

SWISS INTERNATIONAL COLLEGE OF OSTEOPATHY

A COMPARATIVE STUDY OF THE HEART AS A FULCRUM IN
RELATION TO THE CENTRAL CHAIN AND THE ANCIENT WISDOM OF
THE PERUVIAN HEALERS

by
DANIELA FRIESECKE

MAY 2019
RESEARCH THESIS
PRESENTED BEFORE A JURY

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RESEARCH ADVISOR

Nadia Todoroff D.O.

RESEARCH QUESTION

What is the relation between the heart as a fulcrum in the concept of the central chain in osteopathy and the heart in the ancient wisdom of the Peruvian healers/*curanderos*?

SUBQUESTIONS:

1a) What is the concept of the central chain in osteopathy? What is the importance of the heart as a main fulcrum within the concept of the central chain and osteopathic treatment?

1b) What is healing in the ancient tradition of the Peruvian Natural Healers'? What is their understanding of the significance of the heart?

ABSTRACT

Osteopathy's founder, A.T. Still, lived several years with the Shawnee Indians. He not only became acquainted with their traditions but also learned their healing methods and incorporated them in his own thinking. His basic understanding of human nature included its connection with nature and the creating forces, ideas common to native-American thinking. Based on these roots, he developed osteopathy in line with a holistic concept of man, where body, mind and spirit are part of the whole. A similar perspective prevails among the native people of Peru, who still live according to ancient traditions and regard natural healing as a sacred process. Osteopathy's holistic foundation and the Peruvian healing tradition have significant similarities, which were the incentive for this research.

The aim of this qualitative research study was to analyse the significance of the heart on different levels of perception and knowledge, especially concerning the importance of the heart within the concept of the central chain for osteopathy and to compare it with the ancient wisdom of the Peruvian healing tradition.

Method: An analysis of osteopathic literature was performed, highlighting the functions and the connections of the heart and the pericardium on different levels of the body by different authors. The information obtained was compared with literature from other scientific fields, exploring and comparing the different aspects of medicine: anatomy, embryology, neurology, osteopathy, and Western humanistic and Peruvian literature to find overlaps and discrepancies and their relevance for osteopathic thinking, training and healing. In addition to the review of literature, 13 osteopaths from different countries who each had more than 10 years' experience and seven authentic Peruvian healers from different Peruvian regions were interviewed using problem-centered interviews. The latter were contacted through personal visits and direct interaction to learn and acknowledge their wisdom, to gain deeper insight, and to add validity and authenticity to the research.

Results: Both osteopaths and traditional Peruvian healers recognize the physiological function of the heart supplying the whole body with blood and oxygen. On that level, osteopaths are more concerned with the heart's autonomy and its relation to the tissues and fascia in itself and its neighbouring structures. Both osteopaths and Peruvian healers regard the heart as the center of the body, of life and of positive feelings, like love and compassion, and both see it as the center of the person himself. For traditional healers, it has even more pronounced spiritual aspects, such as the bridge between man and nature as well as between man and divinity. Osteopaths and Peruvian healers both recognize the heart as an energy center and see its holistic function in the personality of an individual.

An underlying idea of structural continuity of body and mind exists in osteopathic thinking, which became clear through the interviews with the osteopathic experts concerning traditional osteopathic treatment. The concept of the central chain with the heart as a main fulcrum could add structure to this idea and by that incorporate some of the wisdom of traditional healers who indeed profit from the experience of generations and their spiritual knowledge.

Conclusion: This study therefore shows an intensive and inspiring correlation of osteopathic treatment and Andean healing, which could further serve the osteopathic community to deepen the understanding of the holistic significance of the heart in relation to the person and thereby better help osteopathic patients.

Keywords: heart, continuity of the body, central chain, Andean healing, spirit, holism, holistic treatment, Peruvian culture, osteopathic treatment, central organisation, midline.

RÉSUMÉ

Le fondateur de l'ostéopathie, A.T. Still, vécu plusieurs années avec les Indiens Shawnee. Il a non seulement pris connaissance de leurs traditions, mais a également appris leurs méthodes de guérison et les a incorporées dans sa propre pensée. Sa compréhension de base de la nature humaine comprenait sa connexion avec la nature et les forces créatrices, idées communes à la pensée amérindienne. Basé sur ces racines, il a développé l'ostéopathie avec un concept holistique de l'homme, du corps, de l'esprit et de l'esprit faisant partie de l'ensemble. Une perspective tout à fait similaire prévaut parmi les peuples indigènes du Pérou, qui vivent selon leurs anciennes traditions et considèrent leur guérison naturelle comme un processus sacré. Il existe un lien important entre les racines de l'ostéopathie et l'approche holistique des hommes et la tradition de guérison péruvienne. C'était l'incitation pour cette recherche.

Le but de cette recherche qualitative était d'analyser la signification du cœur à différents niveaux. Il était particulièrement préoccupé par l'importance du cœur dans le concept de la chaîne centrale de l'ostéopathie, et de le comparer avec la sagesse antique de la tradition curative péruvienne.

Méthode: Une analyse de la littérature de l'Ostéopathie a été réalisée, mettant en évidence les fonctions et les connexions du cœur et du péricarde à différents niveaux du corps par différents auteurs. Les informations obtenues ont été comparées à d'autres domaines scientifiques, explorant et comparant les différents aspects de la médecine: anatomie, embryologie, neurologie, ostéopathie, et littérature occidentale humaniste et péruvienne pour trouver des chevauchements et des divergences et leur pertinence pour la pensée ostéopathique, l'entraînement et la guérison. En plus de la revue de la littérature 13 ostéopathes de différents pays, qui avaient chacun plus de 10 ans d'expérience et sept authentiques guérisseurs péruviens, de différentes régions péruviennes ont été interviewés en utilisant des entretiens semi-structurés. Ces derniers ont été contactés par des visites personnelles et des interactions directes pour apprendre et reconnaître leur sagesse, acquérir une vision plus profonde, et ajouter la validité et l'authenticité de la recherche.

Résultats: Les ostéopathes et les guérisseurs péruviens traditionnels reconnaissent la fonction physiologique du cœur qui alimente tout le corps en sang et en oxygène. A ce niveau, les ostéopathes s'intéressent davantage à son autonomie et à sa relation avec les tissus et les fascias en soi et dans les structures voisines. Les deux voient le cœur plus ou moins comme le centre du corps, de la vie et de la plupart des émotions positives, comme l'amour et la compassion et les deux le voient comme le centre de la personne elle-même. Pour les guérisseurs traditionnels, le cœur a des aspects spirituels encore plus prononcés, car il est considéré comme le pont entre l'homme et la nature et comme un lien entre l'homme et la divinité. Les deux reconnaissent le cœur comme le centre de l'énergie et voient sa fonction la personnalité d'un individu.

Dans la pensée ostéopathique, il y a une idée sous-jacente de la continuité structurelle du c et de l'esprit, qui est devenue évidente à travers les entretiens avec les experts. Le concept de la chaîne centrale avec le cœur comme pivot principal pourrait ajouter une structure à ces idées et incorporer une partie de la sagesse des guérisseurs traditionnels qui profitent en effet de

l'expérience des générations et de la connaissance spirituelle qui manque souvent dans les sociétés occidentales.

Conclusion: Cette étude montre donc une corrélation intense et inspirante du traitement ostéopathique et de la guérison péruvienne, qui pourrait servir davantage la communauté ostéopathique pour approfondir leur compréhension pour aider leurs patients.

Mots-clés: cœur, continuité du corps, chaîne centrale, guérison péruvienne, esprit, holisme, traitement holistique, culture péruvienne, traitement ostéopathique.

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INTRODUCTION

1. INTRODUCTION

1.1. Introduction

During the osteopathic studies at the Deutsches Osteopathie Kolleg (DOK), affiliated with the Collège d'Études Ostéopathiques (CEO), great emphasis and care is put on the anatomy, physiology, and treatment of the heart (Druelle, 2013), and its connection to the central chain as a central fulcrum (Druelle, 2000). The relevance it appears to have in osteopathic treatment to address the whole person and to connect with the heart energy inspired the researcher to explore more on the significance of the heart and the central chain. Looking for essential information, it became clear that few people, Maier (2016), Druelle (2013) and some others, had explored the heart in relation to the central chain in Osteopathy, and not much literature was found, therefore further investigation seemed necessary.

Taking part in a humanitarian mission in Arequipa Peru in 2015, the researcher came into contact with locals and also with traditional Peruvian healers. An essential aspect of Peruvian healing is their holistic view of men and their connection and trust in nature (Dunn, 2016). Diane Dunn is a master of the Andean healing tradition and the author of various books, like *Cusco- The gateway to inner Wisdom*. Realizing that the traditional healing concepts were somehow similar to osteopathy's, inspired the researcher to get to know more about traditional Peruvian healing, and became a student in the Andean healing path, with a local healer.

Having read the *Autobiography of A. T. Still* and *From the dry bone to the living man*, a biography of Still by John Lewis, there seemed to be a link between the fundamental osteopathic principles and traditional Peruvian healing as experienced in the Andes. The

possibility of this link was the spark to explore further and to establish the heart and its connection to the central chain as a comparative element and define a research method. The chosen method was a qualitative approach with in-depth expert interviews. The aim of qualitative research is to draw attention to the meaning of phenomena rather than the frequency of phenomena (Crabtree and Miller, 1999).

This chapter will outline the *Research Questions* and also the *Justification* and an *overview* will be discussed.

1.2. Research Questions

In June 2012, the researcher had the great honor to spend a whole day with Dr. Frymann in her osteopathic Center for Children in San Diego, CA, assisting her with her patients, observing her work, and attending the conversations with the parents of her young patients. Between patient visits, Dr. Frymann admitted to learning something new every day, which was very intimate and inspiring and a driving force for this study. In the course of this research new ideas, inspirations, and information were constantly acquired, while reading references, talking to osteopaths as well as Peruvian healers, and so at one point it was necessary to set up the research methodology and the research questions. “To learn something new every day” was the leading quote for this venture of research.

A qualitative method was chosen since professions which are based on philosophical foundations and which have traditionally emphasised holism, patient-centeredness, and a wellness model of care, fare better by applying qualitative studies with the sociocultural and interpretative approaches (Bloomberg and Volpe, 2012). This qualitative research design utilizes a thorough review of historic and contemporary literature in the osteopathic, medical,

philosophical, Peruvian field relating to the concept of the central chain and the significance of the heart, to ascertain their roles in osteopathic treatment, and also analyses data collected from interviews and personal experience.

There is a great necessity to gain more knowledge and understanding of the different functions and dynamics of the heart on different levels to further improve the osteopathic treatment. In traditional healings as in the Peruvian Andes, they consider the heart with its holistic significance and its deep connection with nature and creation, on a physical and spiritual level. (Dunn, 2016). A. T. Still was taught by the Native Americans, and throughout his life he was close to nature and the Creator (Lewis, 2012). In this research it is the goal to connect the roots of Osteopathy to the ancient wisdom of the healing tradition of Peru, with the main aspect on the awareness of the heart.

