. On examination, there was rigidity of the right arm and dysdiadochokinesia (impaired ability to perform rapid, alternating movements) of the right hand and foot. Facial expressions were slightly decreased. No tremors were found.

CT scanning with intravenous contrast revealed no abnormalities.
A hypokinetic-rigid syndrome was diagnosed, mainly right sided, consistent with idiopathic PD. Medication was prescribed as follows: levodopa/carbidopa was increased in two steps to a dosage of 125mg (100+25) three times daily. This provided some relief for her symptoms. In February 2010 a single daily dosage of 4mg ropirinole (a dopamine agonist) was added. Until December 2011, dosages for the previously prescribed pharmaceuticals were gradually increased. The morning dose was increased to carbidopa/levodopa at a total of 500 mg; a 375 mg dose was taken twice during the day; and a 250 mg sustained-release tablet (CR) was taken before sleep. The daily dosage of ropirinole was ultimately increased to 18mg.
As the disease progressed, she developed dystonia (involuntary movement disorder, causing repetitive or twisting muscle movements) of the right foot and, to a lesser degree, the right hand. She also began to experience symptoms of wearing off. This is a complication that generally appears after some years of treatment. Here, the Parkinson symptoms start to return or worsen before the next dose of levodopa, and improve again once the next dose is

taken. Corlien was referred to a psychologist who helped her to accept and deal with the impact of the disease.

In April 2012, she unexpectedly recovered after IP during a Christian conference.

Twelve days later she visited the neurologist again. In his file, he indicated that the disease had continued to worsen during the first months of 2012, but that there had been a very remarkable and sudden improvement after a prayer healing. During his consultation with the patient, he was unable to ascribe this 'fantastic recovery' (as he referred to it) to any other cause.

In subsequent correspondence, the neurologist made reference to a 'spectacular improvement', even though the symptoms had not fully subsided. There was still a mild right sided rigidity (grade 1-2), in which the arm swing and alternating movements were still not as good as those on the left side. However, the patient was now walking well, with a normal stride and good balance. She was able to ride a bicycle proficiently. She was once again exhibiting facial expressions. There were still some complaints, however, in terms of poor memory function and a reduced ability to concentrate. The levodopa/carbidopa was reduced to 125mg three times daily, which was the initial dosage at the onset of the disease. Her use of ropirinole was terminated.

In the following years, Corlien's condition continued to improve. Her cognitive symptoms disappeared completely. A 2015 medical report made no further mention of limitation in functions, but it did indicate some recurrence of symptoms when a full stop of medication was attempted. On examination, all tests were normal except for some asymmetry when she attempted alternating movements (dysdiadochokinesia).

At this stage (2015), given the unexpected course of the disease, the decision was taken to perform a Dopamine Transporter (DaT) scan. This type of scan is used to assess dopamine metabolism in the brain (which is divergent in PD). DaT scans are used to differentiate Parkinson from other diseases with similar symptoms (e.g. essential tremor or movement disorders with vascular, drug-induced or psychogenic origins). The scan revealed markedly reduced activity in the basal ganglia (putamen), especially on the left side. To a lesser extent, this was also the case for the caudate nucleus and the occipital cortex. It was concluded that this confirmed PD, the left-sided abnormalities being consistent with the previous right-sided physical signs and symptoms.

In 2017, her doctors suspected a relapse of PD, due to pain and cramps in the right arm and a sensation of hyperactivity. However, the cause turned out to be two rib fractures–- the result of osteonecrosis due to previous radiotherapy (see under *Full medical history*).

In summary, there had been no aggravation of PD since Corlien had her healing experience in 2012. Indeed, there had been a gradual ongoing improvement in the few remaining symptoms.

Full medical history

To better understand the case, it is important to be aware of this patient's full medical history, which features a number of serious diseases.

- 1979: removal of vocal cord polyps.
- 1979 and 1980: laparotomy (twice) for right- and left-sided ovarian cysts.
- 1984: chronic polyarthritis (hands, feet, back); Medication: prednisone, piroxicam.
- Three miscarriages early in marriage, followed by the birth of two healthy daughters.
- 1995: lumbosacral spondylodesis L3-S1, due to scoliosis and arthritis.
- 2000: amputation of the right breast, due to breast cancer (invasive ductal carcinoma); no metastatic lymph nodes were found on axillary lymph node dissection.
- 2006: healing of chronic arthritis after intercessory prayer.
- 2007: localized relapse of breast cancer on the right side; the excision proves to be incomplete – she receives chemotherapy, radiotherapy, and hormonal therapy, followed by bilateral adnex extirpation in 2008.
- 2009: Parkinson disease.
- 2010: myocardial infarction (dissecting coronary artery).
- 2012: 90% healing of PD after intercessory prayer.
- 2017: two spontaneous right-sided rib fractures, the result of osteonecrosis due to previous radiotherapy.
- 2017: amputation of the left breast for breast cancer; no metastatic lymph node involvement.
- 2019: life-threatening pancreatitis due to gall-stones.

Corlien's lived experiences

Corlien is the eighth child in a family of 9 children:

'We had a big house, there we were so many of us, to eat and so on. I was a small, thinnish and happy girl, always outdoors, being adventurous and having lots of friends.'

She was raised in a Reformed protestant household. The whole family attended church services every Sunday:

'Even as a child I was religious, I never doubted the existence of God. Later on, I occasionally had my doubts, but even then there was still something there, a basic kind of certainty.'

Cessationism– the view that healing miracles only occurred in the days of Jesus – is part and parcel of her Reformed religious background:

'Both in church and at home, I was taught that miracles only occurred in early times, before people had the Bible. God had to do miracles to show He is there, but now that we have the Bible this is no longer necessary.'

She married at the age of 21. After three miscarriages, the couple had two healthy daughters. Despite suffering a great deal of ill health, Corlien had a remarkable professional career. She first worked as a nurse, but chronic arthritis later compelled her to abandon that profession. She went on to do voluntary work at her church, helping people with pastoral problems. This was followed by a period of further education, as she trained to become a psychotherapist:

> *'I helped people, they were willing to talk to me. I have always had an interest in people, it is in my nature to try to understand them. So I decided to start a practice, in the hope of offering more effective help. I did this work for 19 years. I provided relationship therapy and family therapy, and found it very rewarding.'*

She then became the director of an institute for pastoral counselling. In 2006, driven to desperation by her arthritis, she accepted an invitation from friends to attend a healing service. She was initially reluctant to go, and she didn't expect much to come of it:

> *'Friends took me to the service. I was a bit 'allergic' for it. In that hyped up atmosphere, those people seemed so sure of themselves.'*

But her fears were not realized – quite the opposite, in fact. She was cured, causing her to change her opinion about intercessory prayer. Soon afterwards, however, she suffered a relapse of her breast cancer:

> *'Six or seven months later the breast cancer returned. I was very surprised. How could that have happened? And my friends were surprised as well. This is not normal, you know.'*

Despite this, sustained by her faith, she continued to experience inner peace. But two years later, symptoms of Parkinson disease started and worsened in a relentlessly progressive way. Her physical condition deteriorated, aggravated by a myocardial infarction and incidences of edema. By the beginning of 2012, she was expecting to die at any moment. And by March, she was crying and calling out to God. In one particularly desperate emotional outburst, she exclaimed:

> *'You know that I can't stand this, it's driving me mad! And then I started crying, in great, aching sobs'.*

Somehow, this brought her a degree of relief together with a strange awareness that God had heard her. Nearly two weeks later, she visited an Easter conference with her family. This was not a healing conference, so she went with no expectation of being healed. Instead, she simply wanted to share the message of Easter with her relatives one last time. But at the end of the service, the pastor asked if anyone wanted a prayer for their illness. Corlien raised her hand:

> *'… A man stepped out of the audience. He was a complete stranger, but he felt that he should pray with me. Just then, I felt an enormously warm cloud, like hot, thick air. And everyone around me felt it, too. Sensing that something extraordinary was taking place. I got out of my wheelchair. It was as if God was giving me brain surgery. As if*

He was releasing a small and tight net around my brain. It disappeared through the back of my head. Then it was gone.'
'I got up, started walking around, my facial mimicry had returned, and I went forward to the pastor. When I finally left, I was pushing my own wheelchair.'

She describes how odd it was to have her life back at a time when she and her husband and children were already saying farewell to one another. She felt that a miracle had happened, and it took some effort to return to normal life again. She was not the only one who felt that way. She also noticed the impact it had on her husband and the rest of her family:

'My husband did not talk for a month. He just sat there, watching me, scared that the disease would come back. He no longer had to care for me. It was not only fun, this miracle. It also forced us to take a hard look at everything, in order to find our way again in many areas of our lives.'
'And you don't know what is going on. Lots of people were very happy, but some simply didn't understand it and kept on asking questions. Are we not praying or believing in the right way? Why did it take place during that conference and why not at our church?'

When questioned about the instantaneous healing of her chronic arthritis and Parkinson disease, Corlien says:

'I look upon it as a miracle from God, as His intervention … I will never forget the face of the doctor (neurologist) when he first saw me after my healing. He nearly fell out of his chair. He had last seen me just three weeks previously.'

In 2017, Corlien was diagnosed with cancer in her remaining breast:

'My other breast was amputated as well, so now they are both gone. I can still cry a lot, but I'm not unhappy … because I have God. And of course I've learnt a lot through it all. No, healing the sick is not God's ultimate goal. Those miracles may be signs that God is coming to us, that He shows Himself, just to give us strength and to help us get through. A Support and a Refuge. So, yes, I'm just grateful'.

This has prompted Corlien to give readings of what had happened to her:

'…Because it is encouraging to know that God cares about us.'

In 2020, it has been 8 years since her recovery from PD. She now feels that she knows her own body, that she can read its signs and that, in dialogue with God, she is able to endure suffering. Being healthy is not a precondition for a meaningful life. She knows that the complexity of her body exceeds the limits of medical science. As she said to one of her doctors:

'My body does not fit in your medical textbooks.'

Medical discussion

The diagnosis of idiopathic Parkinson disease was made in 2009, on the clinical grounds of right-sided rigidity including a cogwheel phenomenon, micrography, a typical crooked walk, reduced facial mimics and dysdiadochokinesia of the right hand and the right foot. The dosages of the medications were increased at frequent intervals due to the rapid progression of the disease. This continued until the patient's instantaneous recovery on the April 6, 2012. However, the disease had not fully subsided, and she still required a small dosage of medication. Nevertheless, her condition continued to improve. By 2015, she had hardly any remaining symptoms. As there were some doubts pertaining to this course, a DaT-SPECT scan was performed, which confirmed the diagnosis of Parkinson disease.

In March 2018, the medical assessment team unanimously characterized this as a 'remarkable' healing. There was a direct temporal correspondence between the prayer session and the healing. Her instantaneous recovery from a severe and advanced disease took place at the very moment that intercessory prayer was conducted. It could not be explained by any medical interventions at the time. Since that moment in 2012, there has been no recurrence of the disease; indeed, there has been further improvement in her remaining symptoms. The patient was no longer disabled, but fully functioning both at home and in her work.

The assessment team decided to seek expert opinions. A neurologist with specific knowledge of PD stated that symptoms may vary over time, due to external circumstances. Parkinson can be placebo-responsive in clinical studies[28]. However, placebo effects are not usually instantaneous, nor are they as dramatic as the changes seen in this case. This expert also pointed out that, in some instances, it may be possible to reduce medication over time, especially with regard to side effects due to treatment, such as dyskinesias. In the patient's medical file, however, we found evidence of mild dystonia of the right hand and right foot only. The vast majority of her symptoms were related to PD.

An expert psychiatrist explained that PD may be associated with underlying anxiety or other psychological tensions, the treatment of which could be beneficial for the patient. Psychiatric co-morbidity may worsen the motor symptoms seen in patients with PD. Prayer could improve these symptoms by creating inner feelings of rest. In this particular case, the expert suggested that we consider the possibility of a conversion disorder accompanied by a mild form of PD—the symptoms related to the conversion disorder being healed during the prayer session, while the remaining symptoms were those of PD. However, it is unlikely that we are dealing with a conversion disorder in this case. There are two reasons for this. Firstly, when going through the file, we did not find any mention of psychiatric co-morbidity. It only indicated that she went to see a psychologist to help her accept the consequences of the disease. Secondly, conversion disorders usually involve confusing signs and symptoms, not complying with a well-defined neurological disease. Here, the clinical picture clearly indicated advanced PD, the akinetic-rigid subtype. Once again, it should be noted that DaT scanning had confirmed the diagnosis.

In the medical literature, we found no precedents for such an instantaneous recovery from advanced PD. However, an internet search did reveal a small number of anecdotal reports

[28] Benedetti F et al. Placebo-responsive Parkinson patients show decreased activity in single neurons of subthalamic nucleus. *Nature Neuroscience* 2004;7(6):587-588.

concerning remarkable improvements. The most prominent and best known of these is the case of the French nun Marie Simon Pierre[29]. She suffered from PD, with a progressive course. In June 2005, she was suddenly and completely cured after religious communities in France and Senegal had prayed for her at the intercession of Pope John Paul II. This event led to the beatification of the late Pope.

The literature contains some evidence of improvements following alternative medical interventions. Music therapy and dance are best documented. A review article in 2019[30] included 40 experimental papers and 5 reviews. It was concluded that these therapies are 'noninvasive, simple treatment options, which promote gait and cognition'. However, the improvements resembled those seen in the context of rehabilitation. They were gradual and partial, and generally temporary. These studies did not mention any instantaneous, complete (or nearly complete) and permanent healings. The same applies to home-based aerobic exercise, as shown in a recent study that compared this type of exercise with an active control group[31].

After consulting these experts and reviewing the literature, the assessment team confirmed its conclusion of a 'remarkable' recovery. The predicate 'unexplained' could not be attributed to this case given that the disease did not completely subside, and the findings of the DaT scan after recovery, and the experts' comments on variation in clinical expression. Perhaps the most interesting feature, from a medical point of view, is the surprising discrepancy between the scan – which clearly shows reduced dopamine levels – and the patient's almost complete clinical recovery.

Transdisciplinary discussions

It is also useful to consider a range of non-medical viewpoints, such as the psychosocial, experiential, theological, as well as conceptual perspectives, with reference to Ian Barbour's framework (*see Methods)*.

At the psychosocial level, Corlien has displayed remarkable resilience. She has overcome a lifetime of serious illness and has made substantial progress in her professional career. This is truly exceptional. Whatever the case, the fact is that, prior to her healing, she was utterly desperate, calling out to God, convinced that she was about to die. In a very special way, this brought some relief. She felt that God had listened to her. Psychologically one may refer to this as catharsis[32], an emotional purification. This experience seemed to help Corlien accept her impending death, but it did not prompt any real expectation that she might be healed through prayer. Thus, her recovery cannot be attributed to any strong expectations in that regard.

[29] My miraculous cure. *www.thedivinemercy.org/news/4917.*

[30] Pereira APS, Marinho V, Gupta D et al. Music Therapy and Dance as Gait Rehabilitation in Patients with Parkinson Disease: A Review of Evidence. *J Geriatr Psychiatry Neurol* 2019;32(1):49-56.

[31] Kolk van der N, Vries de N, Kessels R et al. Effectiveness of home-based and remotely supervised aerobic exercise in Parkinson's disease: a double-blind, randomized controlled trial. *Lancet Neurology* 2019;18(11):998-1008.

[32] Verhaeghe P. Intimiteit. Amsterdam: de Bezige Bij; 2018.

One element of this case does relate to studies of positive psychology[33]. Corlien is not simply a passive believer who expects a medical cure or divine intervention. She was actively searching for healing, and also appeared to be very receptive. This is in line with positive psychology, which focuses on people's resilience, respecting and supporting their self-healing capacities. She also demonstrates this active positive attitude in her career, which has helped her to carry on despite a lifetime of ill health. However, purely psychological factors are not in keeping with the instantaneous nature of the change she experienced. Moreover, that change was not initiated by the patient, nor did it resemble classic placebo effects. At first sight, it may seem tempting to classify or label her experience reductionistic according to medical classifications[34]. We found this to be quite difficult, given the large number of surprising events and unknown factors involved. Corlien articulates her own point of view as follows:

> *'I am not interested in explanations. I've stopped trying to find any. Healing comes from God, because in fact I don't know anybody else who could do it. No doctor has been able to cure me. …I find it difficult to offer an explanation, because that would make you think that you understand what happened, but I don't understand it at all.'*

Based on this particular healing experience, we believe that it would be useful to study similar cases[35]. Details of subjective experiences of illness and healing may enhance our understanding of events from the patients' perspective. Corlien explains how complicated it can be to accept healing and to live without impairment once again[36]. For her, this is no small matter. But unlike a medical diagnosis, which can be substantiated by evidence, it is not measurable. Thus, these different approaches, experiential and medical, can complement one another.
From an experiential point of view, it is also noteworthy that the moment of recovery was accompanied by strong physical sensations. These sensations were experienced, not only by Corlien herself, but also by those around her. Brown describes many such experiences in her book *Testing prayer*[37]. Combining details of these physical experiences and perceptions during prayer sessions with medical findings may provide added value for anyone studying these reports.

It is challenging to explore the theological angle as well. Might theology have somethi143ng to say about such recoveries? Writing in a theological journal, Roukema listed many healings performed by Jesus[38]. It is striking that all of these healings were instantaneous and that they caused great astonishment in the surrounding community. The same is true in Corlien's case. But these two amazing healings after intercessory prayer make people wonder why someone with so many other serious illnesses was not restored to full health? Corlien has her own opinion about this–- she has no doubt that it was God who intervened in her chronic arthritis and Parkinson's disease. At the same time, she says that healing our diseases is not God's

[33] Antonovsky A. Health, Stress and Coping. San Francisco: Jossey-Bass Publishers; 1979.
[34] Glas G. Ziekte en stoornis in de psychiatrie. In: M.Schermer, M.Boenink, G.Meynen. Komt een filosoof bij de dokter. Denken over gezondheid en zorg in de 21e eeuw. (pp 129-142). Amsterdam: Boom; 2013.
[35] Romez C, Zaritzky D, Brown JW. Case report of gastroparesis healing: 16 years of a chronic syndrome resolved after proximal intercessory prayer. *Complementary Therapies in Medicine* 2019;43:289-294.
[36] Carel H. Illness: the cry of the flesh. Stocksfield: Acumen; 2008.
[37] Brown CG. Testing prayer. Cambridge, Massachusetts: Harvard University Press; 2012.
[38] Roukema R. Van wonderen gesproken. *Bulletin voor Charismatische Theologie* 1989;24:2-13.

ultimate goal. These are just signs, gifts, indicating that He cares about us, and does not remain at a distance.

Corlien's comment corresponds with the Christian theological viewpoint that healing does not imply perfection[39]. Amid signs of recovery and relief, there's fragility and vulnerability. In Jesus' days, too, those he had healed or had resurrected from the dead were not permanently immune to sickness or death. The raising of Lazarus from the dead (John 11:17-44) did not mean that he would live forever or that his life would be perfect. Instead, it is rather a sign that served to confirm the identity of Jesus[40]. In Corlien's case, the emphasis is on her awareness of receiving encouraging gifts and signals in the midst of a turbulent life. A gift here relates to the original meaning of the word charism – a generous and unmerited bestowal – as an act of God[41]. This event benefitted her in that it enriched her bond with God. 'I am still not healthy, but I am rich', she says. Healing and suffering go hand-in-hand, neither one of them diminishing the other's impact. Anything may happen, she could go on to develop other diseases, but that in no way detracts from the miracle she experienced[42]. Theologically, it is not about a perfect life, but about grace and relief in an imperfect life[43].

As previously stated, Corlien told one of the doctors that 'her body is not in a medical textbook'. What she meant by this is that the scientific evidence takes no account of a reality above and beyond purely the medical facts. While in no way discounting the value of medical science, she seems to be saying that there is another kind of knowledge and another truth which is also important. This is indeed challenging. Could it be a mode of knowledge that is primarily articulated by theology? It is about the value of hope in the midst of despair and suffering, about a source that is beyond any individual's control. As Corlien puts it: 'I cannot imagine a life without a power larger than myself'.

Finally, from a conceptual point of view, this story and, especially, the marked discrepancy between the patient's clinical presentation and her DaT scan, raises questions about the biomedical model of disease. Is this model not one-sided in its emphasis on biology and biological mechanisms in the chain between causes and effects? Is the underlying epistemology not overly simplistic? When are clinicians legitimized to say that a clinical syndrome like PD (with its associated physical, motor, sensory, and mental manifestations) is 'caused' or 'explained' by physical findings in the brain? What else might be implied in the construction of symptoms and signs beyond abnormal 'underlying' brain processes? It could indicate that we need a different, richer view of symptom formation–- a view that may, perhaps, also be relevant to the understanding of somatically unexplained diseases. This approach is consistent with the 'dialogue' approach, one of the four positions that Barbour differentiates in the science-religion debate. As stated in the *Methods* section, the other

[39] Kooi van der C. Tegenwoordigheid van Geest. Verkenningen op het gebied van de leer van de Heilige Geest. Kampen: Kok; 2006.
[40] Meye Thompson M. John: a commentary (New Testament Library). (pp 65-68). Louisville: Westminster John Knox press; 2015.
[41] Baumert N. Charisma-Taufe-Geisttaufe, Entflechtung einer semantischen Verwirrung. (pp 221-228 and 240-243). Wurzburg: Echter Verlag; 2001.
[42] MacNutt F. Healing. (pp 61-70). Notre Dame, Indiana: Ave Maria press; 2009.
[43] Doodkorte C. Geen grappen God! Worstelen met wonderen. Aalten: Stichting Vrij zijn; 2016.

positions are conflict between science and religion, parallel discourses without interaction, and integration. The transdisciplinary method used here helps us to move away from antagonistic and parallel positions, and toward an approach in which dialogue leads to conceptual reform and to more precise and diverse formulations of the aims of the medical encounters.

Conclusion

In summary, the main points of view are as follows:

- *A medical assessment team classified a case of instantaneous healing of Parkinson disease after intercessory prayer as 'remarkable'. The clinical course contradicts data from imaging studies and the understanding of this disease, raising questions about basic medical assumptions.*
- *General practitioners occasionally observe recoveries that are due to placebo effects or that involve conversion disorders, but instantaneous and lasting (nearly complete) recoveries from well-documented cases of serious disease are highly unusual.*
- *Other disciplines are needed to understand such healings. A transdisciplinary model that was used to study this case appears to be helpful in this regard.*
- *Experiential knowledge is essential as it opens a source of data and wisdom from within the patient.*

Their experiences in everyday practice are a constant reminder for physicians that many of the signs and symptoms presented by patients cannot be explained by medical textbooks. In our study, we realize that objective medical knowledge and technology have improved the lives of many people, but that there are always problems remaining that can neither be cured nor understood by this type of knowledge. We need alternative modes of knowing from other disciplines, especially the humanities, to understand the experiential, existential, and moral issues involved in living with, or recovering from, a serious illness.
Leaving aside the matter of her healing, Corlien's religious beliefs have helped her to cope with many other challenges in a turbulent life that has involved a great deal of suffering. She feels that something 'larger than herself' is needed both to understand this instantaneous healing as well as to enable her to bear the hardships of other diseases to an extent that is 'beyond herself'. This 'truth' is a fundamental 'reality' in her life.

Returning to Ian Barbour's framework of the science religion-debate, we would advocate a position of complementarity and dialogue, rather than one of stoking controversy. Perspectives other than the strictly medical viewpoint can be helpful, as was demonstrated in this case.
In modern society, our emphasis is on scientific evidence, health, and fitness. Might it be that we have lost sight of a type of knowledge that has turned out to be so relevant here? Or could we find a way of harnessing different concepts of understanding within a single complementary framework? In the meantime, the best way to find out is to study and carefully document more cases like this. Corlien has offered us some remarkable starting points.

Case update

Upon publication of the article it was understood that Corlien is recently suffering from a relapse of Parkinson symptoms. This was unexpected so long after healing. It does not change the conclusion of remarkability. Nearly nine years (since 2012) without handicaps from a debilitating disease at an advanced stage is still remarkable. Nor will it
alter the content of the article as it is clarified that she was confronted with many other hardships and diseases in the course of time. To Corlien the healing experience continues
to be a sign from a loving God in the midst of the 'turbulence' of her life.

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Chapter 7

Three Cases of Hearing Impairment with surprising subjective improvements after prayer

What can we say when analyzing them?

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Abstract
Aim: to enhance the understanding of documented mismatches between 'subjective' experiences and 'objective' data in three cases of self-reported instantaneous healing of hearing impairment upon prayer.
Method: description of three cases taken out of a larger retrospective case-based study of prayer healing in the Netherlands. In this larger study multiple reported healings were investigated using both medical files and patients' narratives through in-depth interviews. A subset of three cases with dramatic subjective reduction of hearing impairment upon prayer was studied. These patients underwent extensive additional investigations at the audiology center of the Amsterdam University Medical Centre. All data was evaluated by an interdisciplinary medical assessment team, subsequent analysis was transdisciplinary.
Results: the three case histories with self-reported healing after prayer demonstrated a clear mismatch between subjective experiences and objective findings. No measurable improvements were found in four different audiological testing methods. However, in-depth interviews, hetero-anamnesis and a validated questionnaire all confirmed the healings. The medical assessment team could not label these healings as 'medically remarkable' because of absence of measurable 'objective' changes, but they did consider them as 'remarkable in a broader sense'. On expert consultation no equivalents of mismatches to this extent could be found. The healing experiences of our participants involved their entire being with profound positive effects in different domains of their lives, and a perception of a benevolent God who acted upon them. There was a distinctive pattern, labelled by the participants as a healing of mind, soul and body.
Conclusions: The subjective-objective incongruities that were found were not well understood. We noticed a paradox: the 'objective' measurements did not reflect hearing abilities in daily life where-as 'subjective experiential' data did. The latter could be 'objectified' and validated in various ways. In fact, a rigid distinction between 'objective' and 'subjective' was not relevant here, nor a hierarchy among them. A model leaving room for different causations (horizontal epistemology) complied best with the multi dimensionality we came across.

Keywords

Impaired hearing, prayer, healing, mismatch subjective-objective, transdisciplinary analysis

Introduction

A wider study on prayer healing took place in the Netherlands[1], which studied multiple reported healings upon prayer (*see under methods*). Despite secularization the subject continues to attract considerable interest from the public. Do remarkable or unexplained healings take place? If so, how can we understand such healings?

During their investigations the research team was confronted three times by a report of instantaneous and dramatic subjective reduction of hearing impairment without significant changes in audiometric measurements. In audiology discrepancies between subjective experiences and objective data were reported[2], but not to the extent we found. Due to this apparent knowledge gap we decided to further look into this phenomenon.

We will present the three cases with instantaneous improvement of impaired hearing upon prayer. They have been taken from the larger study. Our objective in this article is to address the mismatches between measurable outcomes and subjective experiences, aiming at a further understanding of this discrepancy.

Hearing and listening: a short background

The prevalence of hearing impairment in the western world, with an average pure-tone hearing loss of at least 40 decibel (dB) in the best ear (averaged across 0.5, 1, 2 and 4 kHz), is estimated to be 4.9% for males and 4.4% for females[3]. Normal speech has a loudness of 50dB and so a loss of 40dB can significantly hamper communication. Hearing loss can be conductive, at the level of the auditory canal and the middle ear (e.g. chronic middle ear infection), perceptive, when located in the inner ear, the acoustic nerve, the brain (e.g. presbycusis), or mixed (conductive and perceptive loss combined).

There is a phrase stating that *we hear with our ears, but we listen with our brain.* This is reflected in modern day audiology which distinguishes between bottom-up and top-down processes in auditory perception[4]. *Bottom-up perception* starts with the conduction of sound through the outer ear and the middle ear, where the ossicles set in motion the cochlear fluid of the inner ear. The organ of Corti in the inner ear is transducing these sound vibrations into neural signals, which subsequently are transported along the acoustic nerve to the brain stem. The brain stem will then distribute signals to the cerebral cortex. This is where *top down processing* starts, using bottom-up information along with available knowledge (e.g. language ability) and cognitive processes (working memory, attention). In fact auditory perception is a continuous interplay between these bottom-up and top-down mechanisms[5].

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[1] Kruijthoff DJ, Kooi C van der, Glas G, Abma T. (2017) Prayer healing: a case study research protocol *Adv Mind Body Med* 31(3):17-22.

[2] Pronk M, Deeg DJH, Kramer SE. Explaining Discrepancies Between the Digit Triplet Speech-in-Noise Test Score and Self-Reported Hearing Problems in Older Adults. *Journal of Speech, Language, and Hearing Research* 2018; 61(4):986-999.

[3] www.who.int/pbd/deafness/WHO_GE_HL.pdf?ua=1.

[4] Goverts ST, Kramer SE Auditief functioneren op de werkplek. Functie en pathologie van het gehoor. *Quintesse* 2017-1:6-11.

[5] Ronnberg J, Lunner T, Zekveld A et al. The Ease of Language Understanding (ELU) model: theoretical, empirical, and clinical advances. *Frontiers in Systems Neuroscience* 2013; 7(31):1-17.

However, as much as is known about bottom-up pathways, the adverse is true for top-down processing. Functional neuroimaging studies consistently find that intelligible sentences are processed by the bilateral temporal cortex, frequently complemented by activity in the inferior frontal gyrus. These regions form a functional hierarchy, with regions nearer to the auditory cortex showing increased response to acoustic features, and regions further removed manifesting more acoustic invariance[6]. Other regions in the brain turn out to be more active when confronted with acoustically degraded speech[7]. This is relevant for people with impaired hearing, as they face this problem on a daily basis. In fact there is converging evidence from multiple sources that cognitive resources are required to understand degraded speech: neuroimaging measures of brain activity[8], physiological responses[9, 10] and behavioral evidence[11].
Understanding cognitive processing has practical implications as well. It is well established that individual differences in speech understanding remain even after factoring out audiometric measures[12]. A growing number of studies affirm the important role of cognitive factors in explaining these individual differences[13].

Another relevant issue is the interplay between hearing loss, cognition and socio-psychological factors. First of all recent work suggests that persons with hearing loss may be at increased risk of fatigue, in part due to effortful listening that is exacerbated by their hearing impairment. They require more time to recover from work and have more work absences[14]. Pichora-Fuller et al. examined epidemiologic evidence linking hearing loss to cognitive declines and other health issues. They found a reciprocal relationship between social factors and auditory and cognitive aging[15].

Hearing loss can be measured both 'objectively' (audiometry) and 'subjectively' (validated questionnaires). Discrepancies between these testing methods do occur (see footnote 2). As noted above individuals may use compensatory top-down mechanisms to improve 'subjective' hearing: cognitive and language abilities, verbal working memory, listening effort.

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[6] Davis MH, Johnsrude IS. Hierarchical processing in spoken language comprehension. *J Neurosci* 2003; 23:3423-3431.
[7] Adank P. The neural bases of difficult speech comprehension and speech production: Two Activation Likelihood Estimation (ALE) meta analyses. *Brain lang.* 2012; 122:42-54.
[8] Peelle JE. Listening Effort: How the Cognitive Consequences of Acoustic Challenge Are Reflected in Brain and Behavior. *Ear and Hearing.* 2018; 39-2:202-2014.
[9] Zekveld AA, Kramer SE. Cognitive processing load across a wide range of listening conditions: insights from pupilometry. *Psychophysiology. 2014; 51(3):277-284.*
[10] Kramer SE, Kapteyn TS, Festen JM, et al. Assessing aspects of auditory handicap by means of pupil dilatation. *Audiology.* 1997; 36(3):155-164.
[11] Wingfield A, Tun PA, Koh CK. Regaining lost time: Adult aging and the effect of time restoration on recall of time-compressed speech. *Psychol and Aging.* 14(3):380-389.
[12] Smoorenburg GF. Speech reception in quiet and noisy conditions by individuals with noise-induced hearing loss in relation to their tone audiogram. *J Acoust Soc Am.* 1992 Jan; 91(1):421-437.
[13] Akeroyd MA. Are individual differences in speech reception related to individual differences in cognitive ability? A survey of twenty experimental studies with normal and hearing-impaired adults. *Int J Audiol.* 2008 Nov; 47Suppl2:S53-71.
[14] Hornsby BW, Naylor G, Bess FH. A taxonomy of Fatigue Concepts and Their Relation to Hearing Loss. *Ear Hear.* 2016 Jul-Aug; 37Suppl1:134S-144S.
[15] Pichora-Fuller MK, Mick P, Reed M. Hearing, Cognition, and Healthy Aging: Social and Public Health Implications of the links between Age-Related Declines in Hearing and Cognition. *Semin Hear.* 2015 Aug; 36(3):122-139.

These mechanisms become more relevant when listeners are faced with degraded speech, as is certainly the case with impaired hearing. A Framework for Understanding Effortful Listening (FUEL) was proposed to describe the elements which are involved[16].
There is more to hearing than the results of 'objective' testing methods.

Methods

At the Vrije Universiteit, Amsterdam, and the Amsterdam University Medical Centre, location VUmc, a study research protocol was designed to investigate reports of healing upon prayer (1). The study itself was retrospective and case-based. Reported instances of prayer healing were investigated systematically. Between February 2016 and March 2020 multiple cases were identified and evaluated by an interdisciplinary medical assessment team, using both medical and experiential data.

Three of the cases related to hearing impairment, these were the focus of our study for this article. The methods we used to gain insight into these three healings are listed in table 1.
The research team advocated a naturalistic approach, attempting to understand subjects in their own environment[17]. This was emphasized as the patients presented in this article commented on draft versions of the text (participatory member check)[18].

Mode of investigation	*Description*
Medical assessment	A medical assessment team, consisting of five medical consultants and a general practitioner reviewed the full medical files. They were assisted in their discussions by other disciplines (philosophy, theology, experiential knowledge) where relevant. Apart from the medical files the assessment team received the results of the other modes of investigation as well.
In depth interviews	The second author, a senior researcher at the University department of Medical Humanities (EB) conducted in depth interviews according to a topic list, to gain insight into people's perceptions of their healing experiences. The interviews were recorded and written out verbatim, a report was made.
Hetero anamnesis	The first author (DK), a general medical practitioner, took a hetero anamnesis of persons near to the respondent, asking them about their observations of hearing impairment before and after healing.
Additional audiometric testing	The three participants were reviewed at the audiology department of the Amsterdam University Medical Centre. They received additional testing: speech understanding both in quiet and in noise as well as spatial speech understanding. These investigations were performed and interpreted by the same specialist audiologist.

[16] Pichora-Fuller MK, Kramer SE, Eckert MA, et al. Hearing Impairment and Cognitive Energy: The Framework for Understanding Effortful Listening (FUEL). *Ear and Hearing.* 2016 Jul-Aug; 37Suppl1:5S-27S.
[17] Abma TA, Stake RE. (2014) Science of the particular: An advocacy of naturalistic case study in health research. *Qual Health Res.* 24(8):1150-1161.
[18] Doyle S. (2007) Member Checking With Older Women: A Framework for Negotiating Meaning. *Health Care for Women International.* 28(10):888-908.

Validated questionnaire	The Amsterdam inventory for auditory disability and handicap (AIADH)[19] was administered. It consists of 30 questions, dealing with a variety of everyday listening situations and covers five factors, interpreted as basic auditory disabilities: distinction and detection of sounds, intelligibility in noise, localization of noise, intelligibility in quiet.

Table 1: methods used in studying three prayer healing reports of hearing impairment

The Amsterdam inventory (AIADH) is considered to be reliable and valid[20, 21]. Each question has a- and b- sub questions and is accompanied by an explanatory picture. Performances are indicated on a 4-point scale. Eventually a multidimensional subjective auditory functioning profile is compiled after scoring the items. In this study the AIADH was filled in twice, for the situation before and after healing.

Each individual's hearing loss was indicated in decibels (dB) as the average pure-tone threshold (averaged across 0.5, 1, 2 and 4 kHz).

Results

Case presentation: three histories of impaired hearing and their healing

We will present the cases under fictitious names: Esther, Deborah and Mary. The audiological data are summarized in table 2. Their narratives, based on the in-depth interviews and phenomenological analysis, are reflected individually. The same applies for medical data additional to table 2, as well as for the hetero anamnesis.

	Esther, female, born 1977	Deborah, female, born 1963	Mary, female, born 1956
Diagnosis, date of diagnosis	Congenital perceptive bilateral HL, discovered at 5 years of age	Mixed hearing loss (conductive and perceptive) after an ear infection in 1967	Presbycusis, 2014
Medical history of hearing loss (HL)	Throughout life intermittent use of hearing aids	Mastoidectomy 1967, reconstructive middle ear surgery 1976 (anvil replaced)	Bilateral hearing aids from 2014
Audiometry before healing	2005 average HL 45dB for both ears	1976 left ear 40dB HL (surgery had no effect)	2014 average HL 45dB for both ears

[19] Kramer SE, Kapteyn TS, Festen, JM et al. Factors in Subjective Hearing Disability. *Audiology* 1995; 34(6):311-320.

[20] Meijer GW, Wit HP, Tenvergert EM. Reliability and validity of the (modified) Amsterdam Inventory for Auditory Disability and Handicap: Confiabilidad y validez del Inventario (modificado) de Amsterdam para Discapacidad y Desventaja Auditiva. *Int journal of Audiology* 2003; 42(4): 220-226.

[21] Boeschen Hospers JM, Smits N, Smits C et al. Reevaluation of the Amsterdam Inventory for Auditory Disability and Handicap Using Item Response Theory. *Journal of Speech, Language and Hearing* 2016; 59(2):373-383.

Date of prayer, healing experience	Summer 2013, instantaneous healing at a prayer healing meeting	October 2006, instantaneous healing of disabilities upon a liturgical prayer in a Roman Catholic monastery, healing of HL 2 weeks later	March 2016, instantaneous experience after a desperate own prayer, all medical conditions healed at short intervals, including HL
Audiometry after healing	2018 right ear 50dB HL, left ear 45dB HL	2016 left ear 50db HL, right ear 20dB	2016 average HL 40dB for both ears
Other medical conditions	None	Disabilities due to longstanding pelvic instability	Multimorbidity (see under additional medical data)
Outcome	Hearing aids no longer needed	Good hearing left ear subjectively	Hearing aids no longer needed

Table 2: overview of the audiological data. (HL = Hearing Loss).

Case history 1:

ESTHER
Born in 1977, with congenital hearing loss

Additional medical data: Impaired hearing was discovered at the age of 5, diagnosed as bilateral perceptive hearing loss (HL). During childhood Esther received hearing aids, causing good improvement of speech understanding. But she refused to use them as from adolescence, only restarting in 2005. In 2013 she experienced a sudden and dramatic improvement when prayed for during a prayer healing meeting at a campsite.
At our request Esther underwent audiometric testing after healing, in 2018. As shown in Table 2, her audiometric thresholds had not changed. Beforehand she expressed doubts about testing and for some time it caused confusion. Nevertheless she remained aware of the fact that her subjective hearing as well as her entire functioning were still completely different from before.

Esther's narrative
A teacher at school was the first one who noticed that Esther had a hearing problem.
She explained about her youth:

'They often said to me "you never listen" while I was definitely keen to listen. Or 'why are you late again?' when I was called for a meal, despite always leaving the door of my room open to see if someone was moving. Therefore it was a relief when I received a hearing aid. For the first time I could hear the birds!'

At university she trained to become a social worker, and together with her husband she started an open house in the center of a city to offer shelter, charity and to share their faith.

'I did a lot of the listening by lip reading. Working for 2,5 hours was the maximum, then I had no energy left.'

In 2013, she visited a Christian prayer healing meeting at a campsite where she decided to go to the front to be prayed for.

'My ears popped open when the pastor asked for the deaf spirit to leave and I could immediately hear sounds much louder. I could just hear the words of the hymns we were singing. It was overwhelming, so beautiful and so big! Back from the meeting I was crying. That week I stayed in a tent. At night it was silent, but now I heard all sorts of sounds. I had to ask my husband what it was, like someone walking with flip flops on the gravel. And I could hear it when I rubbed my clothes.'

Back from the meeting she visited her family doctor. He noticed the difference, direct eye contact was no longer needed as before when communicating. She described her changes in functioning*:*

'I can now work for 9 hours at a stretch without thinking about my hearing. But it is not as it was initially after my healing, when I heard each and every sound. This is a search for myself as well, because it still differs from the period of my hearing problems. And my social functioning is so much easier now.'

When asked for the meaning of her healing Esther says:

'Most important for me is that God is delving deeper. It is not just a physical healing, but it is also at the level of the soul. He is touching the person, it is a relationship, you see that in the Bible as well. God is getting close, not just a doctor performing an operation'.

Hetero anamnesis of Esther's husband
Her husband testified to the above change, notably the changes at the campsite after her healing.
In daily life he can now say something to her at a distance. Before she had to come closer to him in order to understand. She also hears him when her back is turned and she is able to follow a conversation among a number of people inside a room (e.g. with their children in the living room).
Beyond this, she also has much more pleasure in making music!

Case history 2:

DEBORAH
Born in 1963, with one-sided hearing loss (and pelvic instability)

Additional medical data: Deborah underwent a mastoidectomy of the left ear in 1967 because of an infection. Later on, a school doctor found that she was not hearing well with that ear when she was 8. In 1976 reconstructive middle ear surgery was conducted.
It should be noted that the audiometry testing before healing, reflected in table 2, was done prior to middle ear surgery. She had a mixed hearing loss. A pure-tone threshold of 40dB HL was found at the left ear. Aided speech intelligibility was 63% after significant amplification. She sensed a temporary improvement after surgery, which disappeared in the course of time. At this stage there was no follow-up.
Audiometry testing conducted at an audiology center much later, in 1991/1992, showed that there had indeed been no improvement after surgery (a copy of that investigation could not be traced, this information was recounted by the patient).
In 2006 Deborah experienced an instantaneous cure of debilitating pelvic instability when hearing a prayer in a Roman Catholic monastery, although she had not requested prayer healing at all.
There was another surprise two weeks later: she noticed that the hearing loss in her left ear had suddenly disappeared. Since then she hears adequately when someone whispers in that ear, the same is true for using the phone. As a participant of our study we requested her to undergo audiometry in 2016 again. The results demonstrated a threshold of 50 dB in the left ear and 20 dB in the right ear (20dB is considered normal hearing at that age). She was very surprised once more when understanding that the left-right asymmetry was still unchanged. The audiologist prescribed a hearing aid for the left ear, which she hardly used.

Deborah's narrative
Although her one sided hearing loss must have started at the age of 4 years, when she had the ear infection, it was only diagnosed by the school doctor years later. Deborah said that she had adapted to circumstances, mostly by teaching herself lip reading. She used these compensatory mechanisms until 2006.
Then she spent a weekend at a monastery, not with an intention to be healed from pelvic instability or impaired hearing. At the end of an inspiring weekend the priest said a standard prayer:

'God the Father, God the Son, God the Holy Spirit. You only have to speak one word and my body is healed. Speak, Lord… You only have to speak one word and my soul is healed. Speak, Lord… You only have to speak one word and my spirit is healed. Speak, Lord…'

'And then, before I could think, I felt like I was being touched from the outside. A hand touched something in my head, my brain. And then a current started from my toes gradually running upward in my body, a wave of power, I could feel it in my fingertips as well. I was stunned. And I just started crying, as if a tap was opened right next to my head, where I was touched. And it continued to pour, it didn't stop.'

'I could hardly talk about it, too difficult to express in words. Am I healed? Can that be true? I felt no more pain'

Indeed all physical symptoms and reduced validity from pelvic instability had disappeared instantaneously. Except for the left sided hearing loss.
But 2 weeks later during a nap at noon:

'I used to sleep by putting the pillow on my good ear, so I did not hear a sound. But that afternoon, when I was lying down, I heard the neighbor talking near to my window. So I thought I should re-apply the pillow to the right ear. But again that didn't work. Then it came to my mind that I could now hear with my left ear as well! I was amazed. I started ringing my friend, holding the phone to my left ear, and I could communicate with her, this was impossible before!'

She went to a music performance at the concert hall:

'We were seated in the third row from the front, the orchestra started playing, and I started crying and crying. From my childhood I had loved music, but now I could hear it with both my ears, the experience was so different.'
'Therefore, I still don't understand the tests, with the audiometry still indicating hearing loss in the left ear. So it remains a big question to me what has happened to that ear'.

Hetero anamnesis of Deborah's sister
Her sister was most impressed by the healing of her motoric invalidity, as she was largely bedridden at the time. Deborah was good at hiding things, compensating for her defects, so the hearing loss did not stand out.
What struck most in this respect was that she often went to concerts after her healing experiences, being very enthusiastic about the beauty of the music she had heard.

Case history 3:

MARY
Born in 1956, with multimorbidity and hearing loss

Additional medical data: Mary was severely premature at birth after only 26 weeks pregnancy. In the course of time there has been an accumulation of diseases and problems: with low vision starting in her youth due to high oxygen treatment postnatally and hypothyroidism after strumectomy for Graves' disease at the age of 16 years. In adulthood she contracted multiple diseases: asthmatic bronchitis with frequent hospital admissions; debilitating inflammatory osteo arthritis with braces for both hands and the left knee, causing chronic pain as well; impaired hearing, vertigo and tinnitus; osteoporosis; an ankle fracture in 2015; depressions; divorce; incontinence of urine after a traumatic delivery; hypercholesterolemia and overweight. Additionally there were surgical procedures: caesarean section, cholecystectomy, hernia repairs, a TOT procedure for incontinence.
Eventually there was an impressive polypharmacy: she had 18 medications resulting in at least 25 tablets daily and 3 different modes of inhalation treatment, combined with oxygen. She became increasingly disabled. Always coughing up sputum, shortness of breath, having pain. When walking she often used a crutch, the maximum was 400 meters. At home it was necessary for her to use various tools to do the household chores. In December 2015, Mary was considered to be 100% incapacitated for any work.
Then one night in March 2016, she had a very powerful and unexpected experience after a desperate prayer. To her surprise all illnesses disappeared subsequently. She did not cough anymore. There was no more pain, she could walk distances of 4 to 5 kilometers. A few weeks later she noticed that she could hear well without hearing aids. All medications were stopped in the course of 2016 except for levothyroxine.
In July the pulmonologist specified in a letter that Mary felt very well, having experienced healing by God. Despite having stopped all of her asthma medications there was no recurrence of symptoms and no decrease of pulmonary function.

Mary's narrative
In 2016 she was a member of a Baptist church, where people would pray for each other. But on that specific night in March 2016 she was at home on her own, being desperate, when she started to pray*:*

'And then I sat there with my pills and the nebulizer on the bedside table. Thinking I don't want to live like this anymore, I 'd rather die. Then I started praying, going down on my knees, and I said – Lord, please take me Home, because I don't want to go on. I don't want a life like this, I can't stand it anymore. Then I started crying and I said – if You still want to do something in my life, then do it, because I believe in You. And I still have that calling …

(meaning missionary work in South America).' 'I was still desperate and emotional when I sensed a silence around me. And that silence was enormous, it came within me, as if someone wrapped a blanket around me. Then I experienced a deep sense of being accepted: I can be!'

The next morning she woke up without pills and without her nebulizer, lying half out of her bed. The following days, she remained without pain, without a cough and walking more easily, starting to realize that maybe something had happened to her illnesses after the prayer. She took off her braces and she decided to put it to the test, praying to God:

'Lord, if You have healed me, then I will stop medications for two weeks and I will go to the doctor. I will restart when symptoms recur'.

But symptoms did not recur and medications were phased out. About her hearing she said:

'Everyone seemed to yell and music sounded so loud …. So I took off my hearing aids, I heard the birds singing and the clock ticking and I realized my hearing had been healed as well'.

Soon afterwards she went to South America for some time to help missionaries in Peru.

Hetero anamnesis of a good friend
When asked he found it difficult to say something specifically about hearing as it was only one problem out of many. But he had certainly observed an improvement in her entire functioning, hoping for her it will stay like that.

<u>Review at the Amsterdam University Medical Centre, location VUmc, department of audiology</u>

All three respondents agreed to participate in further investigations at the audiology department, consisting of more detailed audiological examinations as well as questionnaires on subjective functioning of hearing.

Additional audiological examinations
They were all examined by the same specialist audiologist and all underwent the same tests. A summary of the test results was written by the audiologist, who reported as follows:
'Two patients have bilateral perceptive hearing losses at present with clearly reduced results when testing speech understanding in quiet, speech understanding in noise and spatial speech understanding. The latter is a test reflecting 'daily life functional hearing'. These two patients assess their hearing remarkably more favorably in comparison with audiometric and speech test results.
Deborah has a serious mixed hearing loss in the left ear and a normal, age-related hearing loss in the other ear. Speech tests demonstrated reduced scores for the left ear, being in line with her known condition. Results for the right ear were marginally normal.
For the first two patients it is highly unlikely that a change took place in peripheral hearing. In the case of the third patient, assessment is more difficult as there is no measurement data available from the period prior to the instantaneous improvement. Possibly a change of the conductive component could have taken place'.

The Amsterdam Inventory for Auditory Disability and Handicap (AIADH)
As noted before, our respondents answered the questions for their situations before and after healing. All three have an above average educational level, and could understand the questions well. Results are reflected in tables 3 and 4.

	Case 1, Esther		Case 2, Deborah		Case 3, Mary	
	Before healing	After healing	Before healing	After healing	Before healing	After healing
Speech intelligibliity in noise	1.0	0.4	1.5	0	1.3	0.1
Speech intelligibility in quiet	2.6	0.9	1.8	0	1.2	0.2
Auditory localization	1.6	0.2	2.0	0.2	1.0	0.2
Detection of sounds	1.9	0.5	1.3	0	0.8	0.2
Distinction of sounds	0.2	0.1	1.4	0	0.8	0.2
On average	1.5	0.4	1.6	<0.1	1.1	0.2

Table 3: results of the AIADH a-questions. Means of the factor scores, measuring abilities in hearing, are shown. Interpretation of the marks 0 – 3: 0=almost always heard; 1=often heard; 2=sometimes heard; 3=almost never heard. Higher scores indicate worse outcomes.

	Case 1, Esther		Case 2, Deborah		Case 3, Mary	
	Before healing	After healing	Before healing	After healing	Before healing	After healing
On average	33/13=2.54	1	25/16=1.56	1	20/10=2.0	1

Table 4: results of the AIADH b-questions, measuring the degree of handicap due to limitation in hearing. The interpretation of the marks 1-4: 1=no handicap; 2=mild handicap; 3=moderate handicap; 4=severe handicap. Higher scores indicate worse outcomes.
It should be noted that there is no differentiation of factor scores. This is not relevant as no handicaps are experienced after healing.

The consulted expert in auditory functioning studied the profiles , reporting subsequently:
'In all three there is subjective improvement on all (5) factors of the questionnaire. For the patient with one sided hearing loss one would expect the worst results on the 'localization' factor. This is actually reflected in her profile (a-questions, table 3). For the patients with bilateral hearing loss the b-questions (reflecting 'handicap', table 4) ought to produce higher scores in comparison with one sided hearing loss. This is indeed the case. Therefore one may assume that the questionnaires were filled in honestly and consistently.

Although the inventories were made up retrospectively the subjective auditory functioning of the respondents was systematically mapped.'

Concluding, one may say that the additional investigations confirmed the pattern of mismatches between subjective auditory functioning and objective data.

Medical assessment

After elaborative discussions the medical assessment team at the Amsterdam UMC decided that they could not label these healings of hearing impairment as medically remarkable or unexplained. The medical histories were indeed striking, but could not be objectified by the appropriate investigations such as audiometry and speech understanding tests.
However, every member of the team felt uneasy as all of them considered these healings remarkable when looking beyond the technical medical perspective. The audiological tests were solid and uniform, thereby emphasizing the observed incongruity between subjective experiences and objective data. Subjective factors, what counts for the 'patient', were tested in three different ways: medical history including hetero anamnesis, in-depth interview, and a validated questionnaire. The objective assessment, what counts for the 'doctor', was tested in four ways: audiometry and three tests for speech understanding. The mismatch was demonstrated repeatedly.

It was decided to ask for expert opinion of a psychologist specialized in audiological functioning. Her expertise relates to determinants and consequences of hearing impairment as well as cognitive and behavioral factors influencing 'hearing and listening' (*see* also under that paragraph), having studied discrepancies between speech tests and self-reported hearing as well (2). She indicated that she was aware of discrepancies, but not of the scale we had presented to her. The expert also commented on the filled out AIADH questionnaires (see under the paragraph *Review at the Amsterdam University Medical Centre*). Although questions were answered retrospectively, replies showed a consistent pattern, indicating credible subjective improvement on all factors of the questionnaire. Credibility further increased since the findings of the AIADH corresponded with the data of the in-depth interviews and hetero anamnesis.

In a study by Brown et al.[22] in 2010 hearing thresholds were measured with a handheld audiometer before and after intercessory prayer for impaired hearing (and low vision) in rural Mozambique. A significant improvement was found across the tested population, although field conditions were challenging, as the authors say. It was also observed that 'several audition subjects showed no measurable improvement, despite self-reported improvement '. In 'Testing Prayer'[23] the same author describes some individual cases in an analysis of hearing data before and after prayer. Audiometric data showed impressive improvement in one of them (Martine). Two others (Gabriel, Maria) reported clear and detailed improvement of impaired hearing, while numerical changes in pre- and posttests were subtle. Although matches were prevailing in these studies, some of the cases apparently showed incongruities as well.

[22] Brown CG, Mory SC, Williams R et al. Study of the Therapeutic Effects of Proximal Intercessory Prayer (STEPP) on Auditory and Visual Impairments in Rural Mozambique. *Southern Medical Journal* 2010; 103(9):864-869.
[23] Brown CG. *Testing Prayer.* Massachusetts, Cambridge, Harvard University Press 2012 (pp 215-29).

Summarizing our cases demonstrated documented mismatches between subjective and objective data, for which it is hard to find equivalents in literature. The assessment team maintained its conclusion of a remarkability, requiring additional investigation as to enhance our understanding.

Discussion

When analyzing our case histories we found a number of observations to be remarkable:

- The healings observed were instantaneous with strong physical sensations at that very moment.
- Subjective audiological functioning returned to normal. This was confirmed by the people around them, the interviews as well as the data of the questionnaire, but not by audiometry. In Esther's case the change was noticed by her husband and children on a daily basis. The mode of communication in the living room and at the dining table had vastly changed for the better.
- It is noteworthy that Deborah had not at all expected the audiometric data to be the same as before, she was astonished when she heard the results.
- Mary and Deborah did not have high expectations to be healed upon prayer initially, rather they were surprised when it occurred. Moreover, the nature of the prayers themselves could not be viewed as goal oriented interventions in all instances: for Esther it was when she visited a prayer healer; Deborah did not ask for healing specifically, but there was a passage in a liturgical prayer requesting healing of body, mind and soul; and in Mary's case the prayer was rather an outcry of despair.
- Very remarkably, Deborah experienced healing from two diseases and Mary from a multitude of them (multimorbidity). To make it even more confusing, the healing of these different medical conditions took place at differing moments. Although the onset of the healings was instantaneous, in the cases of Deborah and Mary healing of impaired hearing was only a few weeks later, at very unexpected moments.
- Apart from illnesses disappearing there was an exceptional shift in functioning: Esther now easily copes with a 9 hour working day in social work, while only managing 2.5 hours at a stretch prior to her healing. Mary went to Peru to help others, while she herself had needed home care before.
- It was surprising as well to see that Mary was able to stop her medications in a few months' time: among them were potent drugs (hydroxychloroquine, prednisolone, anti-asthmatic inhalations with oxygen) as well as addictive drugs (oxycodone, fluoxetine, tramadol, codeine).
- The mismatches of subjective experiences and objective data were confirmed by expert investigations at the audiology center of the Amsterdam UMC (VUmc).