The aim of this qualitative study is to demonstrate the significance of the heart in relation to the central chain within a holistic view of nature and man, and also the significance of the heart in the Ancient Peruvian Healing Tradition.

The guiding questions for this research are:

1. What is the concept of the central chain in osteopathy? What is the importance of the heart as a main fulcrum within the concept of the central chain and osteopathic treatment?
2. What is the healing in the ancient tradition of the Peruvian Natural Healers? What is their understanding of the significance of the heart?

Relating to Rollin Becker, nowadays osteopathy has developed more as a discipline of physical medicine (osteopathic manipulative treatment), lacking the spiritual awareness that its founder not only possessed, but clearly expounded. Becker says, “Dr. Still was closer to his Maker than mere material breathing in his development of the science of osteopathy; he was guided by a Spiritual Fulcrum” (Becker, 2001, p. 24). If practitioners are to understand osteopathy, they must incorporate the spiritual background as intended and developed by its founder, Dr. Still. (Becker, 2001)

To understand osteopathy as it was practiced in Still's era and today, it is important to go back to its roots, where we find the heart as one of the main elements to which Still attributed wholeness. The heart is the “center and source of an intelligence that constructs each division of the body... Is it the source of constructive wisdom? Is wisdom an attribute of the heart?” (Still, 1904, p. 347). This concept of the heart as a central life force seems to extend to giving the heart significance in osteopathic treatment. To find out if the heart plays a central role in other spiritually guided concepts of treatment, the Andean healing culture was taken into account. Why is this connection interesting and rational? The beginnings of osteopathy, its spirit and its philosophy are deeply connected to A.T. Still's experience during his time living with the Shawnee Indians (Lewis, 2012) a naturalistic nation with its culture and tradition quite similar to Andean natives, as experienced by Hans-Martin Beck, a German natural healer, who learned from the Q'ero, is a leading master of the Andean tradition and also the author of historical books about the spiritual knowledge of the Inkas, and an internet site: www.inka-world.com (Beck, 2016). Still exclaimed: “That God or nature is the only doctor whom man should respect. So wise a God had certainly placed the remedy within the material house in which the spirit of life dwells” (Still, 1908, p.88-89).

What do osteopaths perceive when they treat the heart? What is the connection to the concept of the central chain? The Andean healers consider the heart as pure emotion, a place of divine intelligence, where God meets the soul, as declared by Marc Torra, who is a historian and the author of various books about the Andean healing culture (Torra, 2013). Do osteopaths perceive the heart as a physical organ or as an entity with a spiritual element? And how do practitioners incorporate this spirituality into treatment? Such questions seem to invoke that the way Still describes the heart and the meaning it bears in the Andean healing tradition could be quite comparable.

1.3. Purpose of the Study

For this research it seemed to be a great necessity to gain more knowledge and understanding of the different functions and dynamics of the heart on different levels. In traditional healings as in the Peruvian Andes, Joan Wilcox, a healer of the Andean tradition and the writer of the internet site “Q'enti Wasi – House of the Hummingbird” and of the book *Masters of the living energy*, writes that the Andeans recognize the significance of the heart and its deep connection with nature and creation, on a physical and spiritual level (Wilcox, 2004). A. T. Still was taught by the Native Americans, and his whole life was close to nature and the Creator (Lewis, 2012). So in this research the goal is to try to elaborate the roots of Osteopathy with the connection to the ancient wisdom of the healing tradition of Peru, with the main aspect on the awareness of the heart and a continuity within the body.

“What is the heart of it all?” one interview participant asked. The intrinsic motives and drives and the extrinsic forces that direct us into leading a fulfilled life remain only partly understood.

This question has been the spark for great and beautiful creations. One of these creations is by the father of osteopathy – Andrew Taylor Still (August 6, 1828 – December 12, 1917). He was a seeker and a finder. He wrote many books and taught many students; he revealed what he found. “Take the hand of a man, the heart, the lung, or the whole combination, and it runs to the unknowable. I wanted to be one of the Knowables” (Still, 1908, p.21).

Today’s mode of osteopathic practice has survived the World War I (1914-1918) and World War II (1939-1945) eras and benefitted from technical, technological, and scientific innovations, leaving behind the industrial age and ushering in a world in which digital technology dominates (Paulus, 2000). Everything is being taken apart, labeled, computerized calculated and merchandised (Fulford, 2008). Our approach to science tends to lack holistic perspective; connections and interactions are neglected. Scientific positivism has gained dominance. When osteopathy was founded, treating symptoms rather than people was already commonplace (Lewis, 2012); however, Still, who had experienced healing with the Shawnee Indians, declared it essential to treat not just the cause but the whole person (Still, 1908). The best places to find cultures that have similar holistic healing approaches are those untouched by the industrial, technical and digital revolutions (Torra, 2013). For example, in Peru, ancient traditions remain that connect humans to nature, to each other and to the universe (Jenkins, 2013). The holistic view was not restricted to man but included man’s complete environment. Although corruptions, including the Spanish inquisition (1570-1820), affected Peruvian life, there are still some places where it was too rough for the Spaniards to have access, thus allowing traditional Peruvian beliefs and customs to remain (Crystal, 2016). Realizing what a great blessing that was, and to feel the connection resonating with the osteopathic roots the

author spent exquisite time with these people, studied their healing path, integrating the acquired wisdom into her osteopathic practice and wanting to share it with the osteopathic community.

In osteopathy, the interaction and interdependence of different physical and non-physical elements and systems lend themselves to a holistic view of treatment (Forget, 2007). An element of this view is the central chain, a concept introduced by Philippe Druelle DO, founder and president of the Collège d'Études Ostéopathiques in Montreal and its affiliated colleges, including Halifax campus, Quebec, Vancouver, CCO (Toronto), DOK (Germany), and SICO (Switzerland). This concept is not clearly described in textbooks but can be found in an overview script from Stark (2007) and a course-script from Forget (2007) for her course on endocranial-spasm. There are non-published papers, and non-published papers for the fourth year presentations from the CEO affiliated schools. They refer to the concept of the central chain more on a functional and structural level, explaining the different elements and their connection to the physiology. To satisfy the preference of research, it was necessary to investigate further. Thorough literature research on that subject did not reveal evidence for that concept, and a consistent definition, function and implications were not clear. The lack of accessible knowledge was motivation to dig deeper into the central chain for it seems to have an essential role in osteopathic treatment.

The discrepancy between the central chain's apparent importance in osteopathy and our lack of knowledge about it compared with the Peruvian ideas of healing instigated the research topic which is formulated: A COMPARATIVE STUDY OF THE HEART AS A FULCRUM IN RELATION TO THE CONCEPT OF THE CENTRAL CHAIN IN OSTEOPATHY AND THE ANCIENT WISDOM OF THE PERUVIAN HEALERS

That comparison implied an intense preoccupation with all parts of it:

The heart

The fulcrum

The concept of the central chain

The Peruvian healing tradition

Maier's study at the CEO, Halifax, on the heart *The Heart as the body's central fulcrum: a qualitative study* (2016), contributed very much to the writing of this thesis. Her results considered the heart as being the central fulcrum of the body and presents the related roles and relationships of the heart in the patient. The osteopaths who were interviewed for this study revealed eleven specific roles of the heart in the following order of importance as determined by the data frequencies (Maier, 2016, p. 10):

1. The Heart and Nervous System
2. The Heart as a Fluid Pump
3. Biomechanics
4. Fascias (including the Diaphragm, Central Chain, and Central Line of Gravity)
5. Heart in Relation to Disease
6. Primary Organ of Life
7. Heart and Brain
8. Source of Spiritual Intelligence in Body
9. PRM – primary respiratory mechanism
10. Electromagnetic Function
11. Consciousness

The definition of fulcrum is taken from Taylor's in-depth qualitative research entitled: *The concept of the fulcrum: A qualitative investigation and synthesis of its osteopathic application* (2008). She analyzed multiple osteopathic perspectives of what an osteopathic fulcrum is. Based on her research, she defined a fulcrum "as a place where the 'tide' is balanced so that a transmutation process may occur, which in turn releases tissue by way of a discharge of electrical potential" (Taylor, 2008, p.828).

To continue the research historical and contemporary documents and texts from different sources were consulted to clarify the research problem. A more contemporary view of the phenomena under research was accessed via interviews with current authorities coming from different countries and backgrounds to get an understanding of their perspectives and expertise

The purpose of this study was first to examine the concept of the central chain and its significance to osteopathic treatment as well as its origin in osteopathic teachings; second, to consider the significance and different perceptions of the heart by itself and in relation to the central chain and third, to establish a sense in what way and how in consideration of these concepts, osteopathic treatment and Peruvian healing connect. Finally, one objective was also to explore in what way could this connection be an important element to the osteopathic community, both practitioner and patient.

1.4. Research Significance

Osteopathy was developed by Dr. Andrew Taylor Still when he worked in Baldwin, Kansas, beginning in 1874. Still reasoned that “An osteopath is taught that Nature is to be trusted to the end” (Still, 1902, p. 206). Trust in the body’s ability to heal itself and human intuition are guiding principles for Still (Fulford, 2008).

For centuries, the heart has been considered the source for courage, emotion and wisdom (Basheer, 2015). Many indigenous ancient healing traditions treat the heart as a central organ not only physically but also spiritually (Abdulgader, 2014). In osteopathy, the heart is established as the main fulcrum of the concept of the central chain and as the fulcrum of the fluidic body (Druelle, 2013). Traditional healing methods and osteopathy are similar in

regarding the heart this way, though the connection between these two healing approaches requires more insight and awareness.

Morse and Field (1995) state that theory may be descriptive and must eventually produce knowledge that can be used to improve the practice of a professional discipline. This study hopes to enrich the understanding of the phenomenon of the significance of the heart, the central chain and the Peruvian healers to incorporate a more holistic understanding of life and nature.

Morse and Field (1995) also assert that qualitative investigation plays an important role in developing knowledge and producing theory that guides a discipline. Until now, there has been very limited research pertaining to the concept of the central chain, specifically as how it could develop into a central osteopathic concept. This is also true for the heart and its relations to its neighbouring structures and the individual. Historic osteopathic texts published at the dawn of the profession listed pathological conditions and described them more in medical than in osteopathic terms (Maier, 2016). For this reason it was important to make a distinction between general allopathic-style heart-related information and the information about holistic concepts that were relevant to answer the research questions. Osteopathy is a scientific and philosophical based healing method, and it therefore is essential to realize latest scientific findings and its relevance, with its structural application and also fuse with the philosophical basic idea. The origin of the word Osteopathy comes from Greek: ὀστέον *ostéon*, English “bone” and πάθος *páthos*, English “passion”, its first known use was 1896 (Merriam-Webster, 2019)

The first step in this research was to analyse the general literature on the heart, and a continuity within the body. Second the historical and current osteopathic literature about the heart and a continuity within the body. Third Peruvian literature about their healing tradition and about the heart and the continuity within the body were explored.