Due to their unusual presentation, it was hard to interpret these healings within a strictly medical framework. Rather we observed strong experiences involving the whole person, changing one's functioning at physical, psychological, social and religious levels. When looking at the cases of Esther, Deborah and Mary from this broader multidimensional perspective, we found some common features:

- To all three of them, it was a life-changing event, their lives before and after were very much different.
- There was instantaneous healing of physical functions, that could be verified, but not measured.
- The healing was accompanied by strong physical and emotional experiences.
- The self-interpretation of all three was a religious one: it was God, who acted, with a deep sense of a benevolent God.
- A renewal of their entire being took place, not just a physical healing of a specific medical disease. Mary described it as 'a healing to mind, soul and body'.
- Their orientation in life changed, with an increased focus on non-materialist aspects of life.

In scientific literature similar case histories and reports of instantaneous healing upon prayer can be found only incidentally.
Recently two case reports of healing after proximal intercessory prayer were published by Romez et al.[24, 25]. Although these articles focused mainly on medical data, the healings were instantaneous and accompanied by physical and emotional sensations as well, resembling our report. The same picture appeared for healings having taken place at the Lourdes pilgrimage site in France in quite a different era. Francois et al. studied 411 patients cured in Lourdes in 1909-1914 and thoroughly reviewed 25 cures acknowledged between 1947 and 1976[26]. The authors remarked: 'In two cases out of three, the clinical cure was instantaneous. It was sometimes heralded by an electric shock or pains and, more often, a perception of faintness, or of relief, or of well-being…. More importantly, the cured patients exhibited a steadfast confidence they had been cured and gave strong testimony. Although subjective, this confidence has been considered by many observers as quasi-pathognomonic.'
In the Netherlands a case study on a healing of Parkinson disease was published[27] within the context of our research. The aforementioned book 'Testing Prayer' (see footnote 23) gives quite some case descriptions as well, parallels can also be found in religious literature[28, 29, 30]. Apparently the same type of multidimensional healing in conjunction with prayer occurs in different eras and in different cultural settings.

[24] Romez C, Zaritzky D, Brown JW. Case Report of Gastroparesis healing: 16 years of a chronic syndrome resolved after proximal intercessory prayer. *Compl Ther in Medicine* 2019;43:289-294.
[25] Romez C, Freedman K, Zaritzky D et al. Case report of instantaneous resolution of juvenile macular degeneration blindness after proximal intercessory prayer. *Explore* 2021; 17:79-83.
[26] Francois B, Sternberg EM, Fee E. The Lourdes cures revisited. *Journal of the History of Medicine and Allied Sciences* 2014; 69(1):135-162.
[27] Kruijthoff DJ, Bendien E, Doodkorte C et al. "My Body Does Not Fit in Your Medical Textbooks": A Physically Turbulent Life With an Unexpected Recovery From Advanced Parkinson Disease After Prayer. *Advances in Mind-Body Medicine.* 35(2):4-13.
[28] Augustine St. *Of Miracles Which Were Wrought that the World Might Believe in Christ and Which Have not Ceased Since the World Believed.* The City of God, book XXII, Ch 8.
[29] Nikchevich V. *Life and Miracles of Saint Basil of Ostrog, with brief History of the Ostrog Monastery.* Svetigora Press, Cetinje, Montenegro 2012 (463pp).
[30] Kuhlman K. *I believe in miracles.*Bridge-Logos, Gainesville (FL), US, 1992; *God can do it again.* Bridge-Logos, Gainesville (FL), US, 1993; *Nothing is impossible with God.* Bridge-Logos, Gainesville (FL), US, 1999.

Poloma and Lee, two sociologists, did intensive research on religious experiences. In an article they summarize five cases[31]. All of them reported that they experienced a touch by God, manifested by various sensations: a gust of wind, an appearance of the Mother Mary, a 'hand' on the head or on the back, a vision of 'Angels' or 'a rainfall of liquid love'. In their book, 'The Heart of Religion'[32] they reflect upon these experiences as 'An encounter with a divine energy that is profoundly loving and accepting beyond words, followed by a radical shift in which core values are turned upside down, resulting in insights that appear to rewire the person and their approach to life.' Although these accounts did not mention healings there is a resemblance with the life events in our case histories.
Could it be that there is a distinctive pattern for prayer healings associated with strong (religious) experiences, the same features frequently recurring? Our case histories as well as those in the articles mentioned above, seem to point in that direction.

When coming back to our research question, aiming at enhancing our understanding of the discrepancy we found between objective and subjective data within the context of prayer healing, we were aware of the fact that we did not have a closing answer.
Primarily, we were surprised by the data we found and we still are. We had not expected such incongruities, nor did the participants themselves. The surprise increased as we came across this phenomenon three times. There is no point in downplaying these data or trying to 'reason it away'. It may even be rude to do so, as all three participants were confronted with non-empathic disbelief. Rather we should acknowledge the events as we have observed them. It is better if our surprise turns into eagerness to learn more about these cases. For instance, why is it that our respondents do not experience obstacles in daily life functioning? Their audiometric measurements indicate hearing losses just over 40dB, which should significantly hamper normal communication.
An intriguing question is whether top-down mechanisms (see *hearing and listening: a short background*) could be explanatory despite the fact that mismatches to this extent were not described before. As outlined in the *Hearing and listening* paragraph performances are influenced by cognitive and language abilities, verbal working memory, listening effort (attention). Some of these processes can improve through perceptual learning[33]. It refers to how experience and practice can change the way we perceive sights, sounds, smells, tastes, and touch. However, 'While it is well established that perceptual learning is an ubiquitous process in the adult brain, it is typically slow, and can require specialized training'. Therefore it is unlikely to explain the instantaneity of the changes in our respondents.
Another issue may be the effect of top-down influences on hearing when coinciding with strong emotional and existential experiences. Apparently not much is known here, it may therefore be a subject of further investigation.

Alternatively, can anything else be implied here beyond abnormal 'underlying' brain processes? When 'miracle-type' cures are reported there is a sense of unease in modern medicine with a dominant tendency to always hypothesize material causes as the explanation

[31] Poloma MM, Lee MT. From Prayer Activities to Receptive Prayer: Godly Love and The Knowledge that Surpasses Understanding. *Journal of Psychology and Theology.* 2011; 39(2):143-154.
[32] Lee MT, Poloma MG, Post SG. *The Heart of Religion. Spiritual Empowerment, Benevolence, and the Experience of God's Love.* New York, Oxford University Press 2013.
[33] Seitz AR. Peceptual learning. *Current biology* 2017; 27:R623-R641.

of such healings as well[34]. But in our cases this may not be relevant as the 'objective material' investigations fail to explain the current hearing performances. Why not turn to other explanatory frameworks 'beyond the brain'? Brown et al. (see footnotes 22 and 23) found significant improvements of impaired hearing in their studies on intercessory prayer. But it remains a question why some of their subjects had incongruities, to some extent similar as in our reports. Hypnosis studies did not demonstrate significant improvements in vision, according to a review article[35], but studies of the kind were not found for impaired hearing.
Explanatory concepts include intention, nonlocality, extra-sensory perception, with nonlocality being the common denominator. In a nonlocal view consciousness acts beyond the brain in ways that transcend direct sensory contact between humans[36]. Research on Near Death Experiences[37] is suggestive of nonlocality.
Are such mechanisms involved here? Esther, Deborah and Mary viewed upon their experiences as acts of a benevolent God, being healed to mind, soul and body. Did mind and soul transcend the physical qualities of healing?
If not, then at least the consistent pattern of 'subjective experiences' of our respondents have some probing questions to ask to 'objective reality'.

Concluding remarks

In all three case histories regarding hearing there was an outspoken mismatch between subjective and objective findings. In-depth interviews, hetero anamnesis and a validated questionnaire confirmed the healings, but no measurable improvements could be found in four different audiological testing methods.
Esther, Deborah and Mary appeared to have undergone 'life-changing healing experiences' involving their entire being, with documented changes in many areas of their lives. Physical and mental functioning, the perception of a benevolent God, one's outlook on life as well as on the world around them.

Some important questions remain:
Firstly, as for audiology, the gross mismatches we observed may be a trigger for further investigations. Could top-down mechanisms in audiological functioning be involved, and to what extent? Can this be investigated in situations after profound experiences?

Secondly, these healings could point towards a distinctive pattern in prayer healing with a number of features in common. There was a deep sense of a benevolent God, who acted upon them. Not just a physical change, but a healing to mind, soul and body. Does this pattern apply for other healings upon prayer as well, apart from impaired hearing? And will we find subjective-objective incongruities more often?

Finally, there is a conceptual issue at stake. These case histories do raise questions about mainstream biomedical models focusing on biological factors as an explanation for medical

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[35] Raz A, Zephrani ZR, Schweizer HR. Critique of Claims of Improved Visual Acuity after Hypnotic Suggestion. *Optometry and Vision Science.* 2004: 81(11):873-879.
[36] Schwartz SA, Dossey L. Nonlocality, Intention, and Observer Effects in Healing Studies: Laying a Foundation for the Future. *Explore* 2010; 6(5):295-307.
[37] Lommel P van, Wees R van, Meyers V et al. Near Death experience in survivors of cardiac arrest: a prospective study in the Netherlands. *Lancet* 2001; 358:2039-2045.

conditions, such as impaired hearing. Such models tend to emphasize 'objective' data. However, in this research we were confronted with an interesting paradox: the 'objective' measurements did not reflect hearing abilities in daily life, where-as 'subjective experiential' data did. Moreover, the 'experiential' findings could be 'objectified' and validated in various ways. What does it say about these concepts when looking at our case histories? Should we turn away from a linear and vertical epistemology in favor of a non-linear and horizontal epistemology?[38]. In a horizontal epistemology there is no hierarchical distinction between 'objective' truth and 'subjective' opinions and the high-low distinction between 'rational' capacities and 'irrational' emotions and intuitions. It leaves room for different causations: audiological top-down factors, experiences and religious aspects co-operate instead of excluding each other. This would indeed comply with the multi-dimensionality we came across. We need to get the whole story if we want to understand!

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Chapter 8

A Dutch study of remarkable recoveries after prayer:

How to deal with uncertainties of explanation

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Abstract
This article addresses cases of remarkable recoveries related to healing after prayer. We sought to investigate how people who experienced remarkable recoveries (re-)construct and give meaning to these experiences and examine the role that epistemic frameworks available to them, play in this process. Basing ourselves on horizontal epistemology and using grounded theory, we conducted this qualitative empirical research in the Netherlands in 2016-2021. It draws on 14 in-depth interviews. These 14 cases were selected from a group of 27 cases, which were evaluated by a medical assessment team at the Amsterdam University Medical Centre. Each of the participants had experienced a remarkable recovery during or after prayer. The analysis of the interviews, which is based on the grounded theory approach, resulted in three overarching themes, placing possible explanations of the recoveries within (1) the medical discourse, (2) biographical discourse, and (3) a discourse of spiritual and religious transformation. Juxtaposition of these explanatory frameworks provides a way to understand better the transformative experience that underlies remarkable recoveries. Uncertainty regarding an explanation is a component of knowing and can facilitate a dialogue between various domains of knowledge.

Keywords
Healing after prayer, remarkable recoveries, horizontal epistemology, explanatory frameworks, uncertainty

Introduction

Julia was diagnosed with post-traumatic dystrophy in 1990 (also known as CRPS) and became Dick's patient in 1992. She had pain in the right side of her body and was wheelchair bound. As a general medical practitioner (GP) Dick had a moderately large practice in a rural region of the Netherlands. His patients had various socio-economic backgrounds. He knew Julia's medical history well. In 2007, after 17 years of suffering, Julia and her husband took part in a prayer healing session, that was organised by a well-known Dutch evangelist. After the prayer Julia stood up from her wheelchair and started walking around without a trace of pain. Her physical condition has remained stable during the past 15 years. Dick was pleased but also intrigued by Julia's sudden full recovery. In search for an explanation he conducted a literature study but came up empty-handed. His inquiry led to research, supervised by an interdisciplinary team, consisting of a theologian, a psychiatrist-philosopher, a social scientist and a qualitative researcher in the field of medical humanities.

The turn to patient-centred medicine has been accompanied by an increased interest in the spiritual needs and beliefs of the patients[1, 2]. This is reflected in publications about the influence of spirituality on wellbeing and other measures of quality of life. Some of these studies focus on healing after prayer[3, 4]. With healing after prayer (further HP) we mean that a person's health improved after intercessory, individual, or other types of prayer. In Western countries HP was considered to be controversial as a field of medical and social research for a long time[5], but the number of publications that address the positive effects of prayer on health is steadily growing today[6]. Most of the available empirical research on HP has been conducted with the use of Randomised Control Trials (RCTs)[7] and usually reflects scepticism about the positive effect that prayer can have on a person's health[8]. Only a handful of published

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empirical studies make use of qualitative methodologies[9, 10, 11]. In RCTs, prayer is usually operationalised as an intervention, with a possible cause-effect (or even dose-effect) relationship between action and outcome. Some concerns about RCT as a suitable method to study HP are based on a large variety of HP-practices and the validity of operationalisation[12, 13]. Can prayer be conceived as an act that is demarcated in time and can it be quantified in terms of frequency, strength, fervency, numbers of intercessors or who prays to whom[14]? Besides, the outcome may extend beyond the usual, clinically measurable variables, and encompass changes in body, mind and spirit[15, 16]. In short, underneath the epistemological question how to study HP[17], lies the conceptual issue how to understand a phenomenon that does not fit well with the currently dominant biomedical paradigm, that is based on the presumed duality between body and mind.

Against this background, we present a qualitative study based on the 14 (out of 27) cases, which were evaluated by a medical assessment team at the Amsterdam University Medical Centre, location VUmc (for review of the medical data of all 27 evaluations see Kruijthoff et al.[18]). We will use the terms healing and recovery interchangeably. Recovery is understood as a long-lasting or permanent clinical improvement of the medical condition.
Each case we study has a well-documented medical history and has been submitted to a rigorous assessment by an independent medical team, concluding that the recovery could be medically remarkable or unexplained. Each case is characterised by an experience of (sudden) recovery related to prayer, and the participants are all inclined to search for other than medical explanations for the recovery. Our aim is to investigate how people who experienced remarkable recoveries, (re-)construct and give meaning to these experiences and examine the

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role epistemic frameworks that are available to them, play in this process. We demonstrate how established medical epistemologies are put to the test and how conflicting frameworks of understanding interact and are dealt with by the participants.

Theoretical perspective

The challenge of the choice for a theoretical framework that can help studying and interpreting HP cases from a multidisciplinary perspective, lies in the absence of developed theoretical approaches that match the existing data[19]. Reports on remarkable recoveries range between cases that are (un-)related to HP but are medically verified[20], cases that are described on the Lourdes pilgrimage site[21] and self-reported narrative accounts of patients, to name just a few. The authors who endeavour to provide an explanation for HP, usually take an eclectic approach. Barasch[22] makes an attempt to summarise the processes that can have influenced remarkable recoveries, such as psychosocial interventions[23], biological modifiers, diets, psychological states like mindfulness or meditation[24], immune responses and social connections. He also points to the lack of thorough accounts of the cases, and the difficulty to replicate the conditions under which these recoveries took place[25]. These accounts indicate that biomedical, biopsychosocial and even holistic explanatory frameworks can be of use when addressing certain physiological, lifestyle and relational aspects of remarkable recoveries (see, e.g., footnote 20 about social connections), but they come short in describing the spiritual or the transformative experiences of the patients.

Communication about remarkable recovery is a challenge of its own. Cases of medically unexplained symptoms (MUS) can be instructive about how this kind of communication unfolds. The interaction between patients and doctors is crucial in situations where diagnosis, treatment and recovery prospects do not fit within the mainstream clinical practice. It can result in the patient being treated as an "unreliable narrator of bodily events"[26]. In the absence of an evidence-based explanation for the symptoms of a disease or a sudden recovery, the patient-doctor interaction can be characterised by conflicting feelings of uncertainty or hope

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[25] Rediger, J. *Cured: strengthen your immune system and heal your life*. Flatiron Books. 2021.
[26] Scarry, E. *The body in pain: The making and unmaking of the world*. Oxford UP. 1987.

on the part of the patient, and mistrust or even animosity on the part of the doctor[27,28]. The positions that patients and doctors find themselves in, can affect the credibility of both parties. Safe ways out to explain a remarkable recovery from the point of view of the specialist, are to admit that the patient was misdiagnosed, or to describe the condition as self-resolving, or to suggest that the recovery is nonreplicable (see footnote 22). The patient can feel torn between relief and fear that the recovery is only temporary, and not knowing what to further expect from the doctor. The doctor can become nervous and start second-guessing the diagnosis that was made in the first place[29]. In such cases the consultation can turn into a battle[30] about whether the recovery has actually taken place or, broader still, about the legitimacy of the parties to ascertain the improvement. The examples with remarkable recoveries and MUS demonstrate the same shortcomings where explanation and communication are concerned. The theoretical approaches and communicative tools that are used to interpret and discuss these cases, do not address the spiritual aspects of healing, even though the positive influence of spirituality on physical health is well-established[31, 32].

Our conceptual framework is built on a combination of approaches: positive health, horizontal epistemology, which addresses amongst others the asymmetry in the doctor-patient interaction, and trans-somatic recovery, that allows to place the recovery in the context of the person's spiritual development.

The framework of positive health focuses on agency and the adaptability of the patient, who may still be able to live a good life, after having been diagnosed with a chronic condition. Recovery is defined as 'the ability to adapt and self-manage in the face of social, physical and emotional challenges'[33]. This definition reaches beyond the healthcare system, since it includes non-health factors[34], such as life-events, identity-forming and sensemaking. Attention to self-management in the face of the challenges that a positive health-framework promotes, allows us to link our study to the field of research on biographical disruption and

[27] Greco, M. The classification and nomenclature of 'medically unexplained symptoms': Conflict, performativity and critique. *Social science & medicine.* 2012; 75(12):2362–2369. https://doi.org/10.1016/j.socscimed.2012.09.010.

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[32] Thoresen, C. E., & Harris, A. H. Spirituality and health: what's the evidence and what's needed? *Annals of behavioral medicine*. 2002; 24(1):3-13. https://doi.org/10.1207/S15324796ABM2401_02.

[33] Huber, M., Knottnerus, J. A., Green, L., Horst, H. V. D., Jadad, A. R., Kromhout, D., Leonard, B., Lorig, K., Loureiro, M. I., Meer, J. W. M. V. D., Schnabel, P., Smith, R., Weel, C. V., & Smid, H. How should we define health? *BMJ*. 2011; 343(2). https://doi.org/10.1136/bmj.d4163.

[34] Andersen, N. Å., & Knudsen, H. Heterophony and hyper-responsibility. In M. Knudsen & W. Vogd (Eds.), *Systems theory and the sociology of health and illness: Observing healthcare*. Routledge. 2015 (p. 91-110).

identity[35, 36, 37]. Our attention will however be less on the biographical disruption as a consequence of a medical diagnosis, and more on the disruption resulting from spontaneous recovery followed by restoration of the self[38].

Horizontal epistemology[39] refers to the way of knowing where a hierarchic division between various types of knowledge (scientific, expert, experiential) becomes restrictive. Fricker[40] has pointed to the epistemic injustice of hierarchic systems of knowledge, where certain people are being systematically wronged in their capacity as knowers and denied the possibility to tell their story[41]. When certain perspectives and types of knowledge are structurally left out of the process of knowledge production, this will lead to a limited understanding of our world. Horizontal epistemology suggests that different epistemic perspectives and different types of knowledge should be dealt with as equally important in the interpretation of research findings. The approach has two advantages: it includes experiential knowledge as a legitimate source of knowing[42] and it allows for a broad dialogue between various types of knowledge and knowing, including tacit forms of knowledge[43]. Horizontal epistemology is performative by nature; it is enacted in the interaction between various discourses about illness and recovery. It generates new insights by bringing various disciplines and stakeholder perspectives together, based on empirical data. On a positive side, it is transformative to our understanding of complex phenomena, and it broadens the existing explanatory possibilities of complex cases. On a challenging side, horizontal epistemology is rooted in interpretation of data, which includes interpretation by the researcher, who uses personal experiences as a source of knowledge and explanation. Here the role of the researcher is not that of a distanced impartial investigator. That is why ethical and emotional aspects of knowing carry a heavy weight within horizontal epistemology (see footnote 39).

Horizontal epistemology entails the possibility that the medical specialist is no longer the (only) person who decides whether recovery has taken place. In fact, the self-reported functionality of a patient can outweigh the available medical readings (Kruijthoff et al., ref 16). This leads to a broader issue, whether recovery can be understood on the basis of untraditional somatic explanations. There is a wealth of critical literature about how patients and doctors use somatisation in order to explain a condition that is not supported by the

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65-2753.2008.01011.x.

[43] Polanyi, M. *Personal knowledge: towards a post-critical philosophy*. Routledge & Kegan Paul. 1958.

available medical measurements[44] (see footnote 28, 29). Following this logic, in order to be legitimate, recovery should be substantiated by quantitative somatic measurements or by standardised verbal reports of the patient's experience. Recoveries that cannot be measured or articulated by standardised means, represent a challenge to explanation.

To do justice to this complexity, we frame our findings in terms of trans-somatic recovery. With this modifier we aim to highlight dimensions of recovery that go beyond its customary physical and mental characteristics. The term draws attention to the transformative and transcending nature of the recovery experiences. Transformative recovery refers to healing experiences that extend beyond the functionality of body and mind. The term refers to instances in which healing leads to existential self-reflection, spiritual development, and/or religious transformation. Trans indicates the transcending aspect of recovery, understood as a process that brings patients to a level at which they can see their existence from a new overarching perspective. The transformative experience places their existence in a different light. The new perspective does not erase or replace other experiential dimensions. It includes them and transforms them into a new, meaningful, but sometimes disruptive, experience. Such experiences can vary from physical sensations, mood changes, experiences of improved health, to feelings of belonging to the universe or of undergoing a radical change, for example due to an encounter with God[45] (see also Austad et al., see footnote 9). All these experiences can unfold simultaneously and influence one another. All in all, trans-somatic recovery does not imply that the body has become non-essential or subsidiary to other aspects of life. It rather means that there exists no hierarchy between the various dimensions of recovery, including the spiritual dimension, and that we should focus on discourses that do justice to the inclusive nature of transformative and transcending healing experiences.

Methods

The findings presented in this article form a part of the second author's PhD study. The full design protocol of that study has been published elsewhere[46]. It is defined as a retrospective naturalistic case-based study[47] and consists of a preparation phase, that includes data collection, followed by three phases of analysis: medical assessment, qualitative data analysis and interdisciplinary meta-analysis. Most of the results of the PhD study have been published already[48] (see also footnote 15, 16, 18). For the PhD study two sets of data have been used: medical records of (former) patients and transcripts of qualitative interviews with the patients. In this article we use the second set of data and focus on qualitative data analysis of the 14 interviews.

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[48] Kruijthoff D, Bendien E, Kooi Kvd, Glas G, Abma T. Prayer and Healing: A Study of 83 Healing Reports in the Netherlands. *Religions*. 2022; *13*(11):1056. https://doi.org/10.3390/rel13111056.

Procedure and participants

In 2016 a Dutch newspaper announced that the Faculty of Theology of the Vrije Universiteit Amsterdam would, in cooperation with researchers from the Amsterdam University Medical Centre, location VUmc, be supervising a PhD study, which was being conducted by a GP, on the topic of healing after Christian prayer. The article generated a huge response, both positive and critical. In due course the second author received 83 reports from prospective respondents with accounts about their HP (for the detailed overview of all cases and the follow-up data that was collected in 2019 and 2021, see footnote 48). The research protocol (see footnote 46) describes in detail the criteria for inclusion in the study: the participants must have a well-documented medical history, followed by subsequent recovery related to Christian prayer. Based on these criteria 27 cases were presented for review to a medical assessment team, consisting of five medical specialists in the fields of internal medicine, hematology, surgery, psychiatry, and neurosurgery. According to the research protocol they represent a variety of ideological background, both agnostic and religious, in order to minimize bias (see footnote 46). None of them consider HP as a medical intervention. All available medical files were collected – with written informed consent of the participants – from the medical institutions and hospitals where they had been treated (for the detailed overview of the 27 cases see Kruijthoff et al., footnote 18).

The medical assessment team marked 14 (out of 27) cases as possibly medically remarkable or unexplained, and selected them for in-depth interviews. The term medically remarkable refers to a healing which is surprising and unexpected in the light of current clinical and medical knowledge and that has a remarkable (temporal) relationship with prayer, while medically unexplained indicates that no scientific explanation could be found at the time of assessment (see footnote 46). Subsequently the first author conducted semi-structured interviews with the 14 participants in 2017-2019. The transcripts of the interviews form the primary data for this article. For the participants' characteristics see Table 1.

Table 1. Participant demographic characteristics

	Sex	Age category at the moment of healing	Education level*	Religious affiliation at moment of healing	Time interval between interview and healing (years)	Illness
1.	M	65-70	Low	Evangelical	1	Partial spastic hemiparesis after Cerebro Vascular Accident (CVA)

2.	F	40-45	High	Reformed protestant	11	Pelvic instability and Hearing impairment
3.	F	35-40	High	Pentecostal	11	Crohn's disease
4.	F	60-65	High	Baptist	3	Multimorbidity**
5.	F	50-55	High	Reformed protestant	9	Multiple sclerosis (Disability score EDSS 6,5/10)
6.	F	25-30	High	Non-religious	2	Anorexia nervosa
7.	M	45-50	Medium	Reformed protestant	14	Iatrogenic aorta dissection
8.	F	50-55	Medium	Baptist	6	Parkinson's disease
9.	F	30-35	High	Religious without church affiliation	4	Ulcerative colitis and Psoriasis with artritis.
10.	F	30-35	Medium	Reformed protestant	11	Ulcerative colitis, about to undergo colectomy
11.	M	50-55	Medium	Reformed protestant	4	Drug-induced hepatitis with impending liver failure
12.	M	50-55	Medium	Religious without church affiliation	8	Cuff rupture shoulder

13.	F	35-40	High	Reformed protestant	6	Congenital hearing impairment
14.	M	50-55	Medium	Reformed protestant	16 and 13 respectively (2 separate healings after prayer)	Alcohol addiction; One-sided posttraumatic dystrophy and nerve entrapment in leg

*low: primary school only

medium: primary school and medium secondary education

high: primary school and high secondary education/university

** Asthma, disability due to inflammatory osteo-arthritis, impaired hearing, incontinence.

The participants are women (N=9) and men (N=5), between 29 and 71 years old. They are all white Dutch (N=13) and Belgian (N=1) citizens. The duration of their medical conditions, prior to their healing, varied between 7 weeks and 30 years. The period between the healing and the interview varies between one and 16 years, on average 8 years. The medical conditions from which they experienced recovery are: cuff rupture of the shoulder, pelvic instability and one-sided deafness, Crohn's disease, cerebrovascular accident (CVA), iatrogenic aortic dissection, ulcerative colitis (N=2) and psoriatic arthritis, multiple sclerosis (MS), anorexia nervosa, Parkinson's disease, drug-induced hepatitis, severe asthma and impaired hearing, alcohol addiction and posttraumatic dystrophy, and congenital hearing impairment. An analysis of these cases has been published elsewhere (see footnote 18, 48). Some of the cases were analysed more extensively in detailed case studies (see footnote 15, 16)

The interview guide included: general background information, social and physical conditions during childhood, (professional) education, religious background, marital status, employment, history of the illnesses, symptoms before and after the recovery, a detailed reconstruction of the moment/period of recovery, including bodily sensations, the respondent's knowledge about HP prior to recovery, the time frame between the prayer and the experience of being healed, the reactions that the participants received to the recovery, the impact of the recovery on the participants' lives and the meaning they ascribe to the recovery.