In the next step a series of questions were posed to native Andean healers, who are a representation of the Andean healing tradition, and since their teaching is mostly orally to address the topic about Peruvian healing traditions, the heart and a central continuity. To accumulate knowledge in the osteopathic field relating to the research questions leading practitioners were interviewed. The last step was to compare osteopathic concepts and Andean healing traditions and highlight both the similarities and differences. The results and the significance of this study could be valuable both in preserving the tradition and advancing theory and practice of osteopathic treatment. Clinicians who treat patients and keep their attention to one of the most vital organs and its connections and meaning for the person as a whole may be trained to focus not only on the physical but also on the metaphysical wellbeing of that individual (Druelle, 2013). The current study provides important traditional and current aspects of such a holistic and transcendental concept.

1.5. Definition of Technical Terms and Concepts

To better get informed by this paper certain terms and concepts need to be introduced, as they will be explored during the research and analysis.

The heart: the heart has many notions. In medical sciences it is the organ, which serves as a distributor for blood flow and is connected to the cardiovascular system as stipulated in Langman's medical embryology (Sadler, 2003). The heart also plays a role in the

electromagnetic field which is a great research area of the HeartMath Institute. The HeartMath Institute, founded by Doc Childre in 1991 is a non-profit organisation that provides latest scientific research and reliable, scientifically based tools for personal and professional application. This institute holds researchers from all over the world, and Rollin McCraty, a professor at Florida Atlantic University for psychophysiology is the director of research (McCraty, 2016). In philosophy the heart is attributed to many different aspects and even has a spiritual notion (Steiner, 1922).

Heart coherence: Physiologically, the coherence state is marked by the development of a smooth, sine-wave-like pattern in the heart rate variability trace. This characteristic pattern, called heart rhythm coherence, is the primary indicator of the psychophysiological coherence state. A number of important physiological changes occur during coherence. The two branches of the ANS synchronize with one another, and there is an overall shift in autonomic balance toward increased parasympathetic activity. There is also increased physiological entrainment—a number of different bodily systems synchronize to the rhythm generated by the heart. Finally, there is increased synchronization between the activity of the heart and brain (McCraty, 2017).

Fulcrum: *Fulcrum*, a word that means "bedpost" in Latin, derives from the verb "fulcire," which means "to prop." When the word first appeared in English in the middle of the 17th century, "fulcrum" referred to the point on which a lever or similar device is supported. It did not take long for the word to develop a figurative sense, referring to something used as a spur or justification to support a certain action. (Merriam Webster, 2019) The fulcrum in osteopathy is described as a point of balance, of calamity, a reference point. It is also attributed to an electro-magnetic potential (Forget, 2007).

Concept of the Central Chain in osteopathy: The concept of the central chain in osteopathy, represents a functional and energetic unit. It consists of a series of fulcrums, like demonstrated in Figure 1, which play a significant role in the basic understanding of osteopathic principles. It is one of the seven mechanisms that are applied in osteopathic treatment, which allows physical self-regulation at the postural, hormonal, somato-visceral, emotional, electro-magnetic and energetic level like (Druelle, 2000).

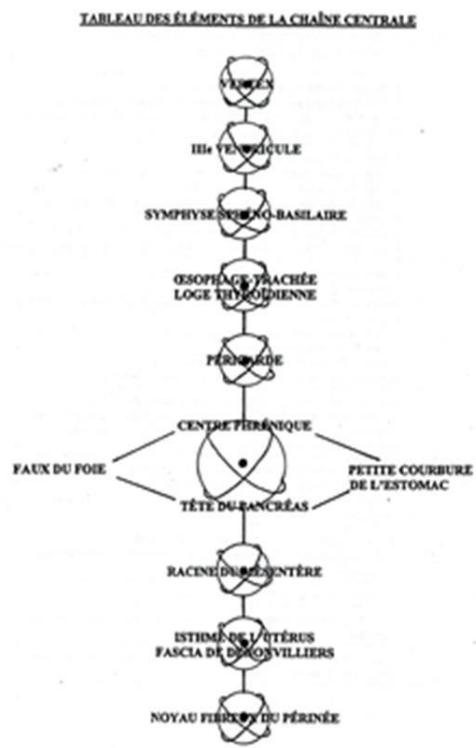


Figure 1. The central chain
Das Herz – Zentrales Fulkrum (Druelle, 2013)

The midline: The midline is characterized as the organizing central axis of the body. It can be conceived of as being similar to a centre of gravity. It is not a fixed place, rather it is seen as a midline function. Being in relationship to midline function supports expressions of the breath of life (Jealous, 2015).

The Breath of Life: This term appears in different osteopathic books, especially with Sutherland, and Magoun, and also in the biodynamic cranio-sacral therapies. Stephen Paulus (2000) summarises it: the Breath of Life is non-material, invisible and intelligent. The Breath of Life drives the function of all natural phenomena and physical forces in a living being. The Breath of Life is like a spark, which ignites the motor (Paulus, 2000).

Potency: the definition from the Cambridge Dictionary explains potency as: strength, influence, or effectiveness (Cambridge Dictionary, 2014). Potency is the expression of the universal within the particular (Sills, 2001).

Traditional Andean Healing: A *Paqo*, a practitioner of the Andean tradition, behaves differently than the common known „*shaman*“, as he does not seek a state of altered consciousness but a state to "see reality as reality is". With the help of his intention he moves in a playful way between the three worlds: The actual world, the upper world, and the inner world or shadow world. He is always connected to these three worlds and is always in direct touch with mother earth, the mountains and the sun, and his guiding star as well as his ancestors, teachers and helpers, as clearly described by Elizabeth Jenkins, who studied the history of Peru and the Inkan culture (Jenkins, 2013). More detailed information is in Chapter 2.4.3., and in Appendix C. In the Andes of Peru the healer is called *paqo* or *curandero*.

Inka seed: This is seen as the energy imprint of where we came from—God; our connection to our divinity, our spirit self and its position is close to the heart (Wilcox, 2004).

Some other terms that are mentioned in the literature review and in the Analysis will be explained within the document.

1.6. Overview

In this introduction chapter the reader was informed of the decisive components that are relevant to this study: the research question, the research purpose, and the research significance. The purpose of the study was to look at historical and contemporary osteopathic and non-osteopathic information regarding the topic of this study, to gain more insight and knowledge about the concept of the central chain and the significance of the heart and its correlation to Peruvian healing tradition. To do this, the researcher looked for answers to the following *questions*:

1. What is the concept of the central chain in osteopathy? What is the importance of the heart as a main fulcrum within the concept of the central chain and osteopathic treatment?
2. What is healing in the ancient tradition of the Peruvian Natural Healers? What is their understanding of the significance of the heart?

Connections and interrelationships were built between these critical components of the study. Also the research significance was described.

This paper consists of six main chapters including the Introduction, a Literature Review, the Methodology, the Synthesis and Analysis of the Interviews, the Discussion of Results and the Conclusion, with the Limitations of this research. In the Appendix, the Methodology of the Proposal and the Requirements for the Interviews can be found. There is also additional information on Peruvian Healing. An abstract of the Personal Journal completes this thesis.

CHAPTER 2. LITERATURE REVIEW

2. LITERATURE REVIEW

2.1. Introduction

The purpose of the literature review is to provide a critical written account of the current state of research. It provides an overview of sources that were explored while researching the topic of this thesis and demonstrates how this research fits within a larger field of study. An important step for selecting literature is the ability to apply principles of analysis to identify unbiased and valid studies (Ritchie, 2013). The criteria for the literature review were the inclusion of landmark studies, as well as publications in well-accepted scientific journals, current academic debates, historic relevant first-hand written documents, and relevant information from different sources. An important aspect was to take note of the authority of authors and the reliability and validity of their methods. In respect of recent theses about the heart with a more allopathic approach and its relevance for osteopathic treatment, the focus on the heart in this literature review lies more on the holistic aspects, especially the heart-brain connection.

During the literature review, many aspects of the concept of the central chain, the heart, the Peruvian healing came up, and quite some resemblances were found. To clarify these aspects, this chapter systematically shows a structure of the different categories. First, there will be an overview of non-osteopathic literature, containing medical publications, embryology, philosophical notions and others on the heart, the central continuity and related aspects. The second part will highlight osteopathic literature, with the writings of A.T. Still, his contemporary colleagues and other possible influences in his time. Latest research, theses

and articles will be included. The third section will explore literature on Peruvian traditional healing to understand this culture's tradition and practices.

For the literature review the following keywords were used in English, German, Spanish and French, to achieve a wealth of information to elaborate the research questions from different perspectives: heart (different aspects), Holism/holistic human, Neurocardiology, A.T. Still, Continuity/Central Chain, Breath of life, Midline, Tree of life, Peruvian/Andean Healing, Inka Tradition, , Shamanism/curanderos, Inkan mysticism.

2.2. Non-osteopathic Literature Review

2.2.1. *The heart*



Figure 2. Le petit prince – postcard bought in Paris 1999

“Here is my secret. It’s quite simple: One sees clearly only with the heart. Anything essential is invisible to the eyes” (de Saint-Exupéry, 1943, p. 63), as can be seen in an original drawing from Saint-Exupéry in Figure 2.

“Heart” is a very enigmatic word. It escapes definition because of its variegated connotations. It can be subject to surgery, to transplantation, it can be hurt when insulted, or elated when praised, and it can even explode with joy when loved, or appreciated. And there is the heart wherein resides the whole of the universes. Then we speak of the heart as the core, the substantiality, the vitality, the very being of anything and that is incapable of description. (Krishnananda, 2016)

2.2.1.1 Merriam- Webster definition of the heart

The medical definition of the heart as written in the Merriam-Webster dictionary is:

The heart is a hollow muscular organ of vertebrate animals that by its rhythmic contraction acts as a force pump maintaining the circulation of the blood and that in the human adult is about five inches (13 centimeters) long and three and one half inches (9 centimeters) broad, is of conical form, is placed obliquely in the chest with the broad end upward and to the right and the apex opposite the interval between the cartilages of the fifth and sixth ribs on the left side, is enclosed in a serous pericardium, and consists as in other mammals and in birds of four chambers divided into an upper pair of rather thin-walled atria which receive blood from the veins and a lower pair of thick-walled ventricles into which the blood is forced and which in turn pump it into the arteries (Merriam-Webster, 1828).

The following section gives an overview of the different meanings and associations of the heart as found in the Merriam-Webster dictionary. The origin and etymology of the heart stems from Middle English “hert,” from Old English “heorte”, akin to Old High German “herza”, or “heart”, Latin “cord-”, or “cor”, and Greek “kardia” (Merriam-Webster, 1828).

An interesting aspect of the heart is its synonyms and antonyms, which appear in the Merriam-Webster Dictionary:

1 - the ability to feel with another person - synonyms: bigheartedness, charity, commiseration, compassion, feeling, good-heartedness, humanity, kind-heartedness,

kindliness, kindness, large-heartedness, mercy, pity, softheartedness, sympathy, warm-heartedness.

Related Words are: feelings, responsiveness, sensibility, sensitivity; affection, love, regard; affinity, empathy, rapport; altruism, benevolence, benignancy, benignity, generosity, goodwill, humaneness, humanism, humanitarianism, philanthropy.

Near Antonyms are: callousness, coldness, disinterest, indifference, unconcern; cruelty, harshness; animosity, antipathy, dislike, hatred, hostility.