The interviews were conducted at the homes of the participants (N=13) and at the university (N=1). The duration of the interviews was 1,5 – 2 hours; they were audio-recorded and transcribed verbatim. The final versions of the interviews were adjusted in accordance with the suggestions of the participants during a member check. Subsequently the interviews were presented to the medical assessment team for final evaluation.

Data analysis

The first and the second author conducted the analysis of the interviews, which was inspired by the principles of constructivist grounded theory[49, 50]. Use was made of ATLAS.ti software for open and focused coding. An iterative approach to the data collection and analysis has been applied. The insights obtained from the analysis of the first interviews and the feedback provided by the interviewer regarding non-verbal interaction, were discussed and incorporated in the later interviews. Hence, the question about personal sensemaking in relation to the healing experience was posed more explicitly in the later interviews.

The main guideline during the open coding was interacting with the data and comparing the codes from different interviews that were generated by the two authors. In order to avoid bias, *in vivo* codes were prioritised. The research goal, namely to look for categories that would contribute to an exchange between various explanatory frameworks and allow for juxtaposition, guided the researchers during the process of comparing codes and notes. During the focused coding we intentionally searched for categories that could enrich or transcend monodisciplinary discourses, in order to match the complexity of the data and to allow for an elaborated epistemological framework to emerge. We started theoretical sampling by comparing our data with the medical explanatory framework that was available to our participants and to our research team (through participation of the medical assessment team). In search for theoretical saturation and led by the rich data at hand we eventually broadened our theoretical sampling by investigating whether the life-course, spiritual-quest and sense-making explanatory frameworks might answer our question as well. At that stage of analysis we used not only inductive but abductive logic of reasoning as well[51], which allowed for a better understanding of surprising findings (e.g., similar physical experiences by various participants) and emergent themes, like the role of miracles in the life of our participants, which 'invoked imaginative interpretations' among the members of the research team (see footnote 49: p. 157). Our analysis pointed out to a juxtaposition of three explanatory frameworks: medical, life-course and religious and spiritual transformation.

Reflexivity

This study was initiated because of a personal experience and curiosity of one of the authors. Constructivist grounded theory does not demand from the researcher to be totally impartial during the research process, but rather to continuously reflect on how the researcher's perspectives and also the context within which research takes place, can be made explicit (see footnote 49). Such reflexivity is in accordance with the demands of horizontal epistemology as well. To ensure that personal perspectives of the researchers do not determine the results of the analysis, the research team had regular meetings in the course of several years, during which they reflected on the results, the process of the research and their own role in it. The second author has remained in contact with the participants to date and informs them

[49] Charmaz, K. Grounded theory as an emergent method. In Hesse-Biber, S. N., & Leavy, P. (Eds.). *Handbook of emergent methods*, 2010 (p155-170).

[50] Charmaz, K. *Constructing grounded theory*. sage. 2014.

[51] Reichertz, J. Abduction: The logic of discovery of grounded theory–An updated review. In Bryant, A., & Charmaz, K. (Eds.). *The Sage handbook of current developments in grounded theory*. 2019. (p. 259-281).

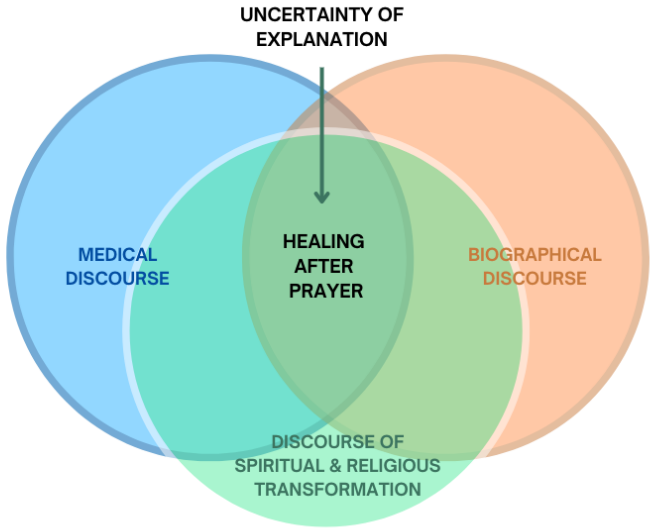
regularly about the progress of the research. One of the participants became a co-author of one of the published articles (see footnote 15).

Findings

A noteworthy feature of the interviews is the temporal correlation between the moment of prayer and the experience of healing. In 10 cases the actual healing was experienced instantaneously, and in four cases the onset of the healing started immediately after the prayer and then continued for several days or weeks. Most of the participants did not have any previous experience or detailed knowledge about HP. Those who attended a service (N=8) had low or no expectations. The participants who prayed on their own (N=6) asked for an end to their sufferings one way or another.

Each story about a remarkable recovery emerges from a combination of different discourses, which we summarised in three themes: 'authenticity of the illness and recovery (un)warranted by medical discourse'; 'remarkable recoveries in the context of biographical discourse'; and 'feeling healed and whole again: discourse of spiritual and religious transformation'. For schematic representation of the findings see Figure 1.

Figure 1: Key findings



Authenticity of the illness and recovery (un-)warranted by medical discourse

The first theme is about the role of the medical discourse and the certainty of explanations during the interaction between medical specialists and participants, from the perspective of the participants. They talk about a large part of their illness and recovery in clinical terms, using a biomedical explanatory framework. Although they are convinced that their recovery is associated with the influence of a divine source, each of them seeks medical confirmation for the authenticity of their condition and recovery. Each case starts with a history of the

disease, hence large parts of the interviews contain meticulous descriptions of diagnoses and impairments, as experienced by the participants:

> *I had osteoarthritis, abdominal pain, depression, I took 22 pills in the end, 60 mg morphine, prednisone. I had to be washed twice a week. Then …they scheduled CT-scans, bronchoscopy, breathing tests, blood tests. And I had braces on my hands and on my knee. Then I got a device at home with flasks of oxygen and medicines, and I had to put a tube into my mouth and then go to sleep. (P4) (participant four, see table 1.)*

The use of medical terminology is abundant and appears to give more strength to the accounts of the participants, in order for their suffering to be acknowledged:

> *I ended up in hospital with a hernia at L5-S1. And then there was a rheumatologist standing next to my bed, and they said, you have Bechterew and you will never recover. Later they reversed that diagnosis, but they said that my pelvis was totally broken… (P2)*

A noteworthy aspect of the last quote is the definitiveness with which, according to the participant, the medical specialist communicates the diagnosis, which is similar to experiences of other interviewees. For some of them this leads to taking decisions that worsen their condition. The participant with Crohn's disease hears that her condition is incurable when she is 24. Her reaction can be described in terms of diagnostic shock[52]. As she puts it, she feels devastated, because she has other plans for her life. Her distress and unwillingness to accept the diagnosis makes her look for alternative treatment. She stops with the prescribed medication and embarks on a diet, which makes her condition worse. Looking back, she calls it a big mistake, but she emphasises that the certainty with which the label 'incurable' was given, was not helpful either.

A message about a chronic condition that is delivered unemphatically can cause, to use Hadler's metaphor, an erosion of dreams[53] and stimulate a rebellious response, as with a participant who has a severe hearing impairment:

> *In the hospital I was told: you cannot choose a social profession, because your hearing is severely impaired. I was 11. And I was such a social being! That clashed completely with who I was. So, I became defensive. I did not want to be deaf. And I wanted to stop not-wanting-to-be-deaf. (P13)*

This participant chooses for a profession for which interactive skills are indispensable, but soon she has to stop due to a burnout. The ways in which our participants make use of- and react to the medical discourse, demonstrate their dependence on it and at the same time their wish to regain control of their lives.

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[52] Belgrave, L. L., & Charmaz, K. George Herbert Mead: Meanings and selves in illness. In F. Collyer (Ed.), *The Palgrave handbook of social theory in health, illness and medicine*. Palgrave Macmillan. 2015 (p 107-123).

[53] Hadler, N. M. If you have to prove you are ill, you can't get well: the object lesson of fibromyalgia. *Spine* 1996; 21(20):2397-2400.

According to the participants, the reactions of the medical professionals to the announcements about HP vary from incredulity, anger and irritation to neutral contemplation or sincere curiosity. The participants expect joy from the medical professionals, but the majority is confronted with doubt:

> *I had no complaints at all. [The doctors] didn't know what to say. I sat there and thought: if I were talking to a patient who says to me that he is feeling well, I would reply 'how nice and how did that happen?' And now it was like 'we think that is very odd'. It became even crazier when the doctor suggested 'using maintenance medication.' (P9)*

The participant who had recovered from a frozen shoulder just a few days before the scheduled operation, describes eloquently the reaction of his doctor:

> *I think of waltzing over to that hospital, but …the specialist was super sceptical when I said that the operation was no longer necessary. He became furious and started throwing Latin names at me. 'Surely that muscle has not seen the Light!' He didn't give in, and I was not allowed to have an ultrasound, because 'that muscle could not be healed anymore'. (P12)*

The participant with CVA had a similar experience. His physiotherapist puts him through extra heavy physical tests on the walking belt, because, according to the participant's account, he does not believe in his recovery. This participant mentions how angry the physiotherapist becomes and his own determination to prove his recovery: 'I'd rather drop dead than stop.'

At least half of the interviews contain this kind of examples. Based on them, we suggest that medical professionals regard it as a challenge to think beyond the scope of their clinical experience and the biomedical concept of the disease. In several cases, however, the professionals do accept that contemporary medicine cannot explain each and every clinical phenomenon. The recovery from ulcerative colitis of one of the patients was confirmed by a medical examination. According to the participant, the specialist who conducted the test was astounded by the improvement. Another doctor formulates it explicitly: 'Medically speaking I have to admit that something happened that I cannot explain. I cannot substantiate it, but this is what I see'.

Both participants and doctors keep looking for confirmation of the initial diagnosis and the recovery by using the medical explanatory framework, albeit for different reasons. The account of the participant recovered from MS is very telling:

> *I used to go to the neurologist in a wheelchair, but that time we went on the motorbike. That was such a kick! I wanted a new MRI. …Then [the doctor] called and said: the MRI is unchanged; we will not retract the diagnosis. That was very important to my story. On the one hand, I thought it was a real shame, because I would have so much liked to have all those spots gone. That would have been visible, tangible evidence for me. On the other hand, I can function normally, so it doesn't bother me anymore. The only strange thing is that the neurologist never sent a letter to my GP. (P8)*

This example shows how various epistemic frameworks can juxtapose, while both the participant and the doctor are searching for an explanation of the recovery. A somatic examination can increase the trustworthiness of the participant's story, but it can also raise doubts about the correctness of the initial diagnosis. An unchanged MRI can lead to various conclusions: for the participant it is an additional proof of divine interference, for the medical specialist it entails the question of responsibility for the patient, who declares she is healed, whereas evidence tells otherwise. The possibility that the neurologist never sent a letter to the participant's GP can be seen as a sign of uncertainty, time pressure or simply as a lack of communicative skills in cases of medical uncertainty.

A few participants with measurable improvements, receive acknowledgment of their remarkable recovery. One of the doctors asked the participant for permission to follow the process of his remarkable recovery. Another doctor shared the participant's line of thought:

> *He says: 'I have no explanation for it, I know one thing: we, doctors, really don't know everything'. I asked: 'What will you write down in your file?' And he wrote 'a spectacular improvement after prayer.' (P5)*

The medical staff seem to remain ambiguous about joining the celebration of their patients' unexpected recoveries. According to one participant, her doctor put it as follows: 'To be a doctor is not just to master the craft of treatment, it is about the art of healing. This is not an easy profession, and the theory does not always show you the way forward.' In addition, the fact that recovery occurs after a prayer, makes all parties uncertain about how to articulate it.

Remarkable recoveries in the context of biographical discourse

The second theme allows to look at the medical history of the participants from the perspectives of their life course and spiritual development. Each of the interviews includes a life-story, where the recovery is placed into the social and cultural contexts of the participant's life and their relationships with others. It also contains an account of the participant's spiritual journey, including a detailed description of their experiences with HP. An in-depth analysis of one of the cases has been published elsewhere (see footnote 15)

Illness catches up with the participants at different stages in life and is often followed by a biographical disruption and changes in perception of self (see footnote 35). In that respect their experience is not different from that of any other patient with a diagnosis of a chronic illness[54]. Their life expectations come into conflict with the consequences of their debilitating condition. Therefore, some of them try to conceal their illness or to cope with its consequences, since they are unwilling to accept the label of for ever being a patient with a chronic condition (see footnote 53). The participant with MS diagnosis states bluntly: *'The moment you tell them, you will become Multiple Sclerosis' (P5).*

The duration of the participants' impairments varies between months and decades. The coping strategies are often directed at preservation of the participants' psychological

[54] Charmaz, K. Experiencing chronic illness. In G.L. Albrecht, R. Fitzpatrick & S.C. Scrimshaw (Eds.), *Handbook of social studies in health and medicine*. Sage. 2000 (p. 277-292).

wellbeing. The participant with MS makes 'armed peace' with her illness, because she does not want to feel like a victim. The participant with a hearing impairment learns to hide her condition by lipreading so well, that people simply don't believe her when she finally reveals it. The participant with an inflammatory bowel disease convinces herself that she is meant to accumulate all the hereditary conditions of her family, thus allowing the others to remain healthy, because she is the one *'who can bear them best of all' (P9).* The ability to be self-reflective is used as a coping strategy as well. The participants tell openly that coping with their condition takes its toll on their psychological wellbeing, their relationships with others and their self-image. Some of them have severe psychological complaints as well, like suicidal thoughts (P2), depression (P9), burnout (P13) or various forms of psychosis or addiction (P6, P14).

Each participant has had a connection with Christian religion since childhood, but only a few of them speak about having faith in their early years. Two of them bring up a faith-versus-autonomy issue, namely how making your own choices can coexist with faith. One of them remembers seeing God as 'dangerous', because people make themselves dependent on God and therefore cannot live their own lives. Another participant does not believe in God because as a child she found it 'too easy' to make yourself dependent on such a force, which can turn you into a weak person. There are two patterns that unite all the accounts: at some point in their lives the participants embark on a quest for 'their' God, who would satisfy their spiritual needs. They also keep their relationship with God separate from the church as an institution, resorting to a privatised form of religion.

> *'In church, I noticed, faith is something distant that you are told about, while for me it is something very personal'. (P9)*

Some of the incentives to search for faith or to become converted, are feelings of loneliness, weak family ties, or previous experience with remarkable recovery. Several of the participants undergo changes in their faith, from unquestioning faith to faith that they call 'relationships with God', that meets their need to belong, to becoming part of a community. One of the participants explains it to a stranger as follows:

> *I believe very simply in God, as a child. I have a place where I can cry out, vent my frustration, share my joy. God gives me strength, he protects me. The man had to laugh, and I asked: 'Do you have anything better?' He had to think, and then said that, in fact, he didn't. I said I'll stand my ground then. (P1)*

Another participant states directly:

> *'We simply need each other. Some people do that in church, and that's fine.' (P6)*

Four of the participants connect their faith with the witnessing of miracles. They do not use the term 'miracle' as a technical theological notion. They refer to miracle as an unexplained positive event, something transcending the rational world they are living in, an opening into a spiritual dimension. One of them witnesses the remarkable survival of a family member after a car accident. When a passer-by prays for the victim she comes back to life, after which our respondent embarks on a quest for his 'relationship with God'. A participant who has

recovered from anorexia nervosa, considers her own recovery to be a miracle and although she is critical about the church as an institution, she starts believing in God after that. In fact, all participants consider their recovery to be a gift of God.

The medical, life-story and spiritual-quest discourses come together in a description of the moment when the healing takes place, which is central in all interviews. Initially none of them sees a connection between the possibility to recover and faith. When the recovery takes place, it comes unexpected and can therefore not be interpreted as a result of high expectations. The attention to the somatic symptoms that the participants provide in the description of their medical condition, stands in contrast with the description of the prayer-moment and its consequences, whereby the physical sensations form only a part of the entire healing experience. Although each of the 14 healings is experienced differently, the discourse that the participants use to describe them, can be called poetic. It is affective, full of metaphors and often refers to the sensation of being freed from something malignant:

> *I have wondered many times, what is trapped inside me? And when they prayed for me, someone put his hands on my back. Later I felt as if my back was completely bruised, as if someone had drawn two claws from it. It felt like something had been ripped out. Later I thought, apparently there was something that I was suppressing with medication, but that is no longer there. Yeah, it sounds a bit crazy… (P9)*

The participants tell us about the affective side of the healing, that was experienced as being *'touched inside your head and feeling a slow current going from your toes through the entire body' (P2), 'a sudden feeling of joy and the warmth of a hand felt on the exact place' where the aorta was damaged (P7), the feeling of quiet and such a profound peace within, 'as if somebody had wrapped a blanket around me and I felt that I am allowed to be' (P4), 'a large warm cloud, and the feeling that something is happening now, as if a small net has been taken away from my brain' (P8).* The last quote belongs to the participant with Parkinson, who adds: *'It seems as if God has operated on my head',* an interesting addition that can be seen as an attempt to reconcile the medical and spiritual discourses from an overarching, transcendent perspective.

Feeling healed and whole again: discourse of spiritual and religious transformation

The third theme addresses the transformative power of healing: the changes in self-image of the participants before and after their recovery and the meaning that they give to the healing. The transformation of the self-image can undergo gradual as well as abrupt changes from the period before the diagnosis, during the disease, which is characterised by a partial loss of self, and after the recovery, resulting in a restored self (see footnote 54). The onset of the disease shows how personality features become somatised, i.e. dependent on physical manifestations of the body. The participants become their disease[55] (see also Hadler, footnote 53). According to the accounts, the participant's spiritual needs are felt to be disconnected from the malfunctioning body. This detachment is underlined by the medical treatment, which is

[55] Dings, R. & Glas, G. Self-management in psychiatry as reducing self-illness ambiguity. *Philosophy, psychiatry & psychology.* 2020; 27(4):333–347. https://doi.org/10.1353/ppp.2020.0043.

directed at physical recovery. Thereby, albeit unwillingly, both participants and doctors put the body-mind dualism into effect:

> *I didn't feel good in my body at all. From my 16th they stuffed me with prednisone, which worked very fast, but because of it I gained a lot of weight in no time. Such a big face. And when I looked in the mirror I thought I did not feel the way I looked. That was very crazy. (P9)*
> *You become a different person because of the disease. Everything turns around in your body, completely, also your feelings. You become kind of selfish, because you are in so much pain. (P11)*

Becoming the embodiment of your own disease is often a devastating process for the participants. But their ability to survive is tested even more after their recovery. The participants have to reinvent themselves, which paradoxically is experienced as a burden. They have to leave the safe cocoon, as one participant puts it, where she had total control:

> *You have been outside the society for 14 years and it was quite a job to come back. I thought getting ill was a job. I believe it took me three years to surrender to it. But recovering took time as well. Because you had your own world, but now people expect you to be there. …I felt overwhelmed... (P2)*
> *You're 46, like a beautiful dead bird, you can't do anything anymore. Eventually you climb up again a little bit. But you can do about 30 percent of what you did before. 24 years go by, and you are 70 [recovery date]. And then you must find out who you are. At 70, that's a tough matter. (P1)*

All participants are happy with their recoveries, but physically and mentally, they need time to extend their everyday life space beyond the restrictions imposed by their medical conditions. Their experiences, to use Bury's terminology, can be seen as a second biographical disruption, or as a first step towards restoration of one's wholeness. The participants feel the need to overcome uncertainty, to participate again. But this also means to be open to all kinds of reactions from their surroundings, including suspicion, distrust, jealousy and direct accusations of being a fraud or being a conduit of the devil's work:

> *I had a lot of doubts about what was being said, am I healed, am I an impostor? 'Was it not all in my mind?' Because I heard that too: it was just in your head. I found that so difficult. Because how can I prove it? …Now I've learned, I don't have to explain. People can believe it or not. My family believes it. I believe it. (P10)*

Negative reactions to the recoveries within the church communities, families and among friends are mentioned in each of the interviews. The participants have to cope with an overwhelming number of questions, including self-doubts. Unsurprisingly, three of them end up with a burnout soon after their recovery, and at least two of them make use of psychological help and support.

Still, the positive transformative power of recovery appears to outweigh its challenges. More things are healed than the debilitating physical conditions, for instance the doubt whether the participant is worthy to be in this world, to be God's child. Before the recovery some of them

felt that they were not allowed to belong or to be special, like the participant who had been intimidated by his parents during his entire life because he was born as a boy and not a girl as they had expected, or like another participant, who questions her right to accept the healing:

'*I was standing onstage completely petrified, afraid that [disease] would come back, that I'm not good enough'. (P13)*

This last participant learns to harness her uncertainty by straightening out her relationship with her mother, for whom she has become a social worker. Another participant takes the difficult decision not to see her sister anymore, because she feels she is being used by her. Another one speaks openly for the first time about things that felt wrong in her parental home, which gives her a feeling 'as if the sky was falling'. The participants seem to experience the healing as just a first step in their pilgrimage towards feeling whole again.

The participants give a meaning to their recovery in relation to their life goals and future work, which leads to restoration of their selves that were temporarily lost to the illnesses. The pattern that emerges from the analysis comes close to a holistic outlook on life. The post-anorexia participant feels that her 'mind and body have completely reunited'. All the participants maintain that their physical condition will remain stable, and that they are now concentrating on a more profound transformation after *'being touched in your head or in your heart' (P9):*

> *God goes a little deeper. …It's not just a physical healing, but it touches the soul. It is a relationship. This is not a doctor who does an operation. God gets really close. I think there is a lot more to heal within me too. (P13)*

All the participants feel strengthened in their faith after their recovery. The majority feel a more profound connection with the world than before, which transcends the materiality of their existence. They give testimonies about their healing both within and outside church communities. Many have published their testimonies on the web or have written books about their experiences. When asked for clarification about their recovery, our participants react differently. Some of them are still looking for answers: *'I still notice that this is the only thing I feel lonely about, because I'm so happy, but I have so many questions!' (P6).* Others simply feel content:

> *I am not interested in explanations. I've stopped trying to find any. Healing comes from God, because I don't know anybody else who could do it. (P8)*

Discussion

The article presents the analysis of 14 cases of medically remarkable healings after prayer. Two aspects unite these cases and at least one distinguishes them from the studies on MUS or the placebo effect. Firstly, our cases follow a non-medical intervention, which sets them apart from recoveries within a clinical context. Secondly, the recoveries have a transformative power on various aspects of the participants' lives, including their spiritual development. This second aspect unites our cases with other types of recoveries, like spontaneous remissions, which have been described elsewhere[56]. Since their remarkable recoveries, most of our participants chose to become engaged with their social environment: they do community (voluntary) work and use their own experiences in order to help others. They also engage in conversations about the transformative power of their recoveries[57], by making the accounts about their recoveries public[58] . Most of them see it as their calling to spread the word about the extraordinary experiences they have gone through, whereas others are still searching for answers to questions like 'why me?' and 'how can I share this gift with others?'.

To do justice to these complex processes, we developed a study design, based on several frameworks, including grounded theory and horizontal epistemology. By doing so we remained as closely as possible to the accounts of the respondents about their medical conditions, but also broadened the interpretative framework stepwise, by subsequently adding new perspectives: a biographical perspective, including the histories of spiritual development and the role of the life events that shaped the patients' views on life; a self-experiential perspective, with detailed descriptions of the healing, focusing on emotions and bodily sensations; and a spiritual perspective, including the patients' personal views about God and their effect on their faith. A juxtaposition of the perspectives can be productive, even when they do not line up. This reaches the surface in the divergent reactions to the remarkable recoveries, including the reactions from the participants themselves. Doubt and confusion that the patients and doctors express, resonate with some of the responses within the church communities to which our patients belong, and also among their friends and families. Disbelief, suspicion or even jealousy of people who prayed but did not heal, emphasise the limitations of the cause-and-effect logic, which, in the Western cultural climate of naturalism offers little room for the unexpected[59].

Our framework, which contains medical, life-course and spiritual-quest discourses, emerges empirically and points at uncertainty as an important issue in both medical and spiritual reactions to HP. In the method-section we referred to inductive and abductive types of reasoning that we had used in order to understand unexpected and sometimes surprising examples in our data, like the temporal coincidence between recovery and HP. Abductive logic provided us with an opportunity to question existing (for example psychosomatic) explanations, and, while using logical inference, remain open for an unexpected insight (see

[56] Radin D. The future of spontaneous remissions. *Explore (NY).* 2021. Nov-Dec;17(6):483-484. doi: 10.1016/j.explore.2021.08.007. Epub 2021 Sep 1. PMID: 34489198.

[57] Levin, J., & Steele, L. The transcendent experience: conceptual, theoretical, and epidemiologic perspectives. *Explore*. 2005. *1*(2) :89-101. https://doi.org/10.1016/j.explore.2004.12.002.

[58] Doodkorte, C. (2016) *Geen grappen God*. [No jokes, God]. Stichting Vrij Zijn.

[59] Jüngel, E. *Gott als Geheimnis der Welt: zur Begründung der Theologie des Gekreuzigten im Streit zwischen Theismus und Atheismus*. [God as the Mystery of the World. On the Foundation of the Theology of the Crucified One in the Dispute between Theism and Atheism]. Mohr Siebeck. 1977.

footnote 51). Both doctors and patients are uncertain about how to deal with a remarkable recovery and how to integrate the discourse of spiritual development into the history of illness and recovery. Uncertainty does not fit well within the prevailing medical epistemology[60]. This is somewhat surprising, because, as Fox points out, uncertainty is inherent in medical research and practice[61]; it has been present in the medical-sociological discourse since the work of Parsons[62] and has been described in-depth in a number of publications[63, 64]. Scientific and technological progress in medical sciences has not eliminated the uncertainties within the available knowledge and explanations, but rather is making them more complex (see footnote 61). That is why the patients may be left looking for their own sources of explanation, where medical explanation comes up short. The persons who have experienced a spiritual journey may well frame it in terms of a miracle (unexplained but positive). They can illustrate the trans-somatic aspect of their healing by showing the transformative effect that HP has had on their spiritual development and how a new transcendent dimension has been added to their lives. For the patients, healing is much more than a repair of a bodily function. It underscores the necessity of what Miles calls medicine for the whole person, which implies that disease is just a partial aspect with respect to a person, and that not everything that '…is right to the disease is automatically right for the patient' (see footnote 60). In order to cover the full complexity of HP, follow-up studies are required, where cohesion of the physical, mental and spiritual aspects of recovery can be elucidated with the help of theological and philosophical theoretical perspectives.

This study has practical and academic implications. Firstly, we should look critically at the interaction between the patients and medical professionals, the persistent asymmetry of which has already been addressed in literature[65]. Insight in the medical discourse can bring the patient closer to the medical specialist and ensure that they are on the same page where disease and treatment are concerned. But when unexpected healing takes place, confusion tends to take over. Our data suggest that in modern Western medicine we are hardly able to get a grip on such experiences of recovery. This can lead to self-suppressive and self-stigmatising behaviour on the part of the patients, with corresponding consequences for their mental and physical health (see footnote 54). There is no literature known to us about the language that is used during medical consultations where HP is discussed. We do see some similarities in the psychiatric literature regarding spiritual dimensions[66] and in the research on explanations that are used by doctors during consultations on MUS[67]. Some authors focus on

[60] Miles, A. On a Medicine of the Whole Person: away from scientistic reductionism and towards the embrace of the complex in clinical practice'. *Journal of evaluation in clinical practice.* 2009; 15(6):941–949. https://doi.org/10.1111/j.1365-2753.2009.01354.x

[61] Fox, R. C. Medical uncertainty revisited. In G. Bendelow, M.Carpenter, C. Vautier & S. Williams (Eds.), *Gender, health and healing*. Routledge. 2012 (p. 236-253).