Antonyms: cold-heartedness, hard-heartedness, inhumanity, inhumanness, mercilessness, pitilessness

2 - a thing or place that is of greatest importance to an activity or interest –

Synonyms: axis, base, capital, central, core, cynosure, epicenter, eye, focus, ground zero, center, hub, locus, mecca, navel, nerve center, nexus, nucleus, omphalos.

3 - strength of mind to carry on in spite of danger – Synonyms: bravery,

courageousness, daring, daringness, dauntlessness, doughtiness, fearlessness, gallantry, greatheartedness, guts, gutsiness, hardihood, courage, heroism, intestinal fortitude, intrepidity, intrepidness, moxie, nerve, pecker [chiefly British], prowess, stoutness, valor, virtue, backbone, fiber, fortitude, grit; determination, perseverance, resolution; endurance, stamina, stomach, tenacity; audacity, boldness, brazenness, cheek.

Antonyms: cold feet, faintheartedness, fearfulness, mousiness, timidity, timorousness; feebleness, softness, weakness; impotence, ineffectualness; hesitation, indecision, indecisiveness, irresolution

Antonyms: cowardice, cowardliness, cravenness, dastardliness, poltroonery, spinelessness

4 - the central part or aspect of something under consideration – Synonyms: bottom line, bull's-eye, centerpiece, core, essence, gist, crux, kernel, keynote, meat, meat and potatoes, net, nub, nubbin, nucleus, pith, pivot, point, root.

5 - the seat of one's deepest thoughts and emotions deep down in her heart – Synonyms: belly, blood, bone(s), bosom, breast, gut, core, heartstrings, inner space, inside, quick, soul Related Words: conscience, mind.

2.2.1.2. Historical overview

Throughout history and across diverse cultures, religious and spiritual traditions, the heart has been associated with spiritual influx, wisdom, and emotional experience, particularly with regard to positive emotions such as love, care, compassion, and appreciation (McCraty, 2002). Maier (2016) has already referred to many significant correlations of the heart and explored it in the context of Still's era and that of ancient philosophers. She concluded that:

Still's perspective seemed to be consistent with ancient philosophical beliefs from the Ancient Egyptians to Traditional Chinese Medicine to theories held by philosophers such as Aristotle, Homer, and DaVinci. The concept of the heart as a vessel for the soul was not a new one, but one deeply rooted in the health sciences of humanity from the beginning of recorded time. The quest for understanding the physical and metaphysical roles of the heart were not exclusive to the osteopathic tradition but applied to many spiritual systems and health care paradigms around the world (Maier, 2016, p. 4).

Aristotle (384—322 B.C.E.), who was a towering figure in ancient Greek philosophy, making contributions to logic, metaphysics, mathematics, physics, biology, botany, ethics, politics, agriculture, medicine, dance and theatre, had a distinct idea on the human heart and

soul. He defines the Soul as the perfect expression or realisation of a natural body. From this definition, it follows that there is a close connection between psychological states, and physiological processes. Aristotle regards the Soul or mind not as the product of the physiological conditions of the body, but as the truth of the body -- the substance in which only the bodily conditions gain their real meaning. And he even compared the heart vs the brain in its implication of the body's central organ. Aristotle argued, that the heart was the center of sensation and movement (www.biography.com) (Table 1).

Table 1
Aristotle's arguments for the heart and against the brain as the Center for Sensation and Movement

Heart	Brain
Affected by emotion	Not affected
All animals have a heart or similar organ	Only vertebrates and cephalopods have one, and yet other animals have sensations
Source of blood, which is necessary for sensation	Bloodless and therefore without sensation
Warm, characteristic of higher life	Cold
Connected with all the sense organs and muscles via the blood vessels	Not connected with the sense organs, or the connection irrelevant
Essential for life	Not so
Formed first, and last to be working	Formed second
Sensitive	Insensitive, if the brain of a living animal be laid bare, it may be cut without any signs of pain or struggle
In a central location, appropriate for its central role	Not so

Retrieved from Gross (1995).

One can go further to the roots of Sanskrit in India, in the 6th century BC to learn more about the heart and its historical context. In the Upanishads, a collection of ancient Sanskrit

philosophical texts that contain some of the central philosophical ideas of Hinduism, composed during the 6th to 5th centuries BCE, it is told that the heart is the centre of the mind. “That boundless Power, source of every power, manifesting itself as life, entering every heart, living there among the elements, that is Self. He becomes mind and guides body and life. He lives in man's heart” (Shree Purohit Swami, 1937, p. 38).

If one looks at the last centuries, an influential figure of his time was Rudolf Steiner (1861-1925), an Austrian/German lecturer and author, professed initiate, clairvoyant, and occultist. Originally a secular intellectual, widely known in Germany, Steiner shifted into occultism, became a theosophist, and later founded his own system: Anthroposophy. He was the originator of Waldorf education, anthroposophical medicine, and biodynamic agriculture, among other pursuits. He had certain spiritual, esoteric and even occultist views on life and nature, as mentioned by one of the Waldorf students Roger Rawlings, who has published some insider information on Waldorf education (Rawlings, 2018). Steiner recognized the heart as more than just a pump: “Basically the heart is a sense organ within the circulatory system, yet exactly the opposite is taught nowadays” (Steiner, 1918, p. 56). Steiner continued to proclaim that “[t]he heart is indeed a sense organ for perceiving the blood’s movement, not a pump as physicists claim; the coursing of our blood is brought about by our spirituality and vitality” (Steiner, 1923, p. 84). We find important indications from a lecture Steiner gave on July 2nd, 1921 GA 205 p.110:

When we look into the inner heart, we find that there are forces collecting from the metabolic and limb system. We know that that which is connected to the etheric heart-forces has been spiritualised, it follows that that which has to do with our outer life and our actions is also spiritualised and woven into it. That which is being prepared in the heart as forces turns into karmic predispositions and karmic tendencies. It is simply outrageous to speak of a heart pump [...].

Referring to this statement it strongly suggests that Steiner claims the heart to be connected to the spirituality of humanity and more than a structural organ. With his anthroposophical thinking, Steiner had a great impact on his time, within Europe and also abroad (Rawlings, 2018).

Other influential thinkers include Emmanuel Swedenborg (1688–1772), who was steeped simultaneously in the rational world of the physical sciences and a deep Christian faith.

Who does not know, or may not know, that the good of love and the truth of faith flow from God into man, and that they flow into his soul, and are felt in his mind, and flow out from his thought into his speech, and from his will into his actions? That spiritual influx, and its origin and derivation, are from this? (1769, p. 320).

Another one was Johann Wolfgang von Goethe (1749-1832), who was a German poet, famous for his poetic and philosophical works. “I am proud of my heart alone, it is the sole source of everything, all our strength, happiness and misery. All the knowledge I possess everyone else can acquire, but my heart is all my own” (Goethe, 1774, p. 86). These famous thinkers and philosophers seemed to have profound influences on the understanding of man, says Susan Turner MA PGCE DO, a 1979 osteopathic graduate from the European School of Osteopathy in London, co-founder and director of the undergraduate children’s clinic, and also teacher and speaker at various international conferences (Turner, 2013).

2.2.1.3 Contemporary research

The explosive technical advances of the 20th century had significant drawbacks in the interpretation of scientific knowledge. A prominent example of this was the sense of the human heart as merely a pump. In contrast to the understanding of the heart previously

recognized by the most important civilizations in human history, the cardiac sciences in the 20th century deprived the heart of its pivotal role as the seat of the emotions in learning, decision-making, and intuition, which had been the implicit understanding of ancient civilizations, and even as recently as the previous century. The persistent false perception of the human heart as merely a pump in isolation from the surrounding environment creates major gaps in our knowledge towards better understanding the etiology and patho-mechanisms of cardiac disease, Fahad Basheer explains (2015). Dr. Fahad Basheer is an independent researcher of mind-body continuum and consciousness. His research works are often published in Dubai, Spain, the USA, and he was nominated as the ‘diversified medic of the year’ by ACW awards in UK in 2016.

After dividing and specifying all body parts into their sole purpose, fortunately a shift has occurred that re-aligns the physical fragments into a greater whole. This leads to a conscious consideration of the interrelations within the whole of human nature. Abdullah Abdulgader is Professor of Congenital Cardiology/Electrophysiology and also General Directorate of Health. He is founder and general director in Prince Sultan Cardiac Centre and General Director of King Fahad Hospital in Saudi Arabia. Referring to latest researches in cardiology, neurology, neuropsychotherapy and biophysics he states that:

The weight of scientific evidence supporting the view that the human heart has different mechanistic interactions with its surroundings is increasing—interactions as near to the heart as other body organs and as far away as the planetary orbits and solar flares. The human heart is a sensitive detector, which is reactive to geological, geophysical, and astrophysical changes. This fact is unavoidable, if being prepared to discover the mysteries of the human heart in health and disease. (Abdulgader, 2014)

This finding is sustained by a study from the HeartMath Institute (HMI):

Synchronization of Human Autonomic Nervous System Rhythms with Geomagnetic Activity

in Human Subjects. It was published in the International Journal of Environmental Research and Public Health in 2017. The study's research team, led by HeartMath Institute Director of Research Dr. Rollin McCraty, found that geomagnetic and solar activity, cosmic rays and other environmental influences could affect various aspects of study participants' autonomic nervous systems, including their parasympathetic nervous system activity (McCraty, Atkinson, Stolc, Alabdulgader, Vainoras, and Ragulskis, 2017). Additionally, researchers, led by McCraty, observed that participants' heart rate variability (HRV) rhythms synchronized with one another over the more-than-four-week study period, with the participants being at different locations (McCraty, 2017).

2.2.1.4 Heart-brain connection

The work of the great French physiologist Claude Bernard (1813-1878) is considered by some to have laid the foundations for modern neuroscience (Conti, 2003). His work was some of the first to systematically investigate the connections between the peripheral organs including the heart, and the brain. Increasing evidence about the brain-heart interaction has major potential implications for treatment of cardiovascular diseases says Ernst E. van der Wall, who is Chair of the Department of Cardiology of the Leiden University Medical Centre in The Netherlands, and Vice-President of the European Society of Cardiology. He has authored numerous papers, holds several positions in national and international scientific organisations and has been President of the Dutch Society of Cardiology (van der Wall, 2012). In his article *Neurocardiology: close interaction between heart and brain* from December 2012, based on latest research he states that: "The interaction between heart and brain becomes increasingly important as the underlying mutual mechanisms become better understood."

Jeff Huffman, who is a researcher at The Cardiac Psychiatry Research Program in Massachusetts recognizes the relatively underestimated example of the heart's effects on the brain, which is the link between dysfunction of the heart and the brain. This may become an important healthcare problem, as both cardiac dysfunction and progressive loss of cognitive functioning are prominent features of aging (Huffman, 2013). The apparent lack of appreciation of the link between cardiac and brain (dys-) function is probably due to the monodisciplinary approach by cardiologists and neurologists and by the reductionist approach of modern medical research. However, a more integrative approach to the heart-brain connection seems justified, as recent data, published in the *Netherland Heart Journal*, indicate that cardiovascular conditions contribute to cognitive impairment (Daemen, 2013). This connection is also relevant in psychiatry, where the interface of cardiology and psychiatry is a specialty called cardio-psychiatry. Widespread research, funded by the National Institute of Health and the US Veterans Administration, which was published in *The Lancet Psychiatry* in 2017 concluded that post-traumatic stress disorder is a risk factor for incident cardiovascular disease, and a common psychiatric consequence of cardiovascular disease events that might worsen the prognosis of the cardiovascular disease (Edmondson, 2017).