[62] Parsons, T. *The Social System.* Free press. 1951.

[63] Han, P. K., Strout, T. D., Gutheil, C., Germann, C., King, B., Ofstad, E., Gulbrandsen, P. & Trowbridge, R. How physicians manage medical uncertainty: a qualitative study and conceptual taxonomy. *Medical Decision Making* 2021; 41(3), 275-291. https://doi.org/10.1177%2F0272989X21992340.

[64] See also footnote 60 on epistemological uncertainty and critique of evidence-based medicine.

[65] Pilnick, A., Dingwall, R. On the remarkable persistence of asymmetry in doctor/patient interaction: a critical review. *Social science & medicine*. 2011; 72(8):1374–1382. https://doi.org/10.1016/j.socscimed.2011.02.033

[66] Glas, G. Models of Integration of Christian Worldview and Psychiatry. In J.R. Peteet, H.S. Moffic, A. Hankir & H. Koenig (Eds.), *Christianity and Psychiatry*. Springer. 2021 (p163-180).

[67] Ring, A., Dowrick, C. F., Humphris, G. M., Davies, J., & Salmon, P. The somatising effect of clinical consultation: What patients and doctors say and do not say when patients present medically unexplained

the psychosocial dimension of the disease[68]. However, many patients feel offended by the association of their ailment with psychosomatic disorders. As Greco explains, labels such as 'symptoms all in the mind' touch on 'moral failure' and can 'imply that the illness is imaginary, fake or inauthentic, possibly even intentional'[69]. The discourse surrounding HP touches on existential matters of life and therefore can be similarly ambiguous, and yet, based on our analysis, we advocate for making it part of medical consultation.

Secondly, the literature about the positive influence of spirituality and beliefs on health is abundant, but often overlooked in the Western medical literature reviews (see footnote 19). The benefits of spiritual beliefs about health are therefore often wasted where medical treatment is concerned[70]. Our analysis points out the importance of a multi-layered approach to the patient's history, whereby the medical history forms only a part of the entire picture. It is a challenge to implement that kind of approach, because patient-centred care and the efficiency of care ask for more and for less time respectively. Patient-centred care[71] has brought along opportunities and tensions at the same time. Greco (see footnote 28) presents an analysis of those tensions, raising amongst others the important question of accountability. Following Stengers[72], Greco advocates 'creative accountability' which, given our analysis, we can translate into being open to tentative or provisional and therefore uncertain forms of explanations. In that way the explanatory framework for the cases of remarkable recovery can be presented as a process of co-creation, where patients, doctors and possibly other stakeholders together are in search of an inventive understanding of a recovery[73, 74].

Finally, we have demonstrated that horizontal epistemology offers a fruitful approach to study HP. Horizontal epistemology departs from the assumption that there is no clear hierarchy or meta-theory to demonstrate why some types of knowledge matter more than others to understand a phenomenon (see footnote 39). Horizontal epistemology is contrary to vertical epistemology, in which it is assumed that certain types of knowledge are more true than others. Yet, it is impossible to prove this convincingly, because there is no meta-theory that can be used. So far most research on HP is grounded in a vertical epistemology. As a result, studies favour medical evidence over patient experiences and over psychological, sociological

physical symptoms'. *Social science & medicine.* 2005; 61(7):1505–1515. https://doi.org/10.1016/j.socscimed.2005.03.014.

[68] Stortenbeker, I., Stommel, W., Olde Hartman, T., van Dulmen, S., & Das, E. (2021). How general practitioners raise psychosocial concerns as a potential cause of medically unexplained symptoms: A conversation analysis. *Health communication*. 2022; 37(6):696-707. https://doi.org/10.1080/10410236.2020.1864888.

[69] Greco, M. Biopolitics, psychosomatics, participating bodies. *Medical humanities*. 2019; 45(2):103–106. http://dx.doi.org/10.1136/medhum-2019-011717.

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[72] Stengers, I. Experimenting with Refrains: Subjectivity and the Challenge of Escaping Modern Dualism. *Subjectivity*. 2008; 22(1): 38-59. https://doi.org/10.1057/sub.2008.6.

[73] Glas, G. *Person-Centred Care in Psychiatry: Self-Relational, Contextual and Normative Perspectives*. Routledge. 2019.

[74] Savransky, M. The wager of an unfinished present: Notes on speculative pragmatism. In M. Savransky, A. Wilkie & M. Rosengarten (Eds.), *Speculative research: The lure of possible futures.* Routledge. 2017 (p. 25-38).

and theological interpretations of HP. The benefit of horizontal epistemology is that different explanations as well as frictions between epistemic discourses, are welcomed and can form a starting point for learning. This has offered new insights in how patients use and appropriate various discourses, to cope with an unexplained healing and how this can lead to tensions with people around them as well as with medical doctors. Also, it has enlarged and deepened our understanding of HP and offered a starting point for dialogue and deliberation across epistemic discourses, also within our project's medical assessment team. We recommend that future studies of HP will be grounded in horizontal epistemology.

Limitations

This study has several limitations. We focused on cases of recovery related to Christian prayer only. This decision was made intentionally, in order to keep a clear focus on the subject at hand. It prevents us however from comparing experiences of people with different beliefs and of non-religious people. Furthermore, we are aware that our interpretations only mirror attitudes that are existing in the Western cultures, where all the members of the research team are living and working. Finally, due to our limited time and resources, we have interviewed former patients only. Their medical specialists were contacted with requests to provide the medical files only. It would be worthwhile to gather first-hand data from medical specialists about their experiences with remarkable recoveries and HP, in order to fully enact horizontal epistemology. Church members, friends and family members of the participants were not interviewed, which limits our understanding of the context within which our participants live.

Conclusion

Summarising, our analysis of the data allows us to see that in the effort to understand cases of remarkable recovery, we require a combination of discourses and interpretative frameworks that include uncertainty as a means of (not-)knowing. Each of the discourses and frameworks has its value and none of them can be sufficient on its own. In order to understand the cases better, transdisciplinary analysis is required, where various discourses challenge each other in a process of co-creation. Allowing uncertainty of the unknown into a consultation, confession or interview, can boost the inventive side of our ability to understand and explain these cases.

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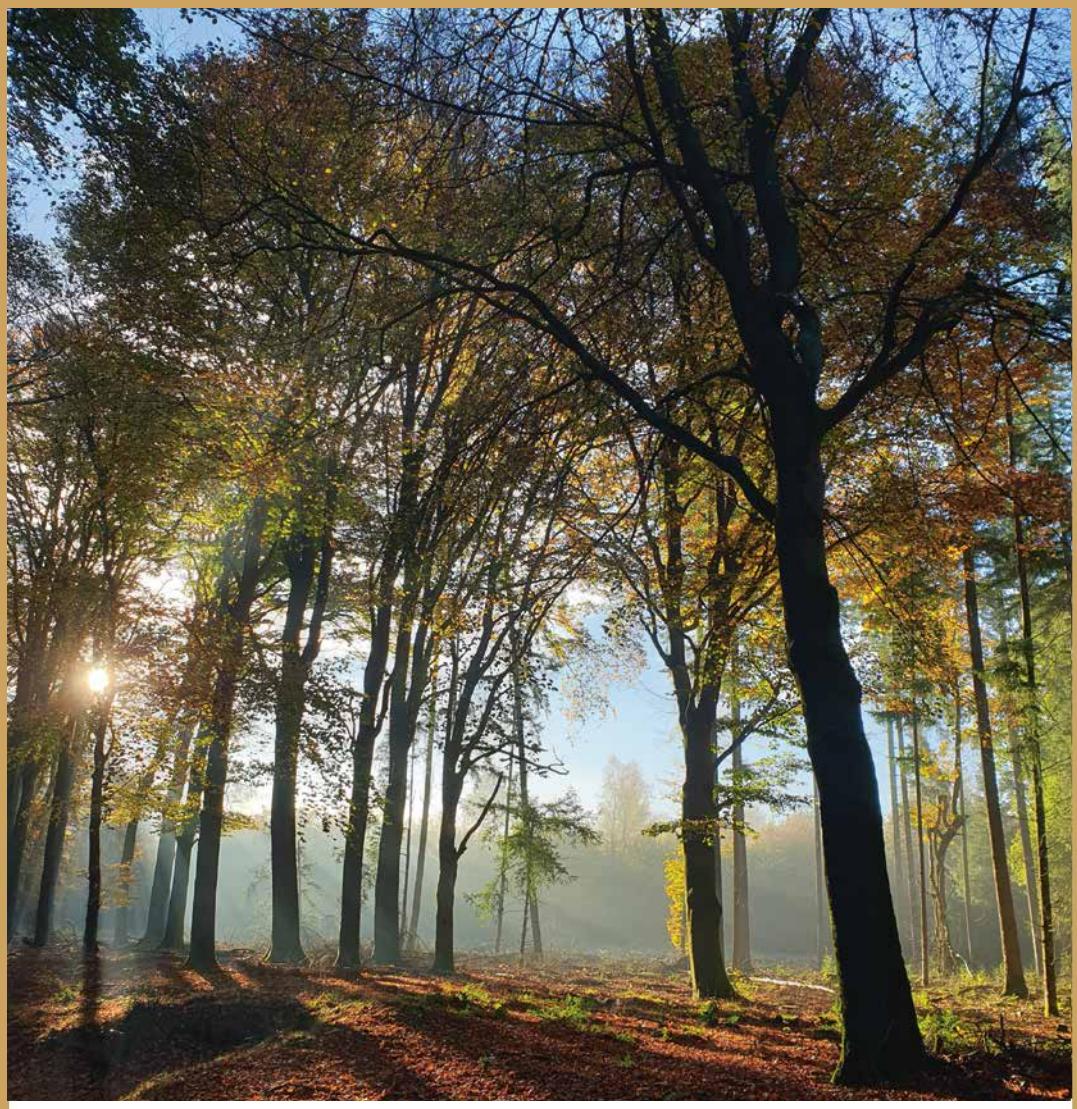
Declarations

Conflict of interest The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Ethics approval The Medical Ethics Review Committee of the Amsterdam University Medical Centre, VUmc, confirmed on June 4, 2015, that the Dutch Medical Research Involving Human Subjects Act does not apply to the study 'Healing and prayer, post aut propter?' (2015.192). The Privacy Desk of the VU University reported on October 22, 2015, that this study complies with the relevant privacy standards (VU2015-79).



PART D: TRANSDISCIPLINARY ANALYSIS AND REFLECTION

Chapter 9

Theological reflection

The first part of the general discussion includes a short summary of the main findings. It is advisable to read at least this summary to get a quick grasp of the highlights of the study before continuing here.

Laying the foundation

In previous Chapters, elsewhere in the thesis, we concluded that we need to take a multi-perspective approach in order to understand the healing reports we received. One important question was if theology is able 'to find words' for these healings and the experiences related to them.

A medical practitioner may be tossed back and forth between science and faith. Medical science is important and valuable, its high standards are of great help in daily practice. On the other hand, religious narratives and instances of inspiring reflection in the past and today are a deep and relevant source of knowledge in a much different way.

Ian Barbour presented a famous typology that described the relationship between science and religion in terms of conflict, independence, dialogue and integration[1]. Along the lines of Barbour's typology Gijsbert van den Brink discussed various models[2]. In a scientistic model it is presumed that valid knowledge can only be obtained through scientific methods and techniques, leaving no room for religion. However, this also gives rise to objections. For instance, what to do with knowledge gained before the era of modern science? This led Van den Brink to advocate for other models, such as complementarity or consonance. In the complementarity model one tries to describe a phenomenon using explanations from different backgrounds, complementing each other (triangulation). Consonance goes a step further, seeking to find a view harmonizing scientific considerations with other sorts of human construction such as religion, history, literature. These are models trying to combine the strength of today's scientific insights with wisdom gained over the ages. The presenting challenge in this chapter will be to find out if this wisdom in religion and theology can help us understand the observations in this study.
In his Warfield lectures[3] Cornelis van der Kooi makes a plea for a reciprocal relationship between theology and practice: there is a line from theology to practice, but also from practice to theology. Theological reflection not only runs from the Bible to today. Rather, today's experiences unlock certain parts of the Bible for its readers. For instance, according to Van der Kooi, contemporary theology needs to take the experiences of Pentecostal and Charismatic churches seriously with new attention for gifts given to the community, including healing, prophecy, visions and speaking in tongues. Practice and theology may mutually enrich each other.

The above considerations lead us to pose two important questions:
1. Does theology have words to describe the healings we observed in our participants?
2. Can reciprocity between theology and practice further enhance this vocabulary?

[1] Barbour IG (2000). When science meets religion. New York: Harper Collins.
[2] Brink van den G. *Tussen conflict en consonantie*. Amsterdam: Vrije Universiteit. 2015.
[3] Kooi van der C. *This Incredibly Benevolent Force. The Holy Spirit in Reformed Theology and Spirituality.* Grand Rapids, Michigan, USA: William B. Eerdmans Publishing Company. 2018.

One theological remark should be made in advance. The observations and conclusions in this study refer to healings, which were experienced as wondrous upon prayer, not in line with medical expectations. This does not mean that God is only supposed to act in extraordinary ways. According to Christian theology God's activity is not opposed to natural and human activity. Therefore, people can also pray for good surgery or good medication, and thank God for the means and possibilities of medical care. Which is actually far more common than 'extraordinary' healings.

Healing narratives in the Bible and in the history of the church

Referring to the questions above it is relevant to study healing narratives in the Bible and throughout (church) history. Most of the references below relate to documented and verified cases, especially those by medical doctors in the past century. Some of them were also described in chapter 2 (*Exploration of the field)*.

- A few healings are mentioned in the Old Testament, such as Naaman from leprosy through the mediation of the Prophet Elisa (2Kings5:1-27). Healing stories are an essential element of the New Testament gospels, along with exorcism of evil spirits and resurrection from death[4]. Jesus also gave order and power to his disciples to heal and to exorcise evil spirits (Matth 10:1). These accounts can be found in the book of Acts. Most of the healings recorded in the Bible are instantaneous with a transformative impact.
- Mart Jan Paul gave a concise overview[5] of remarkable healings up to the 5th century AD. Irenaeus of Lyons, Tertullian, Origen of Alexandria and the 'desert monks' described healings and exorcisms. Best known in that period is Augustine (343-430 AD), bishop of Hippo in Northern Africa. Although initially skeptical he changed his mind later in life after reports and observations of healings. He documented a series of them in his book 'The City of God'[6]. Some of Augustine's descriptions, notably the ones on anal fistulae and breast cancer, paint a picture of some sophistication in medicine with fairly skillful surgeons and physicians involved. Rational medicine had already been introduced by Hippocrates. The healings were mostly instantaneous, in some of them Augustine reported about visions and dreams occurring simultaneously.
- Rex Gardner (1920-1998) was a gynecologist and an ordained minister in the UK. Gardner stated that healing miracles are a constant phenomenon throughout (church) history. He listed reports of seven healing cases in Anglo-Celtic Northumbria in the seventh century AD, as recorded by venerable Bede and his contemporaries[7], and he also summarized reports on healing and resurrection from death during the period of the Scottish Reformers in the sixteenth century AD[8]. Additionally, Gardner examined several remarkable prayer-related healings in the twentieth century, both in the United

[4] Roukema R. Van wonderen gesproken. *Bulletin voor charismatische Theologie.* 1989; 24:2-13.
[5] Paul MJ. (1997). *Vergeving en genezing. Ziekenzalving in de christelijke gemeente.* Zoetermeer, Netherlands: Boekencentrum. 1997 (p 42-57).
[6] Augustine St. The City of God, book XXII, ch 8 (different translations).
[7] Gardner R. Miracles of healing in Anglo-Celtic Northumbria as recorded by the venerable Bede and his contemporaries: a reappraisal in the light of twentieth century experience. *British Medical Journal*. 1983; 287:1927-1933.
[8] Gardner R. *A doctor investigates Healing Miracles*. London, England: Darton, Longham and Todd. 1989 (p. 81-88).

Kingdom as well as in overseas missionary situations. Some of these case histories can be found in Chapter 2, and more of them in his book (see footnote 8).

- Jacalyn Duffin (born 1950) is a Canadian hematologist and a medical historian. In her 2009 study she identified 1,400 miracles between the sixteenth and the twentieth century in the archives of the Vatican in Rome[9]. Approximately 95% were healings from physical illness. For most of these doctors provided testimony. According to Duffin: 'The speed at which patients recovered occasioned many comments of astonishment. When asked if such a cure might have taken place naturally, the doctor would reply – perhaps, but not so quickly'.[10]
- Francois et al.[11] studied 411 healings in Lourdes pilgrimage site, France, in 1909-1914 as well as 25 cures acknowledged between 1947 and 1976. They concluded that 'In two out of three cases the clinical cure was instantaneous, sometimes heralded by an electric shock or pains and, more often, a perception of faintness, or of relief, or of well-being'.
- Many healings were documented in the Orthodox monastery of Ostrog in Montenegro, Eastern Europe, most of them between 1930 and 1970[12]. They were considered to be 'God's miracles: the foretaste of eternal goodness'. There was no indication of medical verification in the records, but there was a documentation procedure carried out by monks with signed witness statements and the preservation of these in the monastery's archives. These healing experiences were said to be predominantly instantaneous.
- H. Richard Casdorph, a physician in the United States, examined the medical data of ten remarkable healing cases during the prayer services of Kathryn Kuhlman in the 1970's (*see* also chapter 2). Healings were from malignancies, multiple sclerosis, rheumatoid arthritis et al. Mostly sudden with strong experiential manifestations at the same time. Casdorph mentioned sensations of warmth, 'falling in the Spirit', visions and once a feeling 'like being wrapped in the arms of a great love'. He also noticed personality changes.

When returning to our first question above one may say that there is an analogy with the observations in our study: instantaneity of healing with sensory experiences and subsequent personality changes. These healings apparently occurred in different settings and across all major Christian denominations, as well as in different parts of the world. Recent qualitative studies in Norway[13] and in the USA[14] have also highlighted this pattern of healing and transformational experiences related to prayer.

[9] Duffin J. *Medical Miracles. Doctors, Saints, and Healing in the Modern World*. New York: Oxford University Press. 2009 (p. 110-111).

[10] Duffin J. *Medical Miracles. Doctors, Saints, and Healing in the Modern World*. New York: Oxford University Press. 2009 (p. 140).

[11] Francois B, Sternberg EM, Fee E. The Lourdes cures revisited. *Journal of the History of Medicine and Allied Sciences* 2014; 69(1):135-162.

[12] Nikchevich V, Smylyanich A. *Life and Miracles of Saint Basil of Ostrog (with brief history of the Ostrog monastery).* Cetinje, Montenegro: Svetigora Press. 2017.

[13] Austad A, Rodriguez Nygaard M, Kleiven T. (2020). Reinscribing the Lived Body: A Qualitative Study of Extraordinary Religious Healing Experiences in Norwegian Contexts. *Religions* 2020,*11*,563;doi:10:3390/rel11110563.

[14] Blaszko Helming M. Healing Through Prayer, A Qualitative Study. *Holistic nursing practice.* 2011; 25(1):33-44.

Healing as a sign

One may conclude that there seems to be a pattern in these kind of healings throughout history to the present day, one that resonates with healings as described in the Bible. They give rise to awe and astonishment by those healed and by the people around them. Invariably the recoveries are ascribed to God, whether in Biblical times or in modern times.
The same is true for the participants in this study. Most of them experienced their recovery as a sign, referring to a deeper meaning and often leading to personality changes. According to some it is a 'healing of mind, body and soul'. In the qualitative study in Chapter 8 the word trans-somatic is used to describe this extra dimension[15]. Sulmasy, who is a medical ethicist and a former Franciscan friar, also stresses the signatory character with a deeper meaning. He describes a 'miraculous' event as 'a special sign from God, that transcends the bare facts of the case and communicates a spiritual message'[16].

The qualification of a sign is in line with what is found in the gospel of John. Signs refer to the work of God and in this context healings are also recorded as a sign that God is gracefully at work in Jesus (John 20:30-31)[17]. It seems evident that the healings we observed and those in the Bible are not just 'ordinary' healings. There is this other dimension, a deeper layer, concerning something which is 'good and whole'. It is the experience of grace, comfort and being seen by God. In this context Roukema refers to the constant association between New Testament healings by Jesus and God's Kingdom. The fulfillment of that reign has yet to come, the healings are a 'sign' and anticipation of that reign and they are the trigger for hope.

Healing as a gift

In my medical practice in a region where many people regard themselves as Christians, I witnessed several healing experiences upon prayer, resembling the experiences of our research participants, and life changing. But far more often I observed patients praying for recovery without it happening and I would certainly not wish to question the sincerity of their prayers. And of course, it would be out of place to do so. Still, when prayers were unanswered there was often an experience of 'being carried' on a tough road. A loving God was experienced as well, but in a much different way. Continued suffering and the experience of being seen and being carried may go hand in hand as well.

The healings related to prayer in this study and in my practice were almost always viewed as a 'gift of a loving God'. This is in line with the observations in Chapters 4 and 5 about levels of expectancy. One may think of high expectations as a contributing factor to healing. Indeed, in some cases it may have been like that, but in most cases it was not. The majority reported absence of expectancy or a low level of it when they were suddenly 'overwhelmed' by a healing experience. As one participant put it: 'I was rather prejudiced against religious people until an enormous miracle happened to me and I was reborn'.

[15] Bendien E, Kruijthoff DJ, Kooi van der C, Glas G, Abma TA. *A Dutch study of remarkable recoveries after prayer: how to deal with uncertainties of explanation.* Under review. 2022.
[16] Sulmasy DP. What is a miracle? *South Med J*. 2007; 100(12):1223-1228. doi: 10.1097/SMJ.0b013e31815a9784. PMID: 18090967.
[17] Meye Thompson M. *John, A Commentary*. Louisville. Kentucky (USA): Westminster John Knox Press. 2015 (p. 65-68).

It emphasizes that recoveries after prayer often happen by surprise. This runs counter to a position in some 'prayer-healing circles' where sincere prayer and faith is supposed to be the condition for healing. Healing in the cases we studied was clearly not an automatic response to an adequate quantity of faith. It is also not withheld in case of doubt or weak faith, and it does not require correct theological understandings. It is true that this observation also came as a surprise to our research team since we had somehow expected these recoveries to be more dependent on 'prayer and faith'. Brown made similar conclusions when investigating healing experiences and prayer in Brazil and North America: 'faith and expectancy may be less significant in predicting healing than supposed'[18]. It should therefore be stressed once more that there is theologically no reason to question oneself when there is no healing after prayer.

The gift-characteristic also resonates with our observations about the mode and the setting of the prayers. There was no clear relationship between the healings we observed and the mode of prayer or the setting. Actually, there was a rich variety of modes such as a specific liturgy, laying on of hands, anointing, the use of a prayer cloth. The same was true for the setting: personal prayers, prayers in a group, prayers in church or during a special service could all lead to a healing experience. This was a surprise as well. As a result of common images of faith healing it could be expected that prayer healing services and a pastor with a specific healing ministry would be the dominant setting. Indeed, reports came from such services, but they were not the majority. Rather there was this variety instead of uniformity. The main common denominator in all healing experiences was the perception of an act of God, a 'gift'. This 'gift' characteristic relates to the term charism and its theological interpretation, which is outlined in the next paragraph.

Healing as an act by God

What does it say when all participants interpreted their healing experience as an act by God? On the one hand it is not surprising since people were asked to send healing reports related to prayer for this study. On the other, it is true that many participants were astonished by a sudden and unexpected healing experience, an event they could only understand when relating it to an interference from outside. It was an event, that interrupted the course of life, in favor of a new outlook on their circumstances, future, family, work and community. It often boiled down to renewal of attitude and behavior.
For such events of interruption and personal transformation classical theological reflection offers the concepts of revelation and sanctification; it is however more rewarding to point here to the rich idiom of biblical and religious language itself. Words like grace, comfort, mercy, love, blessing, gift, gratefulness, being carried, being lifted up and benevolence all show a movement and direction from old to new. This idiom refers to the relation that is essential in this experience: God is the giver, the human being is the recipient, who is bestowed by an act of benevolence.

Of special interest in the context of healing is the word charism, that in the New Testament is often used when referring to a gift of grace. Norbert Baumert[19], a German New Testament scholar, defines a charism as an act of God's Spirit in favor of the church or the world, working

[18] Brown CG *Testing prayer*. Cambridge, Massachusets (US): Harvard University Press. 2012 (p182-184).
[19] Baumert N. *Charisma-Taufe-Geisttaufe 1/2*. Wurzburg, Germany: Echter Verlag. 2001.

momentarily as a 'generous and unmerited bestowal'. This definition is much broader than other interpretations, such as in Pentecostalism, where charisms are often related and restricted to a personal talent or a personal gift. In that case God's Spirit operates through a limited number of people with a special talent, e.g. a pastor with a healing ministry. Baumert's definition complies with our findings: the instantaneous healing experiences were invariably interpreted by the participants as a working of God's Spirit, but they occurred in a wide variety of contexts and circumstances.
This seems to be underlined by the strong sensory sensations during these experiences such as a current, a localized touch, being wrapped in a warm blanket, a bright light. Equally remarkable are the other accompanying phenomena which were mentioned: dreams, visions, prophecies, wind in a closed room, levitation from the floor, a sensation of angels around. Two reports mentioned visions of Jesus. Central to all sensations and phenomena is that they were sensed as positive, never scary, with experiences of infinite love and being fully accepted whatever one's background in life.

Positive outcomes when following up, but frequently contrasted by skepticism in churches

In 2021, we contacted 59 participants in a follow-up, which was on average 4 years after enrolment in the study (and a significantly longer period after the healing event): 50 of them still reported complete healing and 45 had experienced positive effects on socio-religious quality of life (see also in Chapter 5). This is a favorable outcome, although one should realize that this group is a subgroup, not representing all people with a prayer healing experience. Also, we were not able to re-contact a number of participants for various reasons (24 out of 83, see also ref 2 for reasons of loss to follow-up). But even then, it is noteworthy that there are lasting positive effects in a majority of this subgroup. Twenty-three participants also reported radical changes in lifestyle, becoming less materialistic, dedicating themselves in different ways to deepening their faith and to lives of altruism and benevolence.

In the same follow-up study, there was also another observation: participants were frequently faced with skepticism by pastors and 'fellow' Christians. On one occasion a pastor left the room without saying anything, another time a pastor said he didn't know what to do with the story. Also, a participant was told by a fellow Christian that 'it was all between her ears'. This contrast is suggestive of a sense of discomfort when confronted with
prayer healing experiences. Could it be due to a theology without room for extraordinary experiences? Or is it because pastors are not equipped to handle them? Whatever the case, it is important to realize that pastoral contacts may be damaged when taking a prejudiced attitude, such as prematurely assuming a fake healing, psychological origins, and the like. Prayer healing experiences concern illnesses covering the entire medical spectrum, as our study demonstrates. It would be helpful if pastors are trained in using good tools[20] when handling circumstances such as prayer healing experiences.

The church as community

Prayer and healing are found to be relevant in society, despite secularization. When visiting various places as part of my research I was most impressed by the approach in Lourdes

[20] Kooi, C van der, Kooi M van der. *Good tools are half the job: The importance of Theology for Chaplaincy and Pastoral Care.* Eugene, OR: Wipf & Stock. 2021.

pilgrimage site, France. Some pilgrims reported healing, many did not. But it seemed that most of them went home relieved and encouraged, whether healed or not. Openness towards a 'miraculous cure' and towards 'much needed support to carry a disease' apparently went hand in hand.

A minority of our participants had a less favorable outcome in the 2021 follow-up: in 59 participants there were seven reports of (partial) relapse of the disease while two had experienced negative effects on socio-religious quality of life. Still, some of those with a relapse expressed gratitude for the period of improved health.
Those reporting a healing in our study, describe unexpected gifts, coming at different moments and leaving other traces besides healing. These experiences seem to permeate one's entire being in a positive way. There is reason for thankfulness when they come. But also when healing does not occur, prayer is reported as a practice that brings people in the presence of God as a source of wellbeing. Beyond, one should always listen carefully to those reporting negative effects of 'healing and prayer' practices and we must learn from their stories as well (*see* Nolen in Chapter 2).

Returning to theology one may say that a reciprocal relationship between theology and practice may be fruitful, leading to an integrative prayer praxis with attention for 'healing' and 'much needed support in carrying a disease' at the same time, as in Lourdes. Such a praxis can be valuable for churches as communities and also outside churches, especially in healthcare settings[21]. Every pastor and indeed other members of faith communities, have a toolkit in which prayer is an important part. This toolkit is underestimated in a medicalized society with scientistic tendencies. The 'instruments' of prayer and anointing differ from those used by medical practitioners, but they have their own value and may be considered complementary. It would be a 'blessing' if churches rediscover the instruments they have to fill a gap which cannot be filled by psychologists and doctors.

To conclude

At this stage it is time to return to the two questions initially posed:

1. Does theology have words for the pattern of healings we observed in our participants?
   - In our study many instantaneous and transformative multidimensional healing experiences related to prayer were documented, differing from 'common' healings in medical practice. The healing experiences of the participants are rich and transformative. Theology seems to have words for this, as there is an analogy with healings which occurred widely during the ministry of Jesus Christ and with varying frequency throughout the history of the church right up to today.
   - However, experience also requires us to firmly acknowledge that only a small percentage of those for whom physical healing is sought by prayer obtain it. It is a gift, and not claimable on call. At the same time it turns out that prayer can still be a rich source for those not obtaining physical healing.

2. Can reciprocity between theology and practice further enhance this vocabulary?

[21] Vries de HU. *Om heil en genezing te vinden: de dienst der genezing en zijn plaats in instellingen van gezondheidszorg.* Kampen, Netherlands: Kok Ten Have. 2006.

- Theologically the healings can be viewed as a 'sign', a 'gift' and 'an act of God' (a charism), which is outlined in the above paragraphs. The healings do not occur as an automatic response to the right kind of prayer or an adequate amount of faith, rather they refer to teachings by Jesus about God's intentions and the future to come. This is in line with the narratives of the participants as they speak of a loving and accepting God, who is interested in our human affairs.
- A reciprocal relationship between theology and practice is mutually fruitful. Theological understandings are sharpened and refreshed by practices; practices will take advantage of balanced theological input. Words like grace, gratefulness, comfort, love, being lifted up, being carried , blessing and renewal belong to an idiom that reflects a language that supposes an occurrence, in which man is exposed to something new and unexpected, an act of bestowal by a Giver and the human being as recipient. It is relational language, in which the recipient has an address for praise and thankfulness.

Additional remarks and suggestions

When starting this research I did not expect the results that we found. Primarily the focus was on the evaluation of medical data. However, apart from this data the most significant finding turned out to be the remarkable similarity between the experiences that accompanied the healings, including the participants' interpretations of the experiences. The same set of phenomena appeared under widely varying circumstances. We considered this to be a relevant outcome of the study.
Some suggestions can be made in line with the observations in this study:

- Documentation and careful (medical) evaluations of healings related to prayer as in Lourdes or Rome will be helpful for reasons of objectification and transparency.
- In light of the data presented, it is rational to assume that there is a pattern of healings related to prayer, similar to healings in the Bible and in church history. Future studies highlighting such patterns will enhance our vocabulary. These studies should preferably be transdisciplinary including scholars from theological disciplines (New Testament, church history).
- The relevance of future studies is great as 'prayer and healing' is still an understudied subject. There are many strong opinions, but not a lot of facts.

Chapter 10

General Discussion

A short summary of the findings

In this reflection, which is written through the lens of general medical practice, it is attempted to 'find words' for the prayer healing experiences in this study.
First of all the highlights of the study will be recapitulated.

Participants and study population

- Eighty three (83) reports of prayer healing were received, twenty seven (27) of these were selected for evaluation by a medical assessment team, using medical files and patient accounts. Fourteen cases were chosen by the medical assessment team for an in-depth interview, based on (possible) remarkability.
- The study population was diverse. Reports came from all over the country and a few from Belgium and Germany. There was no clear concentration in areas with high church attendance. The participants came from different church denominations (Reformed, Roman-Catholic, Evangelical, Pentecostal), while some had no religious affiliation.
- The diseases reported covered the entire medical spectrum. There was no over-representation of psychosomatic illnesses as another study suggested[1].

Appraisal by the medical assessment team

- Eleven healings were found to be 'medically remarkable'. Most of these were marked by a highly unusual course of the disease such as a medically unexpected instantaneous healing of a serious chronic disease, where the best possible prognosis would be one of gradual regression (e.g. multiple sclerosis, Parkinson's disease, ulcerative colitis et al.).
- None of the healings were considered to be 'medically unexplained'. The occurrence of well documented unexplained healings was only reported in relevant literature in rare instances[2, 3, 4, 5].
- To establish a relationship between prayer and healing was often not straightforward, especially in patients with cancer, as most of them received other modes of treatment at the same time (e.g. chemotherapy, radiotherapy).
- Pronounced mismatches were found between 'subjective' data and 'objective' investigations in some cases, with dramatic improvements in functioning without changes in scans, audiometry etc. However, in other instances there was 'objective' recovery alongside 'subjective' improvement.
- The multidimensional aspects of HP made it increasingly difficult for the assessment team to differentiate 'medically remarkable' from 'a remarkability in a broader non-medical sense'.

[1] Van Saane J. *Gebedsgenezing. Boerenbedrog of serieus alternatief?* Kampen, Netherlands: Ten Have. 2008.
[2] Dowling StJohn. Lourdes cures and their medical assessment. *Journal of the Royal Society of Medicine.* 1984; 77:634-638.
[3] Duffin J. *Medical Miracles. Doctors, Saints, and Healing in the Modern World.* New York: Oxford University Press. 2009. (285p:pp 110-111).
[4] Romez C, Zaritzky D, Brown JW. Case Report of Gastroparesis healing: 16 years of a chronic syndrome resolved after proximal intercessory prayer. *Compl Ther in Medicine.* 2019;43:289-294.
[5] Romez C, Freedman K, Zaritzky D, Brown JW. Case report of instantaneous resolution of juvenile macular degeneration blindness after proximal intercessory prayer. *Explore.*2021; 17:79-83.

Context and lived experiences of the participants

- The setting of the prayers varied considerably: personal prayers, group prayers, holy communion, liturgical prayers, prayer healing services, anointing of the sick. These could all lead to healing experiences.
- Healing experiences were often unexpected. Expectancy did not play a major role in most accounts of participants.
- A large majority of participants reported instantaneous onset of their healing (61/73), very often associated with simultaneous physical and emotional manifestations.
- These manifestations varied, emotions and sensory experiences were often reported: incessant crying; sensations of warmth or being touched; a current going through the body; experiences of quiet, love and peace. Occasionally we received reports of extraordinary perceptions such as visions, dreams, wind in a closed room, falling (in the Spirit), levitation (being lifted from the floor). In all cases the manifestations were sensed as being positive and meaningful.
- The healings had a multidimensional character, which is underlined by the above manifestations together with a sense of being 'overwhelmed' during the healing. Often with a transformative impact on the personality. This pattern is different from 'common healings' of illnesses as observed in medical practice.
- Invariably the HP experiences were interpreted as a divine act, with a sense of being accepted by a loving God. This was frequently referred to as a healing of 'mind, body and soul'.

Follow-up after 4 years:

- In a follow-up 59 participants were contacted after 4 years: the majority was still healed (50/59) with lasting positive effects on their socio-religious quality of life for many (45/59). Healing had stimulated the spiritual development of the participants, whether related to the institute of the church or not. In a few cases we received reports of partial relapse of the disease (7/59) or of negative effects on socio-religious quality of life (2/59).
- For 23 participants in the follow-up study their healing experience had practical social consequences (23/59). These participants turned away from materialist values, triggering lives of benevolence: church or missionary activities; direct social actions, like aiding people who are marginalized, or those dealing with poverty or health problems; trying to restore broken relationships.
- Seventeen participants explicitly reported negative reactions to the healing from within their church or from other Christians (e.g. 'it is all between your ears').

Medical and conceptual reflections:

A pattern within and across cases

First and foremost it should be underlined that the above findings came as a surprise. The initial approach was a rigorous study of the medical data by the medical assessment team. This is exemplified by the *Exploration of the field* in Chapter 2, which was done prior to the empirical research. However, in due course both researchers and the assessment team came to the conclusion that the experiences reported by the participants were not just subjective

reactions to what had occurred, but that a recurring pattern was found within and across cases, which was relevant for the interpretation of the medical data as well. In fact, a very significant finding was the remarkable similarity between the experiences accompanying the healings, whether evaluated as medically remarkable or not. Moreover, the same experiential data were also seen in cases which were not evaluated by the medical assessment team. Summarizing, a pattern emerged with the same set of phenomena recurring: instantaneity of healing with emotional as well as physical manifestations, overwhelming and transforming the individual.
Bendien conducted 14 in-depth interviews in our group of remarkable and possibly remarkable recoveries, reflected in Chapter 8: 'In 10 cases the actual healing was experienced instantaneously, and in four cases the onset of the healing started immediately after the prayer and then continued for several days or weeks.' A transformative power in all healings was noticed, quoting one participant: 'God goes a little deeper. …It's not just a physical healing, but it touches the soul. It is a relationship. This is not a doctor who does an operation. God gets really close.'

Recent qualitative studies highlighted similar patterns. Austad et al.[6] interviewed 25 people with healing and prayer (HP) experiences related to Christian faith and practices in Norway. The healing events often resulted in 'immediate emotional expressions, described as crying'. Others expressed that they were 'seen', 'embraced' or 'wrapped up' in 'God's presence'. Extraordinary perceptions were also reported. In the US Helming[7] did a qualitative study among individuals with an experience of being healed through prayer. Twenty participants were interviewed: 'Sixteen of the 20 participants felt as though they had experienced spiritual transformation through this prayer and healing experience; they were not the same people thereafter'.
Duffin[8] and Francois et[9] al. also reported instantaneity and strong experiences when studying documented healings in the Vatican archives of the Roman Catholic Church and in the medical bureau of the Lourdes pilgrimage site respectively.

Another finding was the lack of correspondence between subjective and objective data in some cases. There were instances with substantial functional improvements while medical investigations, such as audiometry or scans, remained unchanged. In all of these cases the subjective improvements were not only experienced by the participants themselves, they were also noticed by friends, relatives and medical professionals.

Explanatory medical models

As a result of the above experiential findings the medical assessment team found it increasingly difficult to describe the observations in medical terms only. Healing occurred as a multidimensional life event involving the whole person, it was more than just recovery from disease. Involving affective, self-relational and spiritual dimensions that could not be

[6] Austad A, Rodriguez Nygaard M, Kleiven T. Reinscribing the Lived Body: A Qualitative Study of Extraordinary Religious Healing Experiences in Norwegian Contexts. *Religions.* 2020,*11*,563;doi:10:3390/rel11110563.
[7] Helming MB. Healing Through Prayer: A Qualitative Study. *Holistic Nursing Practice.* 2011; 25(1):33-44.
[8] Duffin J. *Medical Miracles. Doctors, Saints, and Healing in the Modern World.* New York: Oxford University Press. 2009. (285p:pp 140).
[9] Francois B, Sternberg EM, Fee E. The Lourdes cures revisited. *Journal of the History of Medicine and Allied Sciences.* 2014; 69(1):135-162.

accounted for from a purely biomedical point of view. Therefore, the need was felt to consider other explanatory options outside the medical paradigm.
Firstly, experiential similarities can be found in literature about Medically Unexplained Symptoms. In MUS as well as in our study misunderstandings may arise between doctor and patient because of the unexplained nature of symptoms and recoveries[10]. However, the two differ significantly in a clinical sense as healing in cases of MUS is mostly gradual[11]. Moreover, in our study most participants had a clear diagnosis and no unexplained symptoms as in MUS.
Secondly, one may think of psychiatric problems such as somatization, factitious disorder or malingering. But the psychiatrist in the assessment team did not find any indication to that effect. Nor did one of the members of the supervisory team, who is also a psychiatrist (GG). Additionally, the wide spectrum of diseases reported did not indicate over-representation of psychiatric or psychosomatic illness.
Thirdly, spontaneous remission[12] may be suggested as explanation of the recoveries we observed. However, the aberrant course of instant disappearance of symptoms, accompanying manifestations, and participants' interpretations of what had occurred, do not comply with this hypothesis.
Finally, can the recoveries be regarded as similar to those that were experienced by exceptional patients with unusual outcomes at the extremes of the clinical spectrum[13]? It is a phenomenon which every doctor encounters a few times in her or his professional career. However, the exceptionality at the extremes is not in line with the observation of a recurrent pattern and a set of characteristics in recoveries related to prayer.
A predominantly statistical, evidence-based account of the healings misses the point. The healings are not just unusual outcomes after specific interventions, but highly significant events that were embedded in a broader affective, social, and spiritual context that mattered to the individual patient. In the analysis of the findings our focus shifted, therefore, from outcomes (healing) to this broader context of affective and spiritual transformation and existential reinterpretation. We refer for a broader analysis to Chapter 8 in this thesis.

From a clinical perspective it would be best to conclude that the healings observed cannot easily be classified within one of the above categories. The stereotypical pattern within and across cases and the multidimensionality rather point to a uniqueness of the observed phenomena.
Sulmasy[14] remarked on a case he presented as well as on unexplained cures described by the Roman Catholic Church's scientific commissions: 'All one can say is that the event appears to have really occurred and that it is distinctly unusual or historically unprecedented from the perspective of empirical scientific knowledge'.
A similar statement seems to apply to this study: what can be said at this stage is that these HP experiences are distinctly unusual when relating them to various medical explanatory categories.

[10] Greco, M. Pragmatics of explanation: Creative accountability in the care of 'medically unexplained symptoms'. *The Sociological Review Monographs*. 2017: 65(2):110–129.
[11] Hartman olde TC, Borghuis MS, Lucassen PLBJ et al. Medically unexplained symptoms, somatisation disorder and hypochondriasis: Course and prognosis. A systematic review. *Journal of Psychosomatic Research.* 2009; 66:363-377.
[12] Radin D. The future of spontaneous remissions. *Explore.* 2021; https://doi.org/10.1016/j.explore.2021.08.007.
[13] Saner FAM, Herschtal A, Nelson BH et al. Going to extremes: determinants of extraordinary response and survival in patients with cancer. *Nature Reviews cancer.* 2019; 19(6):339-348.
[14] Sulmasy DP. What is a miracle? *Southern Medical Journal.* 2007; 100(12):1223-1228.

A holistic approach?

Huber et al. evaluated a new dynamic and a holistic concept of health[15], covering six dimensions: bodily and mental functions, spiritual dimension, quality of life, social participation, daily functioning. This approach situates people as 'more than their illness'. A qualitative study and a survey were held under 140 and 1938 participants respectively. 'Patients considered all six dimensions almost equally important, thus preferring a broad concept of health, whereas physicians assessed health more narrowly and biomedically'. Apparently there is a difference between the holistic outlook of patients and the more reductionist preferences of medical practitioners. According to Greco (see footnote 10) such different perspectives may underlie misunderstandings between doctors and patients in cases of unexplained symptoms (MUS).
In the above mentioned qualitative studies (see in Chapter 8, and footnotes 6,7) the authors positioned HP experiences in a holistic perspective. Biological, psychological, spiritual aspects were all considered to be relevant. In due course same conclusion was inevitable in this study: only collecting medical files was insufficient, as experiential and existential data were just as important. Careful listening to patient narratives turned out to be essential. A holistic approach is therefore indispensable when studying HP experiences.

However, in spite of the inclusiveness of holistic approaches, the experiences that our patients reported are still seldom addressed: the sensation of 'being touched', the experience of a loving, powerful, supporting presence and the overwhelming experience of undergoing some sort of 'transformation'. It is as if something happens beyond the capacities of the persons themselves. The Norwegian authors - Rodriguez-Nygaard, Austad et al.[16]- stated in another article that 'The results indicate that they (i.e. the informants) perceived healing experiences as intense encounters with a loving, sensitive, external power with detailed insights into their burdens'. This was also invariably the interpretation of our participants, when they attributed their healing and all events around and after it to God.

One may conclude that a holistic approach is indeed indicated when studying HP experiences, but it seems not to be enough when it comes to interpreting them.

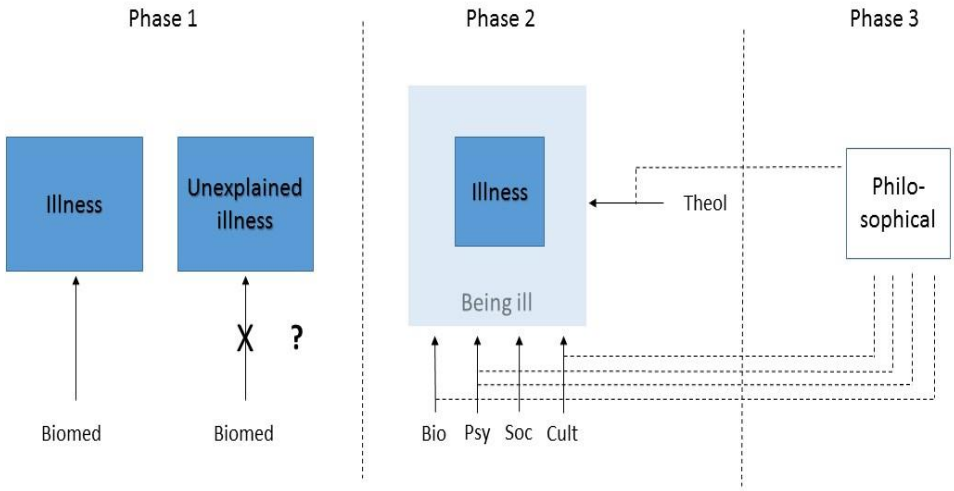
Transdisciplinary conceptual structure, explanatory perspectives

At this stage it is helpful to iterate Figure 1 below, which was introduced in Chapter 3 The figure shows the transdisciplinary conceptual structure that was devised . Phase 1 represents the identification of a disease or illness including the occurrence of a remarkable or unexplained cure. Biomedical and experiential data as well as doctors' opinions can cast light on such cures. In phase 2 the perspective is broadened, from illness to being ill. Being ill is not only about the medical facts of the disease, but also about the person who is ill and the context of the illness in various ways. What is the effect of physical, psychosocial and spiritual factors

[15] Huber M, Vliet M van, Giezenberg M. Towards a 'patient-centred' operationalisation of the new dynamic concept of health: a mixed methods study. *BMJ open.* 2016Jan12; 6(1):e010091. doi.10.1136/bmjopen-2015-010091.
[16] Rodriguez Nygaard M, Austad A, Kleiven T, Maeland E. Religious Healing Experiences and Earned Security. *Pastoral Psychology.* 2020; 69:487-507.

on the manifestations and course of the illness and what is the effect of the illness on all these different factors in the patient? The spectrum is widened to include other perspectives: biological (bio), psychological (psy), sociological (soc), cultural (cult) and theological (theo). In phase 3, finally, the relevance of the different perspectives is weighed in a case-based reconstruction of the HP experiences.
In this reconstruction we use Barbour's typology for the science-religion debate as a basis for our transdisciplinary discussion, which has already been addressed elsewhere in the thesis and in the introduction[17]. Barbour described the most common types of relation between science and religion as marked by conflict, independence, dialogue and/or integration.

Figure 1. Transdisciplinary Conceptual Structure



The conceptual structure sketched in Figure 1 acted as a guiding principle for the multidisciplinary research team in the case-based assessments. Medical and alternative medical explanatory options have already been mentioned above. The following perspectives from other disciplines were considered.

(Other) biological approaches

- Neuroscience
  Persinger located the source of 'the God experience' in the brain[18]. Alterations were found in EEG recordings of theta activity in certain brain regions (hippocampus area of the temporal lobe) during religious activities such as praying and meditation. Newberg

[17] Barbour IG. *When science meets religion*. New York: Harper Collins. 2000.
[18] Persinger MA. *Neuropsychological Basis of God Beliefs.* New York: Praeger Publishers. 1987.

et al. noticed increased blood flow in the prefrontal cortex and in the inferior parietal and frontal lobes during practices of verbal meditation[19].
More recently Miller et al. (2019) observed reduced activation of the inferior parietal lobe during personalized, induced spiritual experiences in a (functional) MRI study[20]. They concluded that 'neural mechanisms were demonstrated to underly spiritual experiences across diverse traditions and perspectives'.
Objections can be made regarding some of the conclusions of this type of research. Correlation is not causation and altered functioning of certain brain regions during religious experiences is no proof of brain 'mechanisms' underlying or causing these experiences. Neuroscientific findings are interesting because they show how neurally embodied and how neurally distinct religious and spiritual experiences are. However, obviously, they don't prove that the origin of these experiences can be found in the brain.

- (Patho)physiological and biochemical pathways
  Our study frequently recorded intense emotional experiences combined with immediate and lasting improvement of symptoms of a disease. One may think of a relationship between these functional changes and an improved emotional state, mediated by (patho)physiological and biochemical pathways. Various types of stressors, such as psychological stress or visceral pain stimuli, have been shown to induce changes in the neuroendocrine system (notably the hypothalamic-pituitary-adrenal axis), autonomic functions and immune cell responses[21]. Baseline cortisol and ACTH were found to be elevated, as well as circulating lymphocytes and lymphocyte subsets. Additionally there was cardiovascular activation. Conversely, powerful experiences and an improved emotional state could be thought of inducing symptomatic and functional improvements mediated by these systems. However, the changes in these systems modulate and are usually relative and temporary. It is therefore unlikely that such effects are sufficient to account for the instantaneity and the stability of the observed improvements in the participants, as well as the persistence of healing and personality changes.

Psychology

- Placebo
  The placebo effect might be thought of as an explanatory mechanism. These effects however, largely do not occur instantaneously and with intense psychic manifestations as in our group. A patient will not be cured instantly or have a transformative experience when trusting the doctor or a prescribed medication in case of illness. Rather, improvement due to placebo effects is typically gradual. Another important factor in the context of placebo mechanisms is expectancy. Positive expectations have been demonstrated to induce placebo effects and thereby to alter physical

[19] Newberg A, Pourdehnad M, Alavi A, et al. Cerebral blood flow during meditative prayer: preliminary findings and methodological issues. *Percept Mot Skills*. 2003; 97(2):625-630.
[20] Miller L, Balodis IM, McClintock CH et al. Neural Correlates of Personalized Spiritual Experiences. *Cerebral Cortex.* 2019; (29):2331-2338.
[21] Lucas A, Holtmann G, Gerken G et al. Visceral pain and public speaking stress: neuroendocrine and immune cell responses in healthy subjects. *Brain Behavior Immunity*. 2006; 20(1):49-56.

complaints[22, 23]. This differs from our study as most of the participants had none or low expectancy. The same was seen by Brown, which was already discussed in the previous Chapter[24]. In the Norwegian study (see footnote 6) it was observed that some of the participants experienced healing during general practices of prayer, preaching, and rituals, not as a result of targeted religious 'interventions'. We conclude that expectancy and placebo effects may have played a role in some of our cases, but in many others no such association could be found.

Psychology of religion

- Transcendent experiences
- Levin and Steele published a review article on this subject in 2005[25]. The authors defined transcendent experiences as events 'evoking a perception that human reality extends beyond the physical body and its psychosocial boundaries'. Basic characteristics are ineffability, a sense of revelation (or 'a new sense of life'), positive moods and positive changes in attitudes and behavior. In surveys among the general population in the USA[26] and in Great Britain[27] around one third of respondents indicated having had intense religious experiences 'that lifted them outside of themselves'. Such experiences were found for instance, to occur during pilgrimages to Lourdes (France) with about two in five pilgrims reporting transcendent experiences during their stay[28]. Gutierrez et al. studied the occurrence of life-changing religious or spiritual experiences among adherents of six world religious traditions as well as atheists and agnostics in the USA in 2018. The overall incidence was found to be 42%, with Protestants (57%) and Muslims (55%) reporting higher figures, and atheists/agnostics relatively fewer (14%). Although the numbers included were fairly low for some of the subgroups, it is still notable that these experiences can be found across all traditions and in people with widely diverging backgrounds.
  Levin and Steele (see footnote 25) suggest in their overview that health effects of transcendent experiences are often considered to be very favorable by psychologists. Greeley found that respondents with such experiences scored significantly higher on measures of psychological well-being than those who did not[29].
  Even more important though, was the finding that the influence of transcendent experiences on health has rarely been programmatically studied (see footnote 25).
  Programmatic study is impeded by confusion about terminology. In our survey we found expressions like 'spiritually transformative experience (STE)', 'transformational

[22] Evers AWM, Bartels DJP, Laarhoven van AIM. (2014) *Placebo and Nocebo Effects in Itch and Pain*. In: Benedetti F, Enck P, Frisaldi E, Schedlowski M, (eds).Placebo. Handbook of Experimental Pharmacology, vol 225. Berlin, Heidelberg: Springer. 2014 (p. 205-2014).

[23] Kaptchuk TJ, Hemond CC, Miller FG. Placebos in chronic pain: evidence, theory, ethics, and use in clinical practice. *BMJ*. 2020 Jul 20;370:m1668. doi: 10.1136/bmj.m1668. PMID: 32690477.

[24] Brown CG *Testing Prayer. Science and Healing.* Cambridge, Massachusetts, USA: Harvard University Press. 2012 (p182-184).

[25] Levin J, Steele L. The Transcendent Experience: Conceptual, Theoretical, and Epidemiologic Perspectives. *Explore.* 2005; 1(2):89-101.

[26] Greeley AM. *Ecstasy. A way of knowing.* Englewood Cliffs, NJ, USA: Prentice Hall; 1974.

[27] Hay D. *Exploring inner space. Is God still possible in the twentieth century?* London, England: Mowbray Publishers. 1987.

[28] Rahtz E, Warber SL, Goldingay S et al. Transcendent Experiences Among Pilgrims to Lourdes: A Qualitative Investigation. *Journal of Religion and Health.* 2021; 60:3788-3806.

[29] Greeley AM. *The sociology of the paranormal.* Beverley Hills, CA, USA: Sage Publications. 1975.

changes', 'turning-point experience', 'healing touch', 'religious experience', to express more or less the same phenomenon. According to Levin and Steele (see footnote 25) future studies will benefit from clear operational definitions and validated measurement instruments.

Qualitative research highlighting these experiences from the perspective of the subjects themselves will also be helpful (see Chapter 8, and footnotes 6,7).

Phenomenology

- The experience of a powerful touch

  All participants in our study interpreted their healing experiences to be a divine act, very often experienced as a touch. Some quotes are given in Chapter 8: "The participants tell us about the affective side of the healing, that was experienced as being 'touched inside your head and feeling a slow current going from your toes through the entire body' (P2)[30]; 'a sudden feeling of joy and the warmth of a hand felt on the exact place' where the aorta was damaged (P7); the feeling of quiet and such a profound peace within, 'as if somebody had wrapped a blanket around me and I felt that I am allowed to be' (P4); 'a large warm cloud, and the feeling that something is happening now, as if a small net has been taken away from my brain' (P5)." The Norwegian study (see footnote 6) made similar observations, describing the events as a 'powerful touch', and 'many of the participants experienced the energy and power during the healing as love, interpreted as coming from God'.

  Brown sketches a network model of what is called 'love energy' (see footnote 24: p. 284-291), based upon her investigations of HP practices among Pentecostals and Charismatics across the world, mostly in the USA, Brazil and Mozambique. Individuals who experience healing through prayer credit 'divine love and power' for their recoveries, and subsequently feel motivated to express greater love for God and other people. This motivational energy empowers further benevolent actions. As a result, social interactions are facilitated and recipients experience love through their mutual exchanges. Positive consequences may result in various spheres of life.