The interaction between heart and brain becomes increasingly important as the underlying mutual mechanisms are better understood. The medical specialty that deals with the brain-heart connection has become known as neurocardiology. Neurocardiology refers to physiological interplays between the nervous and cardiovascular systems as stated by Dr. John A. Armour, a researcher and specialist in neurocardiology at the Hôpital du Sacré-Coeur de Montréal, Québec and also on the HeartMath Institute Scientific Advisory Board. Dr. Armour

has authored many journal articles, including *Neurocardiology: Anatomical and Functional Principles*, and books, among them *Basic and Clinical Neurocardiology* (Armour, 2016).

Another important aspect in *Neurocardiology: Anatomical and Functional Principles* by Armour (2016) postulates that ground-breaking research in the field of neurocardiology has established that the heart is a sensory organ and a sophisticated information encoding and processing center. It has an extensive intrinsic nervous system sufficiently sophisticated to qualify as a "heart brain." Armour (2016) describes the anatomical organization and function of the cardiac nervous system as comprised of a complex hierarchy of nested feedback control loops organized in three regulatory levels. He continues to discuss intriguing data documenting the complex neuronal processing and memory capabilities of the intrinsic cardiac nervous system- commonly called the heart-brain is an intricate network of complex ganglia, neurotransmitters, proteins and support cells, the same as those of the brain in the head. The heart-brain's neural circuitry enables it to act independently of the cranial brain indicating "that the heart-brain can process information and make decisions about its control independent of the central nervous system" (Armour, 2016). This is an emerging view of the heart as a complex, self-organized system that maintains a continuous two-way dialogue with the brain and the rest of the body as seen in Figure 3.

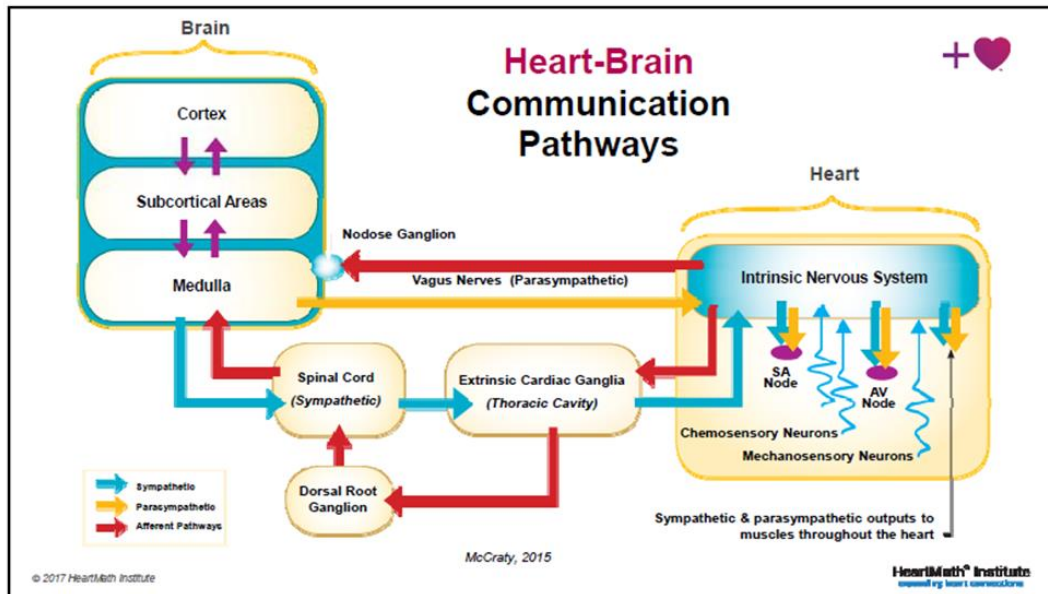


Figure 3. Heart-Brain Communication Pathways
Retrieved from McCraty (2017).

2.2.1.5 Electromagnetic fulcrum

Currently, scientific studies suggest that – in response to the emotion that we potentially create between our heart and brain -, the human heart is capable of making changes in both electric or/and magnetic fields in our bodies and our surrounding (McCraty, 2017). As science is emerging, researchers are incorporating different sections of science to explain the phenomena of life. One of them is Bruce H. Lipton, Ph.D., a cell biologist and lecturer, and an internationally recognized leader in bridging science and spirit. Bruce was on the faculty of the University of Wisconsin’s School of Medicine and later performed ground-breaking stem cell research at Stanford University. He is the bestselling author of *The Biology of Belief*, and author of *The Honeymoon Effect*, and co-author with Steve Bhaerman of *Spontaneous Evolution*. He declares: “we’re all spirit. We’re all energy. Fields and spirit are interchangeable” (2009, p.71).

Max Planck, the father of quantum theory, identified the electromagnetic field of the body already in 1944 and called it '*The Matrix*.' He explained that "(U)nderlying everything we see – including our bodies – around us in the world, there is the existence of what should be a conscious and intelligent mind" (Planck, 1944).

Science continues to expose and explore new theories about planes of existence, the emergence of subtle energy fields expanded scientists' understanding of the human body (Rubik, 2015). Stephen Hawking, the British physicist, cosmologist, and mathematician, called these energy fields "The Mind of God" (1998, p. 193).

Joseph Chilton Pearce (1926-2016) a humanist, and guest lecturer at Harvard University, the University of California, Oxford University, Columbia University, and Stanford University taught workshops on the development of human society for more than 35 years. He is the author of several books, including *The Crack in the Cosmic Egg*, *The Biology of Transcendence*, *The Death of Religion and the Rebirth of Spirit*, *The Heart-Mind Matrix*, *Magical Child*, and *Evolution's End*. He examined the current biological understanding of neural organization to address how it could be possible to transcend the current evolutionary capacities and limitations. It is the dynamic interaction of the head brain (intellect) and heart brain (intelligence), of biology and spirit. In his book, *Spiritual Initiation and the Breakthrough of Consciousness* -, he attributes creation to the heart:

If we go through the "four bodies" (first, the physical, the subtle body, the causal body, and finally comes the supercausal body), each correspondingly smaller, we will reach the heart of creation, the bindu or blue pearl, a point of reference, rather than place or thing, from which all creation radiates out. (Pearce, 2003, p. 67)

He also indicated its important functions in health by attributing the heart as the triune heart: electromagnetic, neural, and hormonal, comparing it to universal, personal and biological. He claimed the heart to be the center of a holographic electromagnetic field, which radiates out as a torus and is integral to communication, in perceiving the other person with its whole personality. This holographic electromagnetic field originates from the intrinsic field of the heart (Pearce, 2002).

Visiting the Breath of Life Conference in London in May 2017, Dr. Rollin McCraty was giving a workshop: *Heart-brain dynamics and impact of self-regulation on health* and said about the heart:

The heart is uniquely positioned to act as the “global coordinator” in the body’s symphony of functions and to synchronize the system as a whole. It acts as the most powerful and consistent generator of rhythmic information patterns in the body, the heart is in continuous communication with the brain and body through multiple pathways: neurologically, biochemically, biophysically, energetically (2017, p. 14).

McCraty offered an overview of over two decades worth of information and studies that were collected to form this extensive foundation for further implication. Researches were published in *The American Journal of Cardiology*, *American College of Cardiology*, *Harvard Business Review* and others. His latest publications include: *Identification of a group’s physiological synchronization with earth’s magnetic field* in the *International Journal of Environmental Research and Public Health*, published on 01 Sep 2017, *Heart rate variability: Pre-deployment predictor of post-deployment PTSD symptoms* in *Biological psychology* published on 20 Oct 2016, *Heart rate variability in mind-body interventions* in *Complementary Therapies in Medicine* published on 01 Jan 2016, *Biofield Physiology: A Framework for an Emerging Discipline* in *Global advances in health and medicine* :

improving healthcare outcomes worldwide, published on 01 Nov 2015, *Heart Rate*

Variability: New Perspectives on Physiological Mechanisms, Assessment of Self-regulatory

Capacity, and Health risk in Global advances in health and medicine : improving healthcare

outcomes worldwide published on 01 Jan 2015, *A healthy heart is not a metronome: an*

integrative review of the heart's anatomy and heart rate variability in *Frontiers in Psychology*

published on 30 Sep 2014

Cardiac coherence, self-regulation, autonomic stability, and psychosocial well-being
Of particular importance at the institute is the development of a method to measure the heart
rate variability: a measurement of neurocardiac function that reflects heart-brain interactions
and autonomic nervous system dynamics. One of its key aspects is that the overall amount of
heart rate variability reflects resilience, nervous system health, functional status, and
regulatory capacity. McCraty declares that the heart has its own complex nervous system: the
“heart brain”. The heart sends far more information to the brain than the brain sends to the
heart. Patterns in the neural signals from the heart especially affect the brain centers involved
in perception, emotional experience and self-regulation as shown in Figure 4 (McCraty, 2017).

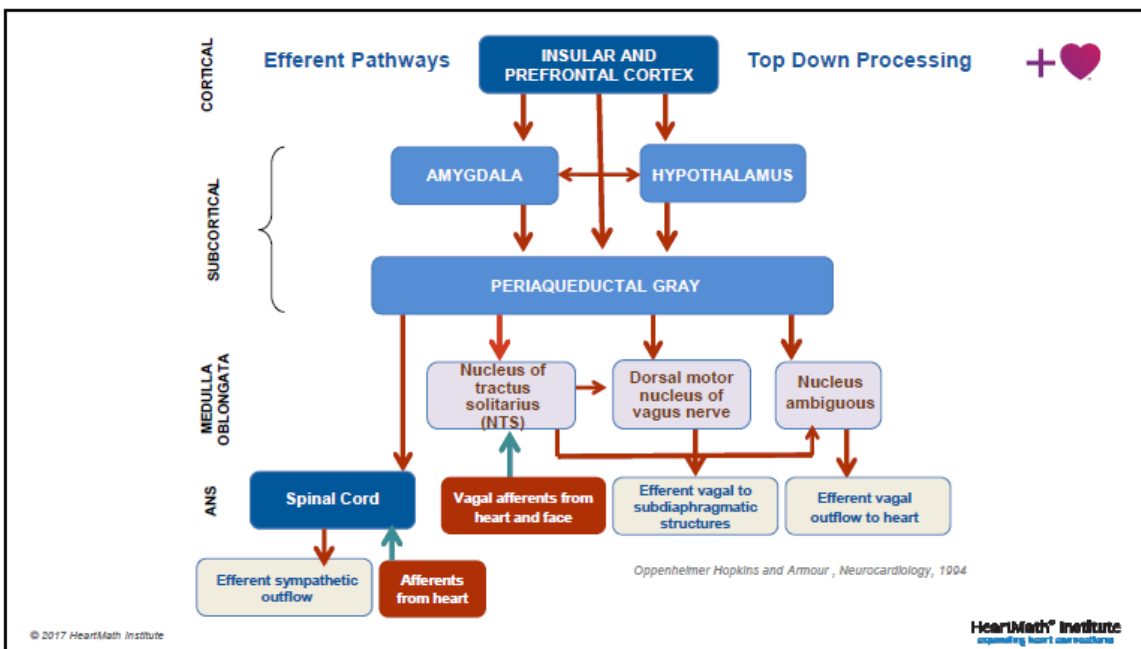


Figure 4. Heart-Brain Communication
Retrieved from McCraty (2017)

Studies at the HeartMath Institute have conceived that communication between the heart and brain actually is a dynamic, ongoing, two-way dialogue, with each organ continuously influencing the other's function. Research has suggested, referring to the *American Journal of Cardiology* that the heart communicates to the brain in four major ways: neurologically (through the transmission of nerve impulses), biophysically (through pressure waves), energetically (through electromagnetic field interactions) and biochemically (via hormones and neurotransmitters) (McCraty, 2016). Although not typically thought of as an endocrine gland, the heart actually manufactures and secretes a number of hormones and neurotransmitters that have a wide-ranging impact on the body as a whole (Cantin and Genest, 1988). McCraty reveals that more recently, it was discovered the heart also manufactures and secretes oxytocin, which can act as a neurotransmitter and commonly is referred to as the love or social-bonding hormone explored by Gutkowska, Jakowski, Mukaddam-Daher and

McCann (2000). Doc Childre, founder of the HeartMath Institute said, “Since emotional processes can work faster than the mind, it takes a power stronger than the mind to bend perception, override emotional circuitry, and provide us with intuitive feeling instead. It takes the power of the heart” (McCraty, 2016, p. 119). The study - *The appreciative heart* - from 2002, led by researchers of the HeartMath Institute over ten years emphasises the central role played by cardiac afferent signals in emotional perception and experience. In essence, because the heart is a primary generator of rhythmic patterns in the body, from embryological development on - influencing brain processes that control the autonomic nervous system (ANS), cognitive function, and emotion – it provides an access point from which system-wide dynamics can quickly and profoundly be affected (McCraty, 2002). Another research at the HeartMath Institute - *A Healthy Heart Is Not a Metronome* - in 2014, gave a hint that the intrinsic cardiac nervous system has both short-term and long-term memory functions, which can influence the heart rate variability and afferent activity related to pressure, rhythm, and rate, as well as afferent activity associated with hormonal factors. Therefore, the afferent inputs, which exceed the efferent by far, from the cardiovascular system to the amygdala are important contributors in determining emotional experience and in establishing the set point to which the current inputs are compared (McCraty and Zayas, 2014).

The electromagnetic field generated by the heart is the most powerful rhythmic energy field produced by the body. This is graphically shown in Figure 5. The strength of the magnetic signal is measured in very small submultiples of the Tesla (T). One T is roughly the strength of a Neodymium magnet, and $3 \times 10^{-5} \text{T}$ the strength of the earth’s magnetic field. The much smaller magnetic signal from the heart can be measured by a Superconductive QUantum Interference Device (SQUID) as explained by Clarke and Braginski (2006). Studies

conducted at the HeartMath Institute's laboratory have shown that the heart's electromagnetic field can be detected by other individuals and can produce measurable effects in a person 5 feet away, which was a fascinating conclusion that emerged from the intuition research. The author concludes that these results suggest that the heart has access to a field of information that is not limited by the boundaries of time and space – the energetic or spiritual heart. It's the source of our deeper intuitive guidance — Heart Intelligence. (McCraty, 2017)

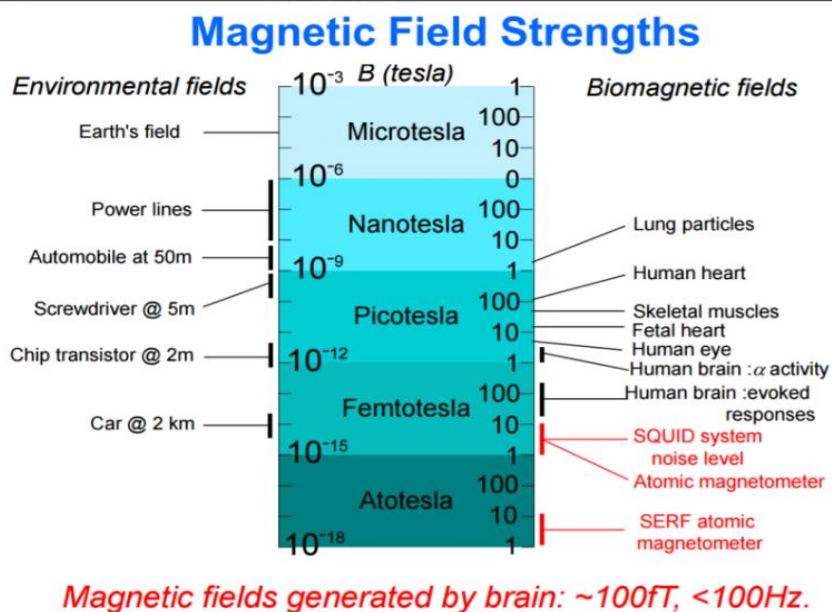


Figure 5. Biofield measurements from a person performing psychokinesis
Retrieved from: <http://www.information-book.com/biology-medicine/biofields-heart-electromagnetic-field/>

The electrical field as measured in an electrocardiogram (ECG) is about 60 times greater in amplitude than the brain waves recorded in an electroencephalogram (EEG) (McCraty, 2016). Willem Einthoven (21 May 1860 – 29 September 1927) was a Dutch doctor and physiologist and invented the first electrocardiogram in 1903, this device records the electric activity of the heart. Because of this, he was rewarded with the Nobel Prize in 1924.

Since then, electric records of the heart dynamics have been widely accepted, and other parts of the body were added afterward, like the brain. In 1924 Hans Berger (21 May 1873 – 1 June 1941), a German psychiatrist, recorded the first electroencephalogram (Encyclopædia Britannica, Inc., 2019).

A profound and transformative aspect of our body is its ability to emit bio-photons. Bio-photons are the light in our cells. They are ultralight light waves that carry information from the nucleus. The pioneer of this research is the German physicist Fritz-Albert Popp, who has been studying the phenomenon of light-emitting living cells for about 40 years. Fritz-Albert Popp and Karl-Heinrich Müller established in the mid-nineties a Center of Biophotonics at a former rocket station in Neuss nearby Düsseldorf, Germany. This scientific biophotonic center connects a worldwide network of scientists from Canada, China, England, Holland, Germany, Japan, India, Italy, Russia, Switzerland, Ukraine and the United States of America. In the years between 2001 and 2005, the analysis of biophotonics was brought to the highest level of photomultiplier technique with the ARETUSA method (Niggli, 2014). ARETUSA is a new highly sensitive method allowing for the first time to measure the spectrum of ultra-weak photon emission in human cells, which was made possible by a crucial improvement of the technique of light measurement (Niggli, 2014). In his research, Dr. Hugo Niggli, a Swiss bio-chemist, who founded the International Institute for Life Energy, proposes that with these bio-photons, the cells in the living organism control the metabolism and communicate with each other. These bio-photons transport information at the speed of light and create a coherent order field in which each cell is connected to all other cells and knows what to do. The highest emission of bio-photons is around the heart area. According to Popp it is an indicator for health (2006). Photon is defined as a discrete bundle (or quantum) of

electromagnetic (or light) energy; they are always in motion and, in a vacuum, have a constant speed of light to all observer, the speed of light of $c = 2.998 \times 10^8$ m/s. Light has properties of both a wave and a particle. The discovery of the light having both wave and particle properties was an astounding discovery and is certainly outside the realm of how we normally perceive things (Zimmerman, 2017).

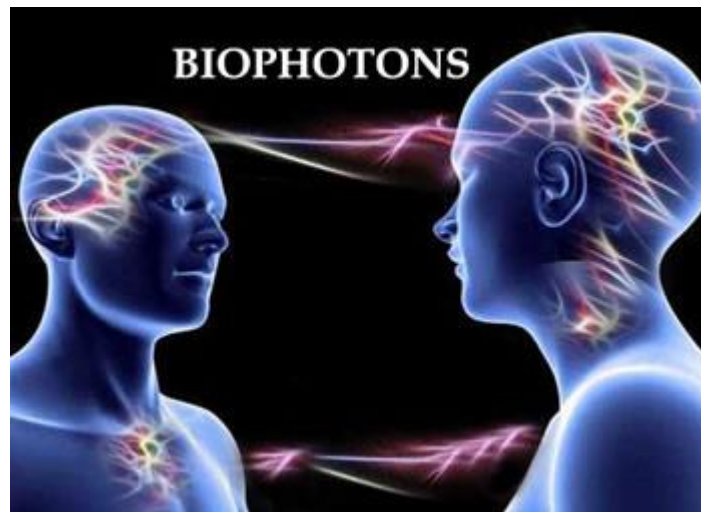


Figure 6. Biophotons
Retrieved from <http://biophoton-therapy.net/>

In the perspective of the research from Cohen and Popp the light is seen as an electromagnetic energy that is linked to human consciousness, which is the fundamental source of human life, the connection can be appreciated in Figure 6. The most powerful electromagnetic generator in the human body is supposed to be the heart. The human heart is 5,000 times magnetically more powerful than the brain. The human heart is considered a source of light, and the power of this light determines the health of the human body (Cohen and Popp, 2003). The people who generate the most positive emotions are able to create high-quality cardiac coherence, which, in turn, determines the quality of the electromagnetic field generated by the heart. This coherence then regulates the bio-photons that are emitted into the electromagnetic field of our body, which defines our health (Popp, 2006).

Current development in detection using low-noise photomultiplier tubes and imaging using highly sensitive charge coupled device cameras allows temporal and spatial visualization of oxidative metabolic or oxidative stress processes, respectively. As the phenomenon of ultra-weak photon emission reflects oxidative metabolic or oxidative stress processes, it can be widely used as a non-invasive tool for monitoring of the physiological state of biological systems say Cifra, M. and Pospíšil, P. (2014)

A leading author who Maier (2016) cited in her thesis was Caroline Myss. She is a five-time New York Times bestselling author and internationally renowned speaker in the fields of human consciousness, spirituality and mysticism, health, energy medicine, and the science of medical intuition. Myss studied with Norman Shealy, M.D., Ph.D., a Harvard-trained neurosurgeon. Myss developed the field of Energy Anatomy, a science that correlates specific emotional/psychological/ physical/ spiritual stress patterns with diseases. Her research examined this correlation so accurate that it became the subject matter of a book co-written by Myss and Shealy: *The Creation of Health*. In this book, Myss determines the heart as an energetic center with its qualities of “internal emotional power, mediating between the body and the spirit - the symbolic doorway into our internal world”. (Myss, 2009, p.80)

The consequences of these new thoughts and studies of the heart as the master of the psychophysiology of the human body and its external interactions seem to be tremendous. The fact that the human heart is seen as the largest and most dominant generator of the electromagnetic field in the body has major implications in regenerative medicine, as it is proposed in the 8th International workshop on Biological Effects of Electromagnetic fields in Bulgaria 2014 (Israel, 2014). Heart sound and magnetic field of mother and child may work together to establish what is called an information, or morphogenetic field, which is driving

the fate of the organs during organogenesis. This new philosophy in the cardiac sciences could bring both cardiologist and physicist closer to the ancient wisdom that the human heart is the master of the emotions, behavior, and the seat of the soul (Abdulgader, 2014).