  Such effects were registered by Lee, Poloma and Post, who did sociological research in the USA by interviewing people with religious experiences[31]. They concluded that there is a positive relationship between such experiences and benevolent activities: 'An encounter with a divine energy that is profoundly loving and accepting beyond words, followed by a radical shift in which core values are turned upside down, resulting in insights that appear to rewire the person and their approach to life. …. It empowers a life of benevolence'.

Anthropology

- Bom investigated ideas about healing in Africa and South America (Andes region), comparing them with ideas in the Netherlands in an intercultural theological dialogue[32]. He distinguishes two views: 'cultures in both Africa and the Andes contribute to integral understandings of healing of the body and mind of the individual,

[30] P2 refers to the participant involved.

[31] Lee MT, Poloma MG, Post SG. *The Heart of Religion. Spiritual Empowerment, Benevolence, and the Experience of God's Love.* New York: Oxford University Press. 2013.

[32] Bom KL. Verder reiken naar genezing. Een theologisch gesprek tussen christenen uit Afrika, de Andes en Nederland. *Theologia Reformata.* 2020; 63(4):390-404.

the spiritual and social dimensions, and the material environment. In the Netherlands, however, illness and healing are mainly understood from a modern point of view, one which understands religion and spirituality as strictly private issues which should be separated from public health care'. Personally, I fully agree with this distinction, drawing upon past experiences as a medical doctor in a rural hospital in Africa for a period of five years. In Botswana, people often went to the hospital doctor, the traditional doctor or a religious healer at the same time.

However, it is remarkable when placing our observations in this intercultural context. The Dutch and Belgian participants in our study considered the healings as multidimensional, often as a healing of mind, body and soul. Surprisingly, their interpretations seem to be much closer to the African and South American ideas about healing than to common thoughts in the Netherlands.

Bom argues that we may have lost sight of 'other layers of healing' in Western societies. He makes a plea for blessing and anointing the sick as a prominent part of the pastorate (e.g. according to guidelines in the liturgical handbook of the Protestant church in the Netherlands, PKN). It addresses these other layers and may very well be complementary to other modes of treatment. According to his view this will clarify the interrelationship between medical, psychological and spiritual care.

Theology

- Theological sources

  A separate chapter in the thesis addresses the question whether theology has a 'vocabulary' for the healing experiences of participants in our study. The reader is referred to this chapter. In summary there were two major conclusions. Firstly, there is an analogy between the instantaneous and transformative multidimensional healing experiences which were documented in this study and the healings which occurred widely during the ministry of Jesus Christ and with varying frequency throughout the history of the church. They seem to share the same characteristics, clearly different from 'common' healings as we usually see them in medical practice. One may think of a distinct pattern. Secondly, a reciprocal relationship between theology and practices further enhances this vocabulary. Theological understandings are sharpened by practices, including the prayer healing practices in our study. Conversely, theology can increase our understanding. Biblical narratives and theological understandings can very well articulate the experiences of our participants when they speak about their recoveries as a 'sign', a 'gift' or an 'act of God' (charism). Words like grace, comfort, mercy, love, blessing, gift, gratefulness, being carried through, being lifted up, benevolence refer to the rich idiom of Biblical and religious language, showing a movement and direction from old to new. This movement is highlighted in Chapter 8: "Since their remarkable recoveries, most of our participants (i.e. in the group of 14 interviewees) choose to become engaged with their social environment: they do community voluntary work and use their own experiences in order to help others. They also engage in conversations about the transformative power of their recoveries, or by making the accounts of their recoveries public. Most of them see it as their calling to spread the word about the extraordinary experiences they have gone through, whereas others are still searching for answers to questions like 'why me?' and 'how can I share this gift with others?'."

A philosophical perspective

Philosophy may help unravel the conceptual structure of the phenomena being studied given the multiple perspectives that bear relevance to understanding. Here we focus on an over-arching philosophical approach that may prove helpful in the organization of the material.

- The concepts of embodiment and of the 'lived body':
  In Merleau-Ponty's philosophy the body is viewed as lived, experiential, and as nodus of interaction with oneself and the world. In the lived body the materiality of the body cannot be separated from the lived experience[33][34]. The body is not a thing, but a subject, i.e. a center of experience, interaction and meaning in a world that invites exploration, experience and reflection. This philosophy is an alternative to the dualistic mind-body model in which mental and physical qualities are considered to be separate and body and mind separable 'things'. The lived body is therefore the intersection of the biological, psychological, sociological, and spiritual dimensions of illness. Life experiences are 'inscribed' in the body and in the case of negative life experiences they may contribute to disease and illness later in life[35]. The body itself is a living storyteller of past and present life experiences.
  The relevance of this concept is underlined by the repeated comment of a healing of 'body, mind and soul' by the participants. The participant with anorexia felt that her 'mind and body had completely re-united'. She sees a different person, with a changed self-image, when looking in the mirror after the HP experience. In Chapter 8 it says: 'They (i.e. the interviewees) can illustrate the trans-somatic aspect of their healing by showing the transformative effect that HP has had on their spiritual development and how a new transcendent dimension has been added to their lives. For the patients, healing is much more than a repair of a bodily function''. In their qualitative study of extraordinary religious healing experiences Austad et al. used the above views of the lived body as a theoretical lens for their understanding of the participant's suffering and subsequent healing experiences (see footnote 6). They considered the experiences to be a 'powerful touch' that made a transformative impact on their lived body. Finally they concluded: 'Based on the stories of these 25 participants, we argue that the experienced healing events, which we have characterized as involving the sense of a powerful touch that is targeted, energetic, emotional, and love-providing, can be hermeneutically conceptualized as re-inscriptions that affected the lived body and spurred renewed health and lived meaning'.

After all: what can be said when reviewing the explanatory perspectives?

Although unexplained healings were not found, there were medically remarkable healings and healings with remarkable non-medical aspects. Eventually a pattern emerged with recurrent characteristics. In the medical assessment team this was considered to be quite different from what is normally seen in medical practice. It can be said that there is an 'unexplained pattern' of healing.

[33] Merleau-Ponty M. *The visible and the invisible*. Evanston, USA: Northwestern University Press. 1968.
[34] Merleau-Ponty M. *Phenomenology of Perception*. London and New York: Routledge Classics. 2002.
[35] Kirkengen AL. *Inscribed bodies. Health impact of Childhood Sexual Abuse.* Dordrecht, Netherlands: Kluwer. 2001.

At this stage it is time to return to the transdisciplinary conceptual structure of Figure 1. Throughout the study and in the *Exploration of the field* as well, it became evident that HP cannot be thought of in terms of linear causality, rather there is complexity. Therefore it has been studied through the lenses of different disciplines. Explanatory perspectives from these disciplines have been listed above, creating a 'communicative reflexive space' (see the *General introduction* in Chapter 1). Subsequently there is room to reflect upon the available options.
The pattern found could partially be understood on the basis of the different explanatory strategies. However, most of them failed to relate to the instantaneity and the transformative impact of the HP experiences. There were similarities between what the participants said and what was found in the literature about 'transcendent healing experiences', 'inscription in the lived body' and a 'powerful touch'. All these concepts refer to intense events, occurring momentarily and with profound effects on health and personality, and to models that transcend the usual mind-body duality. It was argued that theology may have a vocabulary for these events, which is in line with our participants' interpretations of an 'acting God' and a healing involving mind, body and soul at the same time. The same applies to the 'other layers' we came across in the intercultural debate. This is a vocabulary which may enrich the interpretation of our findings. The age-old narratives in religion can be used as a source of knowledge and wisdom. In Chapter 4 it was concluded that these narratives depict 'a wider transcendent perspective, drawing upon another language and referring to another reality. Without leaving the solid ground of medical knowledge we should not hesitate to explore these wider perspectives. By doing so, we would allow the boundary between the world of 'empirical data' and the world of 'wider perspectives' to be more porose than usually thought'.
The concept of porosity may be a very attractive one, because it helps in understanding the healings investigated. It could also offer a point of entry for 'dialogue' in the science-religion debate according to Barbour's typology (see footnote 17). Such a concept opposes one of the three other approaches: 'conflict', 'independence' and 'integration'. 'Conflict' and 'independence' exclude porosity beforehand. As a result of their scientistic assumptions these positions lack the vocabulary for a proper understanding of the healings and the interpretations of our participants. 'Integration' seems a less viable option too, as it would imply a common denominator between science and religion. Or, at least, one language to address the medical, psychological, and spiritual aspects of the healing experiences.

Limitations

The above explanatory perspectives were discussed in the multidisciplinary team, trying to find 'words' for the HP experiences of participants. It is one step in a process, intending to trigger a dialogue. There is no pretention that the overview is complete.
Secondly, it has to be noted that the perspectives were viewed through my lens of being a general medical practitioner, using other fields of knowledge without being a theologian, philosopher or a psychologist myself. To do this I was aided by the members of the supervisory team.
Thirdly, the research group is a favorable subgroup of those praying for healing as all participants reported a healing. Although it was the intention to study this subgroup one should bear in mind that there can be negative experiences related to HP as well. Some participants in this study reported a negative outcome secondarily.

A personal process of reflection

As was already said in the introduction of the thesis this study started as a result of a personal fascination based on experiences in general medical practice. It finally led to a systematic study of healing through prayer. The assessment team and myself were driven by a quest for facts, for knowledge and for wisdom. We considered all three as equally important and valuable. The members of the research team and the medical assessment team had different disciplinary backgrounds, but all of them shared a similar curiosity.

Together, we undertook a common journey. Some of the results such as instantaneity and simultaneous manifestations in many healings, a lack of expectancy, and personality changes were intriguing. The same was true for some impressive functional improvements without organic changes ('mismatch') and the variety of settings in which the healings occurred. The same set of phenomena appeared under widely varying circumstances.
Initially, I expected to find some unexplained healings, but we didn't. In the cases that came closest, there were mismatches with the objective findings. On the other hand, quite a number of them were evaluated as medically remarkable, mostly because the course of healing differed from what is commonly seen in clinical practice.
When starting some of the medical assessment team members felt resistance towards including experiential data, preferring to make assessments on medical grounds only. But gradually it was agreed that all data was to be considered valuable in order to get a complete picture.

Looking back, it is one of the best decisions of the research team to combine medical evaluations with qualitative research. In-depth interviews in the context of qualitative research provided important information about non-medical data such as experiences, religious and social background, interpretations and quality-of-life aspects. As a result it enriched our understanding of the participants' HP experiences.
As a matter of fact, the chosen methodology colored the results significantly:

- At the onset of the study the focus was primarily on medical data, which is still evidenced by the case descriptions in the chapter *Exploration of the field.* However, the outcome of a pattern of experiences and medical findings would have been less obvious if the study had been limited to medical evaluations only. An interdisciplinary research approach with an analysis across the disciplines was essential here.
- The outcome would have also been different if a model with a hierarchy of evidence as in evidence based medicine (EBM), were to have been followed. According to Vandenbroucke this hierarchy changes when studying events creating surprise and trying to find explanations[36] (see also in the *General introduction*). In those instances observational research is preferred as in case-based or qualitative studies. This is certainly true for HP experiences.

Another personal element is the question as to how one can best relate to HP experiences in clinical and pastoral practice. Evidence Based Medicine (EBM) has already been mentioned as the preferred research model in medicine. Medical practitioners are 'brought up' with it. Meta analyses and randomized controlled trial (RCT) are at the top of the hierarchy and expert

[36] Vandenbroucke JP. Observational Research, Randomised Trials, and Two Views of Medical Science. *PLoS Medicine.* 2008; 5(3): e67 (0339-0343).

opinion and clinical experience at the bottom. Glas says (about psychiatry): 'No wonder many clinicians feel a tension between treatment protocols that are based on the kind of science EBM favors and their usual way of practicing, which is based on case-oriented clinical judgment informed by clinical experience'[37].
Such hierarchies are not just limited to medicine only. Experiential knowledge and theology may suffer from a low rating in the eyes of many since they often lack 'hard objective data'.
Duffin, who investigated healing miracles in the Roman Catholic Church, noticed this hierarchy in her studies when she wrote: 'By placing increasing emphasis on medicine and physical healing in canonization, the church does not deny the possibility of transcendent experiences in other forms'. This author proceeds: 'With the tremendous emphasis on healing, the increased medicalization of the modern world, and the importance of medical testimony, physicians emerge as key players in the investigations' (see footnote 3, p. 111).

One may indeed conclude that there is a hierarchy at the level of medicine itself and in the relationship with other disciplines as well, or even a collision between them. But these collisions are not helpful when viewing the results of this study. Medicine, experiential knowledge, psychology (of religion), theology and other fields all turned out to be relevant.
Various discourses contributed to understanding the 'multidisciplinary' healings.
An equivalent in medicine valuing the different perspectives is Person Centered Medicine (PCM). PCM aims at a 'Medicine of the Whole Person', in which there is attention to biological characteristics and responses of disease, but also to the psychological, spiritual and emotional dimensions[38]. Mind, body and spirit are considered to be integrated in this approach. PCM can therefore be used as a lens through which to look at the HP experiences of our participants.
In line with this is a position held by Abma when outlining principles of horizontal epistemology[39]. In this epistemology there is no hierarchy in systems of knowledge. It values scientific knowledge as well as practical-professional and existential-experiential knowledge. This has been mentioned elsewhere in this thesis on several occasions, also in Chapter 3 when mismatches between subjective and objective data were discussed[40]. The subjective findings of improved hearing were supported by the observations of relatives and friends as well as by validated questionnaires. This data could not be ignored, despite the absence of numerical changes in audiometry. Appreciating the experiences of participants in these instances may also help us to start understanding the underlying existential and spiritual dimensions.

When I received training as a general medical practitioner a fundamental lesson was to listen carefully during consultations, first of all trying to find out the actual question a patient had and the reason for visiting the doctor. In the case of the HP experiences in my practice and in this study I could only understand them by applying this principle, which is in line with PCM and horizontal epistemology. Actually, this may not only be the case for HP experiences, but

[37] Glas G. *Person-Centered Care in Psychiatry. Self-Relational, Contextual and Normative Perspectives.* Abindon, UK and New York: Routledge. 2019 (p. 8-9).
[38] Miles A, Mezzich JE. The care of the patient and the soul of the clinic: person-centered medicine as an emergent model of modern clinical practice. *Int Journal of Person Centered Medicine.* 2011; 1(2):207-222.
[39] Abma T. Ethics work for good participatory action research, engaging in a commitment to epistemic justice. *Beleidsonderzoek online.* September 2020, DOI: 10.553/BO/221335502020000006001.
[40] Kruijthoff DJ, Bendien E, van der Kooi C, Glas G, Abma TA, Huijgens PC. Three cases of hearing impairment with surprising subjective improvements after prayer. What can we say when analyzing them? *Explore.* 2022; 18(4):475-482.

in many other situations as well. In general medicine one is often confronted with complex patient histories, time and patience are essential when trying to understand them.
Once more, it should be stressed that a lot has been learnt from the healing experiences of the study participants. Some of the findings were surprising , thus creating a better picture of the subject. It is therefore important to stand up for the different dimensions of the HP experiences, whether medical, psychosocial, experiential or theological. It may aid societies and churches in gaining a better understanding of a subject, which is often considered controversial.

Finally, there is a lesson for medicine: our eyes may become 'blurred' by digital possibilities and 'objective' investigations while missing essential 'subjective' data. Nowadays there is an increased focus of policymakers on standards and codes, manuals and protocols. This is indeed helpful in controlling and managing chronic diseases like diabetes or hypertension. But when taken too far there is a risk that it may lead to a 'thinning' of ethics to rules and procedures, ticking off boxes and cook-book medicine (see footnote 39).
The essence of medical practice, and pastoral care as well, remains to listen to patients carefully and to understand them in their context, a conviction which finds support in this study. It would be sensible to re-evaluate this essential basis of general medicine time and again. If not, as medical doctors we may otherwise increasingly look upon the patient as an 'object' instead of a 'subject'.

Future implications

HP is a largely understudied subject. Mutual barriers between science and religion may account for this. Brown found it very difficult to set up empirical investigations among Pentecostals in the USA because of reluctance and mistrust[41]. And in science a hierarchy in evidence-based medicine is counter effective, as was discussed.
Nevertheless, future studies will be relevant given the results of this study and the broad public interest in the subject. A horizontal epistemology is needed to investigate experiences, interpretations and medical data at the same time, and is in line with the multidimensionality of the subject. It was argued that models of case study research, combining medical evaluations and qualitative studies of experiences and interpretations, are most applicable. Subsequent analysis should best be transdisciplinary, including relevant insights from such disciplines as experiential knowledge, psychosociology, theology and medicine. It may even bring about a valuable dialogue between science and religion.

[41] Brown CG. Pentecostal Healing Prayer in an Age of Evidence-Based Medicine. *Transformation.* 2015; 32(1):1-16.

ADDENDUM

Summary

Healing after prayer, an interdisciplinary case study

Field of research

The study researched healing during or after prayer (HP) in a predominantly Christian context. By praying, believers ask a (supposed) God for healing from disease. Healing is here taken to indicate a significant improvement in signs and symptoms of the disease, resulting in restoration of health.

Medical and experiential findings relating to individual cases of HP were researched. The data found was analyzed and discussed using knowledge from the fields of medicine, theology, philosophy, and phenomenology.

Introduction

As a general medical practitioner I have been confronted with some remarkable recoveries in my practice, all related to prayer. The impressive recovery of one of these also caught the attention of some newspapers and television programs, sparking lively discussions on social media as well. HP apparently generated a lot of public interest despite secularization. While at the same time, the subject remains largely understudied. This PhD study is the result of the curiosity evoked by events in medical practice combined with the desire to better understand what was going on in the patients concerned.

Theoretical background

Praying is a highly personal, context-bound activity and the study of its possible effects on the course of illness and disease has remained controversial. From a medical point of view prayer cannot be seen as an intervention in the usual sense. Therefore standard methods of studying treatment effects, as in randomized controlled trials, do not apply to prayer.

In our research we opted for a retrospective study of medical data in multiple cases combined with qualitative research through in-depth interviews. Vandenbroucke, a clinical epidemiologist, advocated for such observational modes of research 'when trying to study events creating surprise and to find explanations', as is the case in HP. This strategy also permitted a context-bound approach. Barbour's typology of the science-religion debate was used as a basis for a transdisciplinary analysis of the results. He described the relationship between science and religion in terms of conflict, independence, dialogue and integration.

Aim, research questions and definitions

The aim of the research was to investigate HP reports and to search for alternative and valid frameworks to understand these healings, resulting in the following research questions.

1. What do we find when viewing reports of prayer healing against a background of medical and experiential data? Do we find medically remarkable and/or scientifically unexplained healings?
2. Which explanatory frameworks (multidisciplinary) can help us to understand the findings?

Definitions used:

- Prayer healing: the act of making an appeal to God for healing of a disease.

- Medically remarkable healing: a healing which is surprising and unexpected in the light of current clinical and medical knowledge and which has a remarkable (temporal) relationship with prayer.
- Scientifically unexplained healing: a healing which cannot be explained based on current clinical and medical knowledge.

The above paragraphs are further presented in the *general introduction*, **Chapter 1.**

An exploration of the field: medical literature, conferences and expert meetings
Chapter 2 explores the medical literature relevant to the subject. A considerable number of randomized controlled trials (RCT) have been conducted to test the efficacy of prayer in healing of diseases. A Cochrane review including ten such trials with a total of 7,646 patients showed inconclusive results. However, these studies turned out to have considerable methodical and conceptual difficulties.
Best evidence for unexplained cures in individual cases is from Lourdes and Rome, where reported healings are meticulously investigated, double checked and reviewed by established medical assessment committees. Global Medical Research Institute (GMRI) in the USA has adopted a similar procedure. Recently they published two HP cases in medical literature. Other HP related healings have been recorded by medical doctors in various publications and books, but without a set procedure and without confirmation by a group of medical colleagues. Additionally, frequent reports were found of emotional and physical manifestations during these healings, extrasensory perceptions and marked personality changes afterwards.
Additionally, valuable information was also obtained by visiting conferences and experts in the field. Together, the exploration and the visits provided us with valuable input when setting up our study: a case study design and qualitative interviews as outlined in *methodology* below.

Methodology
The research questions were investigated along several lines.
- Exploration of the medical literature, and expert meetings (see above)
- Case study research:

A research protocol was developed to facilitate a retrospective case-based study of prayer healing, without intervention by the researcher. Medical data was obtained before and after prayer. An independent medical assessment team was set up, consisting of five medical consultants representing different medical disciplines. They determined whether a healing could be considered as 'medically remarkable' or 'unexplained'. These medical evaluations were standardized, based upon criteria (Lambertini) and procedures which are used by the medical bureau of Lourdes pilgrimage site.
- The participants' experiences were studied by means of in-depth interviews in accordance with a qualitative research methodology.
- Transdisciplinary discussions:

Subsequently the medical findings and patients' experiences were interpreted in the context of transdisciplinary discussions including medical, biopsychosocial and theological perspectives. This methodology is elaborated more in detail in **Chapter 3**.

Results

In **Chapter 4** and **Chapter 5** the overall results are presented: 83 HP reports were received, of which 27 were selected for evaluation by the medical assessment team. In this group of 27 selected participants, 14 in-depth interviews were conducted. Eventually eleven cases were considered to be 'medically remarkable'. None of them was evaluated as being 'medically unexplained'. Diagnoses of the diseases in eleven 'medically remarkable' cases are listed below:

- Crohn's disease
- Acute leukemia (temporary healing)
- Chronic herpetic keratitis one eye with low vision
- Iatrogenic aortic dissection
- Psoriasis with chronic arthritis + ulcerative colitis
- Multiple sclerosis
- Anorexia nervosa
- Parkinson's disease (90% healing, partial relapse after 8-9 years)
- Drug induced hepatitis, complicated by Vanishing bile duct syndrome
- Multimorbidity: severe asthma, impaired hearing, inflammatory osteo-arthritis, incontinence
- Ulcerative colitis with debilitating diarrhea (40 times daily)

Apart from the above the most significant finding was the observation of a remarkable similarity between the experiences that accompanied the healings. This applied to all healings, whether they were evaluated as medically remarkable or not. A dominant pattern emerged, consisting of the following characteristics: instantaneity and unexpectedness of healing, strong physical and emotional manifestations, and a sense of 'being overwhelmed' or 'touched'. The healing was not experienced as a 'normal' cure, but as a transformative experience, interpreted as an act of God, involving the person-as-a-whole, a healing of 'body, mind and soul'. Orientation in life had often changed, with an increased focus on non-materialist aspects, such as benevolent activities.

These similarities between the healings were not related to the context (healing service, personal or liturgical prayers) or other prayer characteristics. The same set of phenomena appeared under widely varying circumstances.

The healings and positive socio-religious effects had persisted in a majority of cases when following up two and four years after enrolment in the study.

One of the healings, evaluated as medically remarkable, is presented as a case study in **chapter 6.** We present the case of a female patient, born in 1959, with Parkinson's disease who experienced instantaneous, nearly complete healing in 2012 after intercessory prayer. At that point the disease was at an advanced stage, rapidly progressive, with major debilitating symptoms. High doses of oral medication were required. Following this healing there was no recurrence of her former symptoms, while the remaining symptoms continued to improve. She regained all of her capacities at work, as well as in daily life. The medical assessment team described her recovery as 'remarkable.' The patient reported that she had always 'lived with God,' and that at one point when she had given up hope, 'life was given back to her.' This recovery did not make her immune to other illnesses and suffering, but it did strengthen her belief that God cares about human beings. This remarkable healing and its context astonished the patient, her family, and her doctors. Despite a partial relapse after 8-9 years the clinical

course was extraordinary, contradicting data from imaging studies, as well as the common understanding of this disease.

Another important finding was the repeated mismatch between 'subjective' and 'objective' data. Lasting healing experiences with gross functional improvements were found without changes in medical investigations such as scans, audiometry or coloscopy. This was not a pattern since matches were also observed, but still it was surprising. In **Chapter 7** three case histories of impaired hearing are presented with self-reported instantaneous healing after prayer. However, no measurable improvements were found in four different audiological testing methods. But in-depth interviews, hetero anamnesis and a validated questionnaire all confirmed the healings. These incongruities were not well understood, a paradox was noticed: the 'objective' measurements did not reflect hearing abilities in daily life where-as 'subjective' experiential data did. It questions evidence-based scientific approaches favoring 'objective' above 'subjective' data. Such hierarchies are counterproductive when trying to understand the participants.

The results of the qualitative part of the research are reflected in **Chapter 8**, with a thematic analysis of the in-depth interviews in 14 cases of possible remarkable recovery. In this chapter we demonstrate that where medical explanations cannot capture the experience, other epistemic discourses can be meaningful for patients as well as doctors to make sense of these healings. The medical discourse is broadened by discourses of life-story and spiritual development and a discourse of sensemaking related to healing. This indicates that for the participants the healing was much more than a repair of a bodily function, underscoring the necessity of a 'medicine of the whole person'. A multi-layered approach to the patient's history is needed to grasp the complexity of HP, whereby the medical history forms only part of the whole picture. The literature about positive effects of spirituality and beliefs on health is abundant, but often overlooked in medical literature. It is argued that future HP studies should be grounded in a horizontal epistemology, in which all kinds of knowledge involved are valued, whether medical, psychosocial or spiritual.

Theological reflection

A separate **Chapter 9** addresses the question whether theology has a 'vocabulary' for the healing experiences of the participants in our study. Two leads were found. Firstly, there is an analogy between the instantaneous and transformative multidimensional healing experiences we documented in our study and the healings which occurred widely during the ministry of Jesus Christ and with varying frequency throughout the history of the church. They seem to share the same characteristics, clearly different from 'common' healings that we usually see in medical practice.

Secondly, a reciprocal relationship between theology and practices enhances the vocabulary. Theological understandings are sharpened by practices, including the prayer healing experiences in this study. Conversely, theology can increase our understanding as it can articulate the experiences of the participants when they speak about their recoveries as a 'sign', a 'gift' or an 'act of God' (charism). It is worthwhile referring to the rich idiom of biblical and religious language. Words like grace, comfort, mercy, love, blessing, gift, gratefulness, being carried through, being lifted up and benevolence all show a movement and direction from old to new. This idiom refers to the relationship that is essential in this experience: God is the giver, the human being the recipient.

General discussion, concluding remarks

None of the healings were evaluated as unexplained. Unexplained cures were assessed elsewhere in rare instances. In Lourdes less than 1% of healing reports received were evaluated as unexplained, making it understandable why we did not find any. However, eleven healings were considered to be medically remarkable. In particular, there were several examples of sudden cures of serious chronic diseases when the best possible prognosis would be one of gradual regression.

In the general discussion, **Chapter 10**, an attempt is made to find explanatory frameworks that can help us understand our observations. Due to the nature of the results we were unable to fit the data into a biomedical model. Subsequently other perspectives were evaluated according to the principles of horizontal epistemology. There were similarities between what our participants said and what was found in the literature about 'transcendent healing experiences', 'inscription in the lived body' and a 'powerful touch'. These concepts from phenomenology and the psychology of religion refer to intense events, occurring momentarily and with profound effects on health and personality, and to models that transcend the usual mind-body duality. It was argued that theology has a vocabulary for these events with concepts such as grace, gift giving, act of God and communion. The same applies for the 'other layers' we came across in the intercultural debate (anthropology). When returning to Barbour's typology of the science-religion there are ample reasons for dialogue. Openness about an 'interface' or a 'porosity' between science and religion can help us move forward in our understanding of HP experiences.

There is a lesson for medicine here as well: our eyes may become 'blurred' by digital possibilities and 'objective' investigations while missing essential 'subjective' data. The essence of medical practice (as well as pastoral care) remains rooted in carefully listening to patients and understanding them in their context. In my opinion this is underlined by our study and it would certainly be sensible to re-evaluate this essential basis of general medicine time and again. If not, we may increasingly look upon the patient as an 'object' instead of a 'subject'.