2.2.2. Central organisation

One aspect of this research is the concept of the central chain. This seems to be a construct in osteopathy developed by Druelle, which incorporates a holistic notion. So to find a correlation of this concept in the non-osteopathic literature the search expanded to a wider presentation. Therefore, the set keywords - central organisation, central chain, midline, and holism – were used to search for a reliable justification in context other than osteopathy for the concept of the central chain. Little was found, though there is some information on the aspect of holism, considering man. One of the tenets of holism is that the whole is greater than the sum of its parts, according to Aristotle (Haynes, 2009). Applying this theorem epistemologically, one could say that a holistic view is greater than the sum of the specialized views that contribute to it. Because spiritual development has received less scholarly attention than biological, cognitive, or emotional functioning, topics such as non-religious spirituality and the concept of soul are covered to promote a balanced developmental perspective (Haynes, 2009).

2.2.2.1 Definition

Merriam-Webster defines holism as a theory that the universe and especially living nature is correctly seen in terms of interacting wholes (as of living organisms) that are more than the mere sum of elementary particles (Merriam-Webster, 1828).

2.2.2.2 Historical overview

The general principle of holism was concisely summarized by Aristotle in his treatise *Metaphysics*: "The whole is more than the sum of its parts." Aristotle viewed the world and each being in the world as interrelated and part of a teleologically organized whole (Haynes, 2009). The whole has a synergy generated by mutual interactions, which is more than the simple sum of parts.

2.2.2.3 Medical approach

Holism in medicine appears in psychosomatic medicine. In the 1970s, the holistic approach was considered one way to conceptualize. Instead of charting one-way causal links from psyche to soma, or vice-versa, it aimed at a systemic model, where multiple biological, psychological and social factors were seen as interlinked. Other alternative approaches at that time were psychosomatic and somatopsychic approaches, which concentrated on causal links only from psyche to soma, or from soma to psyche, respectively (Lipowski, 1985). At present, it is commonplace in psychosomatic medicine to state that psyche and soma cannot be separated for practical or theoretical purposes. A disturbance on any level - somatic, psychic, or social - will radiate to all the other levels. In this sense, psychosomatic thinking is similar to the biopsychosocial model of medicine (Lipowski, 1985). During the evolution of dissection and specialisation in conventional medicine, where each element was taken separately into account, the approach to the person as a whole was set aside. Merely the so-called alternative, natural medicinal approaches, like traditional Chinese medicine (TCM), or naturopathy considered the cause of the symptom and the patient's environment (Haynes, 2009). Haynes (2009) continues to say that in these alternative medicines, a "holistic approach to healing"

embraces a person's emotional, mental, spiritual and physical elements and treats the whole person in context, concentrating on the cause of the illness as well as symptoms.

2.2.2.4 Central organisation in embryology

One of the few medical fields to reference a central organisation, also known as Midline, in non-osteopathic literature is embryology. There are few important authors who distinguish between plain, structural embryology and also a more holistic, anthroposophical approach to the primal development of humans. These are Jaap van der Wal, Erich Blechschmidt, Patrick van den Heede, and a few others. The essence of their contributions is essential for osteopathic concepts and especially to the understanding of the holistic human in all medical fields. Jaap van der Wal (2012), a lecturer in anatomy and embryology at the University of Maastricht, Holland, made an effort to describe a dynamic morphology to give his students a more dynamic perception on polarity in human and natural phenomena. One conclusion he draws from his writings is that polarities exist within a unity. Essential features of polarity are reversibility and inversion: in this case, external mobility with internal structure. Having seen that polarities are transformations of one another, one can surmise that a higher principle connects or unites them (van der Waal, 2012). He continues with the realm of the middle and its importance to polarities and threefoldness. He considers the lemniscate as a connecting figure. The lemniscate is, so to speak, a 'breathing' figure, one that transcends the polar one-sidedness of radius and circle (sphere) in a movement that connects both polarities. The lemniscate is neither circle nor radius, while being both at the same time. The lemniscate is the continuum that combines the two, yet also stands 'above' them. The realm of the middle is characterized by rhythm, like breathing – inhale, exhale (van der Wal, 2012). Embryological development could be seen as a spatial relationship of process. According to

the author there are several differentiating phases, which all have certain important aspects to our growth, personality and consciousness. The midline is seen as a place of meeting and interaction (Blechs Schmidt, 2008). The midline is also taken as a fulcrum for potency (van der Waal, 2012). Van der Wal elaborates that by its very nature, the middle lies in the realm of the invisible. Whereby polarity implies visibility, the middle implies a rhythmical process. An amazing process occurs around the fourth week of development. At this time, the embryo literally enfolds itself around the midline. The flat embryonic disc begins to flow in ways that allow it to enfold space. The cells of the disc flow laterally and enfold the yolk sac to form what will become the inner spaces of the developing body. Referring to Blechs Schmidt space allows form to manifest and form enfolds space in order to express function (2008). The embryologist Erich Blechs Schmidt (2008) puts it clearly: “the law of the preservation of the individuality’ applies to the embryo. One might question the word individuality, but the tenor is clear. It is the appearance which changes, not the essence” (Blechs Schmidt, 2008, p. 168). In the desert of modern-day thought-life, it is the embryo that emphasises that wholeness comes first in living nature. Holism as an active creative process means the movement of the evolutionary world towards ever more and deeper wholeness (van der Wal, 2017).

One part of the body that connects all parts is the fascia (Feneis, 2000), which has become of interest in the medical field, not only through Schleip (2012), but also within dissection and its relevance in training for medical doctors.

Robert Schleip MA PhD directs the Fascia Research Project at Ulm University, Germany and is Research Director of the European Rolfing Association. He is author and co-editor of several books and has written numerous research articles. For his discovery of active contractile properties in fascial tissues he was awarded the prestigious Vladimir Janda Award

for Musculoskeletal Medicine. The Fascia Research Group, is part of the Neurosurgical Clinic Günzburg of Ulm University, Germany. Up to 2016 it was part of the former Division of Neurophysiology of Ulm University. In close collaboration with other international research groups devoted to the rapidly developing field of fascia research, the Fascia Research Group attempts to explore the biomechanical, sensorial and physiological properties of the body wide fascial network in the human body (<https://www.fasciaresearch.de>, 2019)

James L Oschman an independent investigator, indicates the following:

The nervous system is seen as a relatively new invention that functions in cooperation with an older communication system that has had a much longer period of evolutionary refinement – the body-wide communication system regarding communication in the fascia and other components of the extracellular matrix and within the cells that maintain them. These considerations lay a foundation for exploring the nature of non-neural and no hormonal communications in the mammalian organism, as well as how the fascia interacts with the brain and therefore with consciousness. (Oschman, 2012, p. 103)

This is a relevant aspect of this study as it approaches the unity of the body, which is an important concept of osteopathy.

2.2.2.5 Holistic human

Dr. Deepak Chopra (1947), a medical doctor and an expert in the field of mind-body healing, is a world-renowned speaker and author on the subject of alternative medicine. His opinion is that limited literature, especially medical literature, identifies man as a holistic being. Medicine is broken down into fields or specialties, which are classified in along several axes, including age of patients, part of body, surgical or therapeutic, etc. (Chopra, 2015). Chopra (2015) declares that most of the literature considering the human as whole or holistic is found outside the medical profession, for instance in more anthroposophical areas, esoteric, psychological or spiritual genres.

One of the descriptions of a holistic human is found from Mark Passio, is an anarchist, independent researcher, public speaker, radio talk show host, conference organizer and freedom activist from Philadelphia (2014). The holistic human is essentially the by-product of our becoming aware of who and what we are. Below are five aspects of the holistic human.

1. The holistic human knows there is no separation from the environment.
2. The holistic human knows all beings, all consciousnesses, are part of the same “One Being.”
3. The holistic human knows only state of being “matters.”
4. The holistic human knows our “state of being” will be determined by our “beliefs.”
5. The holistic human knows our “beliefs” are built with our definitions.

These aspects might be a foundation to search further on the deeper meanings of life and an implication that there is more than the structural body to consider during medical treatment. The era of quantum physics also acknowledges a connection of thought and outcome (Chopra, 2015).

2.2.3. Conclusion

The heart has a great significance, especially considering historical contexts, within spirituality, mysticism, philosophy, and even in ancient medicine. Throughout history, this complex human organ was considered a special place that comprised emotion and consciousness. Referring to *Quantum healing* by Chopra, the beginning of the 20th century was characterized by technical and scientific development, industrialisation, and isolated laboratory research that ushered in an age of digital communication and increasingly sterilized patient treatment. Through the advance of quantum physics and its relevance for humans and their interactions with nature and also the technical improvements in demonstrating this inter-relationship, the connection of body and mind become apparent again (Chopra, 2015). Many

recent studies confirmed the importance of the heart, not only as a blood supplying organ, but also as critical to the heart-brain connection as an electromagnetic fulcrum, a sensory-receptive organ, a bio-photon emitting organ, and an endocrine gland. These newfound – yet age old – ways of considering the heart are now recognized as vital to human health (Armour, 2016).

The aspect of a continuity within the body was found in philosophy as the holistic human, and in the medical field in embryology where it's called the midline (Blechsmidt, 1963) and histology with the studies of the fascia,. Lipton concludes “we are speaking of a new basal paradigm, one based on an integration of new science and ancient spiritual wisdom. While no official name has yet been designated to describe the next version of civilization, we will identify the new basal paradigm as *holism*” (2009, p.231). This surely deserves further investigation.

2.3. Osteopathic Literature Review

2.3.1. Introduction

Maier's findings, especially through the interviews, established the heart as a main fulcrum in the body for osteopathic treatment (Maier, 2016).

The groundwork for the osteopathic literature review were the published and not-published writings and theses, provided by the library of the Collège d'Études Ostéopathiques de Montreal (CEO), on the heart (Maier, 2016), on the fulcrum (Taylor, 2008), on the Concept of the Central Chain (Zeller, 2012; Hellmayr and Plank, 2010; Caron, 2015; Danzl-Lehec, 2015; Godcharles, 2002; Sozanska, 2008; Bélanger, 2008) and on the Midline (Dunshirn, 2006).