Limitations

The major limitation relates to the group we studied: all participants experienced a healing which they related to prayer and they also decided to report the event. Their self-interpretation determined who was included in the research sample. This is a subgroup of those who pray for healing, therefore the results cannot be extrapolated to all people praying for healing. However, it was our aim to study individuals with positive outcomes and to learn from their medical data and experiences how healing after prayer can be understood.

We also realize that there can be negative experiences or downsides pertaining to HP as well. Prayer healing practices can be potentially damaging, e.g. if these practices interfere with medical treatment. They can also lead to negative psychological consequences if there is no cure and prospects about cure have been presented too favorably.

Samenvatting

Genezing na gebed, een interdisciplinair onderzoek

Onderzoeksgebied
Deze studie handelt over onderzoek naar individuele ervaringen van genezing tijdens of na een gebed. Hierbij gaat het om gebed, waarin gelovigen (een door hen veronderstelde) God om genezing van een ziekte vragen. Onder genezing wordt een zodanige verbetering van ziektesymptomen en verschijnselen verstaan, dat dit resulteert in herstel van gezondheid.
In deze groep zijn zowel de medische dossiers als ervaringsgegevens onderzocht, voor en na gebed. De bevindingen werden geanalyseerd en interdisciplinair besproken, met behulp van meerdere kennisvelden, waaronder de geneeskunde, theologie, filosofie en fenomenologie.

Inleiding
De onderzoeker werd in zijn hoedanigheid als praktijkhoudend huisarts geconfronteerd met enkele opmerkelijke genezingen na gebed. Eén daarvan kreeg uitgebreide media aandacht in kranten en op televisie, met levendige discussies in de sociale media daarna. Blijkbaar was er in het geseculariseerde Nederland toch veel belangstelling voor dit onderwerp. Desondanks bleek dat er maar heel weinig (medisch) onderzoek naar is gedaan. Al met al was de interesse meer dan gewekt: deze doctoraalstudie is het gevolg van nieuwsgierigheid naar aanleiding van de gebeurtenissen in de praktijk en de wens om beter te begrijpen wat er op dat soort momenten met patiënten gebeurt.

Theoretische achtergrond
Bidden is een zeer persoonlijke activiteit. Onderzoek naar de invloed daarvan op het beloop van ziekten is controversieel. Vanuit medisch oogpunt kan gebed niet gezien worden als een gebruikelijke medische interventie zoals medicijnen of een chirurgische ingreep dat zijn. Daarom is het gecompliceerd om gangbare onderzoeksmethoden toe te passen.
In deze studie is ervoor gekozen om de medische gegevens van een grotere groep mensen met een genezingservaring op een later moment te bestuderen (retrospectief) in combinatie met diepte-interviews naar de belevingen en gedachten daarbij (kwalitatief onderzoek). Vandenbroucke, een klinisch epidemioloog, pleitte voor zulk observationeel onderzoek als sprake is van gebeurtenissen, die de onderzoeker verrassen en wil proberen te begrijpen, zoals bij genezingservaringen tijdens of na gebed.
Voorts werd besloten de resultaten inter- en transdisciplinair te analyseren, waarbij Barbour's typologie over de relatie tussen wetenschap en religie als kader fungeerde. Hij beschreef de verhouding tussen de twee in termen van conflict, onafhankelijkheid, dialoog en integratie.

Doel, onderzoeksvragen en definities
Doel van het onderzoek is om de gegevens te onderzoeken van mensen, die zich hadden aangemeld met een genezingservaring rondom gebed, en om de bevindingen te begrijpen. Dat leidt tot twee onderzoeksvragen:

1. Wat zijn de medische bevindingen en de ervaringsgegevens? Komen we ook 'medisch opmerkelijke' en/of 'wetenschappelijk onverklaarde' genezingen tegen?
2. Welke verklarende (multidisciplinaire) perspectieven en modellen kunnen ons helpen om de bevindingen te begrijpen?

De volgende definities zijn gehanteerd:

- Gebed om genezing: een gebed aan God om herstel/genezing van een ziekte.
- Medisch opmerkelijke genezing: een verrassende en onverwachte genezing in het licht van de huidige medisch-klinische kennis van de ziekte, waarbij ook sprake is van een relatie (in de tijd) met gebed.
- Wetenschappelijk onverklaarde genezing: een genezing, die geheel niet verklaard kan worden op grond van de huidige klinische en medisch-wetenschappelijke kennis.

De alinea's hierboven zijn in het proefschrift verder uitgewerkt in **hoofdstuk 1**.

Een oriënterend onderzoek: medische literatuur, conferenties en gesprekken met deskundigen
In **hoofdstuk 2** wordt de medische literatuur verkend. Er zijn vrij veel gerandomiseerde onderzoeken verricht om het effect van gebed te testen op genezing van verschillende ziekten, zoals hartziekten, AIDS of reumatoïde artritis. In een overzichtsartikel (Cochrane review) werden de gegevens van 7646 deelnemers aan 10 van zulke onderzoeken bij elkaar gevoegd en beoordeeld. Met als conclusie dat geen duidelijk positief effect kon worden vastgesteld en ook geen duidelijk negatief effect. Inhoudelijk kwam er echter veel kritiek op dit soort onderzoek. Bovendien, kun je gebed testen zoals je een medicijn of een medische ingreep onderzoekt?
Aanwijzingen voor onverklaarde genezingen in individuele gevallen zijn er wel en zijn ook goed gedocumenteerd. Dat is vooral het geval in pelgrimsoord Lourdes in Frankrijk en in de Rooms Katholieke kerk in Rome, waar deze genezingen nauwkeuring worden onderzocht en gecontroleerd door medische beoordelingsgroepen. Daarbij wordt een protocol gebruikt met criteria om te beslissen wanneer wel en wanneer niet over een onverklaarde genezing kan worden gesproken. Sinds kort is er in de Verenigde Staten een vergelijkbare beoordelingsgroep (Global Medical Research Institute), die zich meer richt op charismatische groepen, zoals o.a. pinkstergemeenten. Zij hebben inmiddels twee bijzondere genezingen in medisch wetenschappelijke tijdschriften gepubliceerd. Verder zijn er van de hand van artsen in boeken en andere artikelen vrij veel beschrijvingen verschenen van bijzondere genezingen na gebed, maar zonder dat sprake was van een procedure of bevestiging binnen een medische onderzoeksgroep zoals hierboven.
In samenhang met de genezingen worden vaak begeleidende emotionele en fysieke verschijnselen genoemd, zoals een golf van warmte door het lichaam of een 'aanraking' op de plaats van de ziekte. Ook zijn persoonlijkheidsveranderingen en sporadisch buitenzintuiglijke waarnemingen beschreven.
Het bezoeken van conferenties en gesprekken met deskundigen leverde naast de literatuur waardevolle informatie op. Dat alles droeg in belangrijke mate bij aan de opzet van een goed gefundeerde studie, waarover hieronder meer.

Methodologie
De onderzoeksmethode is uitgewerkt in **hoofdstuk 3,** waarbij de onderzoeksvragen langs verschillende lijnen werden onderzocht:

- Onderzoek van bronnen, met name medische literatuur.
- Onderzoek van individuele genezingservaringen (case study):

Er werd een schema (protocol) ontwikkeld om genezingen na gebed te kunnen onderzoeken. Mensen met een genezingservaring konden zich aanmelden, waarbij de medische gegevens voor en na het gebed werden verzameld. Een beoordelingsteam, bestaande uit medisch

specialisten uit verschillende vakgebieden, evalueerde de gegevens en kon besluiten dat een genezing 'medisch opmerkelijk' of 'onverklaard' is. Uitgangspunt waren criteria (Lambertini) en procedures, zoals die ook worden gehanteerd door het medisch bureau in Lourdes.

- De begeleidende ervaringen en verdere gegevens werden bestudeerd door middel van diepte-interviews, gebruikmakend van een zogenaamde kwalitatieve onderzoeksmethodiek.
- Inter- en transdisciplinaire discussies:

De medische bevindingen en de gegevens van het ervaringsonderzoek werden vervolgens uitvoerig besproken in het onderzoeksteam: hoe kunnen we dit begrijpen? Daarbij was er ruimte voor medische, bio-psychosociale en theologische invalshoeken.

Resultaten

In **hoofdstuk 4** en **hoofdstuk 5** worden de resultaten gepresenteerd: in totaal werden 83 aanmeldingen ontvangen van mensen met een genezingservaring na gebed, waarbij de gemelde aandoeningen vrij evenredig over het hele spectrum van ziekten waren verdeeld (zie tabel 5 en figuur 1 in hoofdstuk 5). Van de 83 aanmeldingen werden er 27 geselecteerd voor evaluatie door het medisch beoordelingsteam en uit die groep kregen 14 mensen een diepte-interview. Uiteindelijk werden 11 genezingen 'medisch opmerkelijk' bevonden en geen enkele als 'onverklaard'. Hieronder volgen de diagnosen van de ziekten, waarvan het herstel als 'medisch opmerkelijk' werd beschouwd:

- Ziekte van Crohn.
- Acute Leukemie (tijdelijke genezing).
- Chronische herpes keratitis (ontsteking hoornvlies) van één oog met slecht zicht. Stond gepland voor een 2^{e} hoornvliestransplantatie.
- Psoriasis huid met artritis (gewrichtsontsteking) en colitis ulcerosa (darmontsteking).
- Multipele Sclerose.
- Anorexia Nervosa.
- Aortadissectie (scheur in de wand van de grote buikslagader, waardoor er onvoldoende bloed naar de benen stroomt).
- Ziekte van Parkinson (90% genezing, na 8-9 jaar gedeeltelijke terugkeer van klachten)
- Hepatitis (leverontsteking) door medicijnen met dreigend falen van de lever.
- Meerdere ziekten tegelijk: astma, gehoorstoornis, artrose gewrichten, incontinentie.
- Colitis ulcerosa (chronische ontsteking dikke darm), stond gepland voor chirurgische verwijdering van de hele dikke darm.

Een tweede in het oog springende bevinding is de overeenkomst tussen de ervaringen, ook als de genezing niet als 'medisch opmerkelijk' was beoordeeld. Er was daarbij sprake van een patroon in een meerderheid van de 83 aanmeldingen met de volgende kenmerken: de genezing gebeurde instantaan (plotseling) en was meestal onverwacht, met vaak op hetzelfde moment fysieke en emotionele verschijnselen. Men had het gevoel te worden 'overrompeld' of te worden 'aangeraakt'. Geen 'gewone' genezing van een ziekte, maar eerder een transformerende ervaring, die de hele mens omvat en regelmatig werd omschreven als een genezing naar 'geest, ziel en lichaam'. De genezingservaringen hadden ook vaak persoonlijkheidsveranderingen tot gevolg, met een andere oriëntatie in het leven, minder gericht op materiele waarden.

De overeenkomsten tussen de genezingservaringen hielden geen verband met de context waarin het gebed plaatsvond: het hierboven beschreven patroon kwam niet alleen voor tijdens speciale gebedsdiensten, maar in veel gevallen ook na andere vormen van gebed: persoonlijk, in een groep of kerk of tijdens een liturgie. Hetzelfde werd dus waargenomen onder geheel verschillende omstandigheden.
Bij vervolgonderzoeken na twee en vier jaar was sprake van aanhouden van genezing en positieve sociaal godsdienstige effecten bij een ruime meerderheid van de deelnemers, in enkele gevallen was sprake van terugkeer van een ziekte of negatieve effecten.

Eén van de 'medisch opmerkelijke' genezingen is verder uitgewerkt en beschreven in **hoofdstuk 6**. Het betreft een vrouw, geboren in 1959, met de ziekte van Parkinson. Zij was ernstig geïnvalideerd, de ziekte schreed snel voort en zij bereidde zich voor op een naderend afscheid. Tijdens een Paasdienst werd voor haar gebeden, waarbij zij het gevoel had dat een 'netje uit haar hoofd werd verwijderd'. Zij sprong op uit haar rolstoel, alle klachten waren vrijwel volledig en opeens verdwenen, terwijl resterende symptomen in de periode daarna nog verder verbeterden. Werk en taken thuis konden weer voor de volle 100% worden opgepakt. Zij vertelde dat 'het leven aan haar was teruggegeven' op een moment dat ze de hoop had verloren. Dit maakte haar echter niet immuun voor andere ziekten en lijden, maar sterkte haar wel in een besef 'dat God om mensen geeft'. Het herstel was onverwacht en had haarzelf, haar familie en de behandelend neuroloog verbaasd. Ondanks een gedeeltelijke terugkeer van klachten ruim 8 jaar later werd het herstel door het medisch beoordelingsteam beschouwd als 'medisch opmerkelijk': het klinische beloop was uitzonderlijk en niet gebruikelijk op grond van kennis van de ziekte.

Een andere opvallende bevinding is dat er herhaalde mismatches (discrepanties) waren tussen 'subjectieve' en 'objectieve' gegevens. Bij meerdere deelnemers werd blijvend en indrukwekkend functioneel herstel van een aandoening waargenomen zonder veranderingen in corresponderende onderzoeken zoals scans, audiometrie of darmonderzoek. Dit is geen vast patroon, want in andere gevallen zagen we weer wel verbeteringen in dat soort onderzoeken. **Hoofdstuk 7** presenteert de gegevens van 3 deelnemers, die zich hadden aangemeld met herstel van een gehoorstoornis na gebed. Bij alle drie werden tot hun eigen verbazing geen duidelijke verbeteringen gezien in vier verschillende soorten audiometrisch onderzoek. Daarentegen werden de genezingen wel bevestigd in gegevens uit de hetero-anamnese, het diepte-interview en een gevalideerde vragenlijst voor gehoorproblemen. In de hetero-anamnese bijvoorbeeld werd navraag gedaan bij huisgenoten, familie en vrienden. Zij hadden het betere functioneren van het gehoor waargenomen aan tafel, in de woning of bij het beluisteren van muziek. Er lijkt dus sprake van een paradox: de 'subjectieve' gegevens geven het functioneren van het gehoor beter weer dan de 'objectieve' gegevens. Dat is verrassend, want in gangbare benaderingen wordt vaak een hiërarchie verondersteld tussen 'objectief' meetbare gegevens en de eigen 'subjectieve' ervaringen. Zo'n benadering helpt ons echter niet als we willen begrijpen wat er bij de drie deelnemers gebeurt. Is die hiërarchie dan wel terecht?

Diepte-interviews werden gehouden bij 14 deelnemers, als het medisch beoordelingsteam dacht aan de mogelijkheid van een 'medisch opmerkelijke' of 'onverklaarde' genezing. Dit kwalitatieve deel van het onderzoek wordt in **hoofdstuk 8** besproken aan de hand van een thematische analyse van de interviews. Op grond van die analyse wordt geconcludeerd dat

medische verklaringen niet toereikend zijn om de genezingservaringen te begrijpen. Persoonlijke kenmerken blijken ook belangrijk, zoals het eigen levensverhaal en de geestelijke ontwikkeling die iemand doormaakt, en hoe een plotse genezing als sterke ervaring daarop ingrijpt. Concreet betekent dit voor de deelnemers aan de interviews dat het bij hun herstel niet gaat om de reparatie van een onderdeel van het lichaam, maar om een 'geneeskunde van de hele mens'. Om de genezingservaringen te kunnen plaatsen, is een veelzijdige benadering nodig en het besef dat een mate van onzekerheid in ons kennen daar onderdeel van is. Ten onrechte wordt vaak voorbijgegaan aan de uitgebreide literatuur over positieve effecten van spiritualiteit en religie. Daarom wordt gepleit voor een zogenaamde 'horizontale epistemologie' als basis voor toekomstig onderzoek naar genezingservaringen na gebed. In zo'n epistemologie (kennisleer) is ruimte voor verschillende kennisbronnen op onderling gelijkwaardig niveau.

Theologische reflectie
In een apart **hoofdstuk 9** wordt de vraag besproken of theologie woorden heeft voor de genezingservaringen van de deelnemers. Daarbij zijn twee aanknopingspunten het vermelden waard. Allereerst is er een opvallende gelijkenis tussen de beschrijvingen in dit onderzoek en genezingsverhalen in de Bijbel en in de geschiedenis van de kerk. Tijdens het leven van Jezus, in boeken van kerkvader Augustinus, in Lourdes en heden ten dage ook tijdens charismatische diensten keert steeds ditzelfde patroon terug van instantane genezingen met effecten op de hele mens naar 'geest, ziel en lichaam'. Deze verschillen van 'gewone' genezingen, zoals we die gewoonlijk in de medische praktijk zien.
Ten tweede zou een wederkerige relatie tussen theologie en de praktijk ons kunnen helpen. Enerzijds kan theologie worden aangescherpt door de praktijk, zoals de genezingservaringen in dit onderzoek. Anderzijds kan het die ervaringen ook helpen verwoorden aan de hand van Bijbelse begrippen en religieuze taal. Zo behoren woorden als 'teken', 'gift' en 'handelen van God' (charisma) tot die taal en sluiten daarmee zeker aan bij de ervaring en de gedachte van de deelnemers. Andere begrippen zoals gunst, troost, genade, liefde, barmhartigheid, zegen, gedragen worden, opgetild worden, weldadigheid horen tot diezelfde woordenschat en duiden op een beweging naar iets nieuws, waarbij God de gever is en de mens ontvanger.
Wel moet worden benadrukt dat dit geldt voor de beleving van veel deelnemers en niet voor situaties buiten dit onderzoek.

Slotbeschouwing en conclusies
Geen van de genezingen werd uiteindelijk beoordeeld als 'onverklaard'. Buiten dit onderzoek is dat elders wel gebeurd, maar slechts zelden. In Lourdes gaat het dan om minder dan 1% van de aanmeldingen bij het medisch bureau. Daar zijn sinds 1883 in totaal 70 genezingen 'onverklaard' bevonden.
Wel werden 11 genezingen beschouwd als 'medisch opmerkelijk'. Het ging daarbij meestal om plots herstel van ernstige chronische ziekten, waarbij in het beste geval hooguit sprake zou kunnen zijn van een geleidelijk herstel.
In de slotbeschouwing in **hoofdstuk 10** wordt geprobeerd om verklarende modellen te vinden voor onze bevindingen. Zoals al gezegd past het niet bij een puur biomedisch model. Horizontale epistemologie (kennisleer, ook al genoemd) kan hier behulpzaam zijn, omdat het de ruimte biedt om andere invalshoeken op gelijkwaardige wijze bij de beschouwing te betrekken. Zo zijn er overeenkomsten tussen de bevindingen en wat in de literatuur gezegd wordt over 'transcendente ervaringen', 'inscriptie (ingravering) in het geleefde lichaam' en

'krachtige aanraking' (powerful touch). Deze begrippen verwijzen naar plotse en intense gebeurtenissen met effecten op gezondheid en persoonlijkheid, en hebben gemeenschappelijk dat ze scheiding tussen geest en lichaam bekritiseren of geheel afwijzen. Verder is in de vorige paragraaf al besproken dat ook binnen religie en theologie woorden zijn te vinden, die aan de ervaring van de deelnemers recht doen en niet tot het biomedisch jargon behoren. Hetzelfde geldt voor het bredere ziektebegrip in andere culturen (antropologie). Al met al zijn er meer dan voldoende redenen om in het debat tussen wetenschap en religie volgens de typologie van Barbour te kiezen voor het spoor van de dialoog. Zorgvuldig luisteren naar de narratieven (verhalen) van de deelnemers hoort daarbij uitgangspunt te zijn en geplaatst te worden naast de medische bevindingen. Deze narratieven en die uit (vaak eeuwenoude) religieuze bronnen verwijzen naar een breder transcendent perspectief, een andere taal en een andere realiteit. Zonder de vaste grond van medische kennis te verlaten zouden we niet moeten aarzelen om die bredere perspectieven te onderzoeken. In dat geval zou de grens tussen de wereld van 'empirische data' en de wereld van 'bredere perspectieven' poreuzer zijn dan tot dusverre verondersteld. Zo zouden we op dat grensvlak tussen wetenschap en religie de genezingservaringen van de deelnemers ook beter kunnen begrijpen. Vervolgonderzoeken kunnen bijdragen aan ons verdere begrip, temeer daar het onderwerp in wetenschappelijke en interdisciplinaire zin maar heel weinig is bestudeerd.
Tenslotte lijkt er in de bevindingen ook een les voor de geneeskunde te schuilen: een eenzijdige nadruk op digitale mogelijkheden en 'objectieve' data kan het zicht ontnemen op belangrijke 'subjectieve' gegevens. De kern van de medische praktijk (en van pastorale zorg) blijft echter het zorgvuldig luisteren naar patiënten en proberen hen binnen hun eigen context te begrijpen. Die constatering vindt een bevestiging in deze studie en regelmatige reflectie op deze basis van de geneeskunde blijft daarom nodig. Zo niet, dan lopen we zeker in een technologische tijd het gevaar de patiënt toenemend als 'object' te zien in plaats van 'subject'.

Beperkingen van het onderzoek
De belangrijkste beperking hangt samen met de onderzoeksgroep: alle deelnemers hadden een genezingservaring na gebed gehad en besloten zich aan te melden voor dit onderzoek. De eigen beoordeling van de situatie bepaalde dus of ze wel of niet zouden deelnemen. Daarmee is dit een geselecteerde groep en kunnen de uitkomsten ook niet worden doorgetrokken naar alle mensen, die bidden om genezing. Dat laatste was ook niet het doel, wel om een groep met positieve uitkomsten te bestuderen.
Tenslotte moet worden opgemerkt dat gebed om genezing ook negatieve ervaringen en zelfs grote schade kan veroorzaken, zeker als mensen daardoor afzien van een belangrijke medische behandeling. Negatieve psychologische gevolgen kunnen er zijn als er geen herstel is en het vooruitzicht op genezing te gunstig was voorgesteld.
Tenslotte waren er in dit onderzoek enkele deelnemers, die opnieuw klachten kregen, met soms negatieve psychosociale gevolgen. Alhoewel dat buiten het bestek van dit onderzoek valt, verdient deze groep aandacht. Ook hier zou verder onderzoek kunnen helpen, zodat uiteindelijk een evenwichtig beeld ontstaat van het onderwerp 'genezing na gebed'.

About the author

On the 1st of April 1958, Dick Kruijthoff was delivered by the local general practitioner (huisarts) in Strijen, the Netherlands. He grew up in the same village, around 30 km south of Rotterdam. Secondary school was attended at the Rijksscholengemeenschap (RSG) Oud-Beijerland, where the VWO examinations were passed in 1976.
He married his wife in Strijen as well, in 1982. Together they have lived in Bleskensgraaf since 1992, a typical Dutch village with mills and green meadows. Four children were raised in Bleskensgraaf.

The chronological course of his medical profession is listed below:

- 1976 – 1983: Training and graduation as Medical Doctor (MD) at the Medical Faculty, Erasmus University Rotterdam.
- 1983 – 1984: Course in Tropical Medicine at the Institute of Tropical Medicine, Antwerp, Belgium.
- 1984 – 1985: Work in a rural hospital in South Africa.
- 1986 – 1987: Specialization in Family Medicine (huisarts, general practice), Erasmus University Rotterdam.
- 1987 – 1990: Work in mission hospitals in Botswana and Kenya.
- 1991 – 2021: General practitioner in family practice, Bleskensgraaf, the Netherlands.
- 2007: A remarkable cure of a woman in his practice.
- 2008 – 2010: Extended degree in Medicine for elderly people at Leiden University Medical Centre.
- 2010 – 2023: PhD research 'healing after prayer, an interdisciplinary case study' at VU University Amsterdam (faculty of Theology) in affiliation with the Amsterdam University Medical Centre, location VUmc (faculty of Medicine, department of humanities).
- 2022 until now: parttime work as a general practitioner on different locations.

Medical work in Africa and in general family practice were the major ongoing occupations. It was a privilege to work in Africa for about 5 years, as it gave an opportunity to see and to experience African cultures intensively, with an entirely different understanding of 'health and sickness' and of 'the visible and the invisible world'. At the same time, it was an opportunity as well to help out where it was most needed.
Back in the Netherlands, it was also a privilege to work in a rural practice including home deliveries and basic traumatology as part of the work. And there was this important dimension of continuity in family practice. Illnesses are observed at regular intervals and patients relating to these illnesses as well. It was a surprise to see the changes, which occurred in a few patients experiencing a healing after prayer. Such a remarkable recovery in 2007 led to this PhD study. A study which was not envisaged, but all the more challenging and inspiring.

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belangrijke momenten richtinggevend was, vooral bij de vertaalslag van gegevens naar analyse en gevolgtrekking. En soms ook praktisch, bijvoorbeeld toen je het boek *Testing Prayer* van Candy Brown meenam uit de Verenigde Staten. Dat boek heb ik 'verzwolgen', omdat het vanwege haar onderzoek veel inzicht bood in charismatische kringen. In het boek Spreuken lees ik meerdere malen over het belang van wijsheid, die dimensie heb je m.i. zeker ingebracht!
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Jan-Marcel Vellinga deed als medisch student uit Utrecht gedurende ruim 4 maanden mee aan het onderzoek, in 2 afzonderlijke co-schappen in 2019 en 2021. Beide keren rondde hij een follow-up onderzoek af door na te gaan hoe het met de deelnemers ging. Hij had daarom met veel van hen persoonlijk contact en maakte verslagjes van die gesprekken. In korte tijd verrichtte hij een indrukwekkende hoeveelheid werk. Beste Jan-Marcel, bijzonder veel dank daarvoor, je bijdrage was belangrijk en nu onderdeel van het proefschrift. De studie theologie in het verleden was van meerwaarde in de contacten met de deelnemers, die veelzijdigheid hielp bij het begrijpen van de mensen. Toen ik mijn echtgenote vertelde dat je ook voorstellingen geeft als buikspreker was zij zeker verbaasd, maar het onderstreept wel je veelzijdigheid.
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The visit to the pilgrimage site of Lourdes in France has been very helpful in setting up a protocol of medical evaluation for our assessment team. The longstanding experience at the Bureau des Constatations Médicales since 1883 includes a vigorous process of judgment. Dr. Alessandro de Franciscis, MD, who is heading the medical bureau, introduced me to their procedures. Dear Alessandro, thank you for your kind reception. Your information has been of major importance for the methodology of our study! Subsequently, I was assisted at the bureau for some days to read medical files and reports. Merci beaucoup pour votre bonne aide.
In Germany, I was aided by Dr. Med. Rolf Theiss, who is a member of the International Medical Committee of Lourdes (CMIL), when visiting a participant in our study. Rolf, recht vielen Dank für Ihren herzlichen Empfang, auch an ihre Frau, und Hilfe mit der medizinische Akte.

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In the USA, I managed to visit Candy G. Brown, who is a Professor of Religious Studies at Indiana University in Bloomington. Her book *Testing Prayer* and the visit were very helpful in guiding me through the scientific research she did on prayer and healing, as well as introducing me into healing practices in Charismatic and Pentecostal services in different parts of the world. Since then, there have been regular contacts, also with her husband Joshua W. Brown, who is a Professor in Psychological and Brain Sciences at the same University. Joshua participates in Global Medical Research Institute, publishing unexplained healings after prayer in peer reviewed medical journals. He introduced me to others who are active in GMRI, and to Dr. Craig Keener, a Professor in Theology at Asbury Seminary. These contacts were all helpful to broaden my horizons in the field.
Dear Candy and Joshua, thank you very much for your valuable help at multiple moments throughout the study! Driven by personal experiences, we have a common understanding that there should be more and vigorous scientific research relating to prayer and healing, by using appropriate methodologies. It may bring about new insights in a subject which is largely under-investigated.

In de loop van de studie zijn veel cursussen en conferenties bezocht, teveel om op te noemen. Wel noem ik de terugkerende jaarlijkse PhD dagen van de faculteit theologie, steeds mooie momenten om als medicus mijn onderzoek af te stemmen met theologen. Dank voor die mogelijkheid!
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