Goodman`s thesis (2009) about Mindfulness in the Practice of Osteopathy already explored the holistic approach concerning the teachings of Still, the contemporary teachings of students, and the new-age/traditional application of meditation and the state of mind as osteopaths during treatment. Rollin Becker, (1910-1996) grew up in an osteopathic household. His father, Arthur D. Becker, D.O. was a prominent and respected osteopath, who served on the faculty with Dr. Andrew Taylor Still and later was dean of two osteopathic colleges. Rollin graduated from the American School of Osteopathy, and was also a teacher with Dr. Sutherland at his faculty. Dr. Becker was the president, from 1962 through 1979, of the Sutherland Cranial Teaching Foundation, an educational organization dedicated to perpetuating the teachings of W. G. Sutherland (Becker, 2001). In 1965 Becker presented a paper to The Cranial Academy entitled, “*Be Still and Know*,” in which he quoted Sutherland saying: “I have often said that we lost something in osteopathy that Dr. Still tried to get across, that was the Spiritual that he included in the science of osteopathy” (Sutherland, 1990, p. 24).

The concept of the central chain is mentioned often during lectures at College d’Etudes Osteopathiques (CEO) during training or courses. The references found on that concept are limited to non-published literature, mainly course scripts from Forget (2007).

After investigating the papers mentioned above for references relating to the research questions, the original published works of Still were reviewed to get an overview of his life and the time surrounding the development of osteopathy. In addition, Still’s contemporaries were considered, especially in looking at the research questions from different angles. The focus of this osteopathic literature review was on the foundation of osteopathy and especially concerning the era and literature that influenced Still. Still’s writings and his emphasis on the importance of the heart.

Contemporary osteopathic literature and other osteopathic relevant writings were taken into consideration for this literature review to answer the research questions.

2.3.2. Still's era

“In May 1853, my wife and I moved to the Wakarusa Mission, Kans., which was occupied by the Shawnee tribe. It was all Indian there” (Still, 1908, p. 56)

To understand the roots of osteopathy, the context and historical background of its founder, A.T. Still, must be considered. When he began his medical practice, he came in contact and studied with the elders of the Shawnee (Lewis, 2012). To better understand this group's culture, we should investigate its spiritual relations (Lucas, 2016). This tribe is known for its traditions and strong belief that nature and human beings are inextricably linked in the cosmos (Lucas, 2016). Still often referred to his experience with the Shawnees and told his students that the Shawnees believed in a Great Spirit, present everywhere, who could be reached by prayer and sacrifice. The students understood that Still shared the same spiritual belief. One of his students Herbert Bernard wrote about Still: “he taught us to reverence our bodies as the sacred temple of our spirit. Old Doctor Still believed in beautifying all things in this life” (Lewis, 2012, p. 102).

Still declared that all mysteries are hidden in Nature; all facts are found in Nature; all discoveries are found in Nature. “Osteopathy is founded on Nature. Osteopathy is natural. Osteopathy is Nature” (Lewis, 2012, p. 152). According to Still's students he understood nature as a union of body, mind, and the spirit of life, blended by the wisdom of God – a God more Native American than any other religious affiliation. Creator and Creation inseparable. Still affirmed that nature healed, not the doctor, and nature had no substitute for sleep, rest,

and right living. His foundation for osteopathy was grounded in the belief, what he integrated from the Shawnees (Lewis, 2012): God and nature were inseparable, nature is the embodiment of sacred wisdom and the source of arcane knowledge. Central to the Shawnee belief system was the principle that the earth and the water must not be harmed, for upon them depend the health of all and the perpetuation of nature's endless cycle (Trowbridge, 1939).

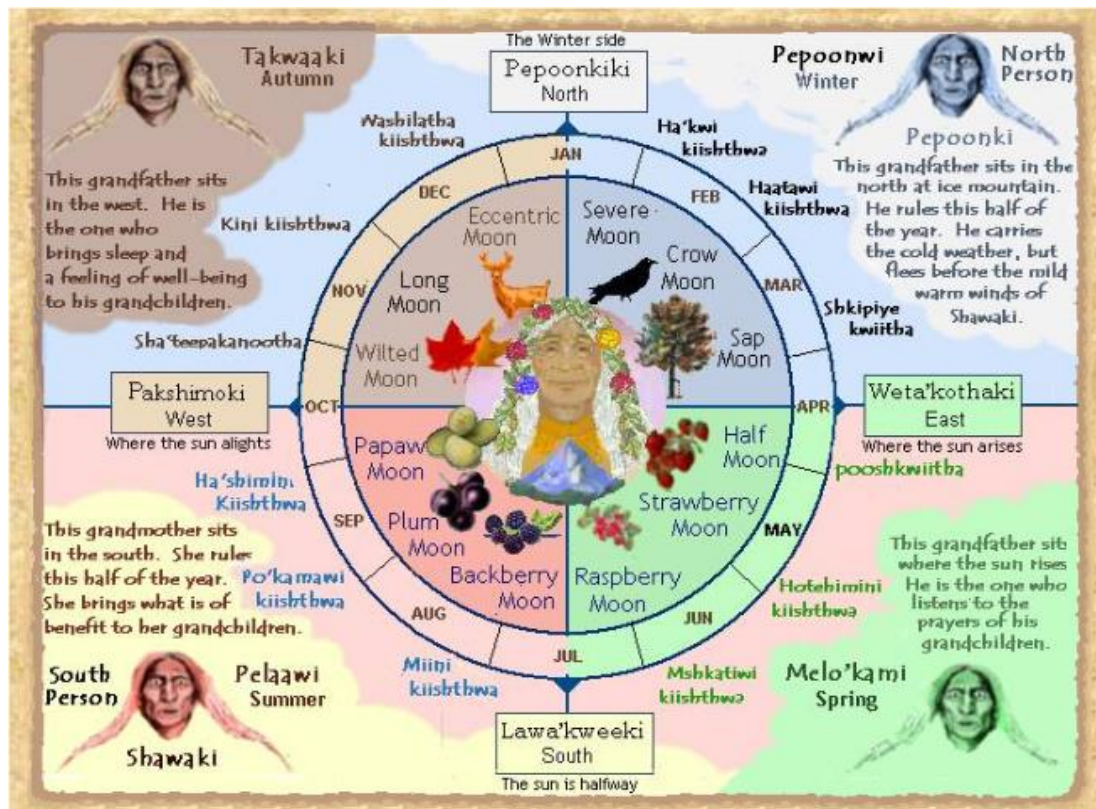


Figure 7. The Shawnee cycle of life
Retrieved from www.history-e-publications.com

This Figure 7 shows the relationship of men and nature and their connectedness to their ancestors. Important customs throughout the year help the tribe with the harvest and daily living. The Shawnees recognize the “four corners” (four cardinal directions), four seasons, four winds, four levels of the world, and four lives of animals (Trowbridge, 1939).

Still was an intellectual, well-educated for his time, and his ideas and writings were influenced by great thinkers of his era. The foundation of osteopathy is seen as based on several great personalities like Swedenborg (1688-1772), Goethe (1747-1832), Twain (1835-1910), Steiner 1861-1925), Einstein (1879-1955) as well as historic thinkers and contemporary anatomists, physicists, and spiritualists (Lewis, 2012). Still (1902) spoke at length of the many osteopathic roles for health and its connection to nature and his Creator: “We look at the body in health as meaning perfection and harmony, not in one part, but in the whole” (p. 44). Dusek (1999), a historian who compared and analysed the social history of science, claims that at the end of the 19th century a chasm between science and religion arose. When talking about osteopathy, Still stated that materialism has profound limitations when applied to the living being. Science cannot deal with these fundamental questions. Science and Religion express opposite sides of the same reality, one measurable, the other invisible and more remote (Lewis, 2012). Still had a great and inspiring friendship with the founder of the Methodist church, John Wesley, whom he often met and discussed matters of life and God (Lewis, 2012).

Our body's and our souls? What is a soul? It is a spirit, we know. But what is a spirit? And where is the soul lodged? In the pineal gland? In the whole brain? In the heart? In any single part of the body? Or- ‘all in all, and all in every part?’ how is the soul united to the body? What is the secret, imperceptible chain that couples them together? (Wesley, 1985)

This question has occupied many osteopaths, who believe in the connection of the whole organism and the unity of nature and man. One of the most mentioned elements is the heart (Fulfod, 2008).

2.3.3. The heart in osteopathy

Still published his works between 1899 and 1910, and he would refer to the heart time and time again as the primary giver of life, the mother of all nerves, and the organ responsible for creating and maintaining all life in the body (Still, 1902). Maier (2016) explored in great detail the osteopathic literature on the heart in relation to a main fulcrum of the body, revealing the heart as an essential element in osteopathic treatment. Her results from the interview data revealed that the osteopathic community for the most part accepts the heart as the main fulcrum of the body. Due to an overall synthesis of the varying views of the heart behaving as a central fulcrum within the body, including its neural, circulatory, fascial, and energetic components, Maier (2016) deemed it more accurate and appropriate to name the heart centre as the body's central fulcrum, encompassing T4, the intersecting lines of gravity anterior to T4 within the central line of gravity, and the heart in its pericardial sheathe. In this way, a more accurate representation of the central fulcrum of the body was identified (Maier, 2016). Not only the structural component as a potential fascial fulcrum is essential, though especially the emotional and vibratory range of the heart have their significance in treating – for the practitioner and the patient. Robert Fulford (1905-1997), who was inspired by Still's teaching, quantum physics and the body's energy fields, believed in using the vibration of love to treat his patients (Fulford, 2008).

Estey-Willick's 2012 thesis on the lemniscate found that some osteopaths were of the opinion that the heart may be the resultant point of all axes in the body. This concept was also endorsed by Van Den Heede (2016), who believed the heart built lemniscates or energy continuities between blood energy, biochemical energy, and mechanical/propulsive energy.

It seems that more research is needed into the osteopathic relevance of the heart and its connection to the unity of man to adequately apply this notion to osteopathic treatment.

2.3.4. The central continuity in osteopathy

In Still's writings the fascia plays an important role: "I know of no part of the body that equals the fascia as a hunting-ground. I believe that more rich golden thoughts will appear to the mind's eye as the study of the fascia is pursued than of any other division of the body," (Still, 1902). Stark wrote her thesis in 2007 on this topic "Still's Fascia", which contributed greatly to the understanding of connective tissue. Stark (2007) quoted Druelle in saying that the central line of gravity moves through all fulcrums, including the heart, along the central chain, which he believed acts in "enhancing the potential for resonance" and "promotes the individual's connectedness with the pure consciousness" (p. 388).

Looking at published osteopathic literature, different names for similar concepts arise. These shall be explained in more detail. First is the idea of the midline as originated from embryology. Dunshirn, an osteopath from Austria, has written a remarkable research paper on the midline - *Die Mittellinie in der Osteopathie –ein Balanceakt zwischen Struktur und Spiritualität* (The Midline in Osteopathy – A Balance between Structure and Spirituality). She interviewed van den Heede, who said the midline was on an "electrical level, to this potency-level" (Dunshirn, 2006). Van den Heede presents the theory of the tripartition midline, which breaks down to three parts:

- 1) Ventral midline
- 2) Dorsal midline
- 3) Anterior midline

The order of this list is derived from embryological development, referring to the order of origin. The ventral midline stands for "*the old*;" he also calls it "*air-line*." Its main representative is the notochord. Its formation must be induced before the so-called dorsal midline can evolve. He names the dorsal midline a "*fluid-line*" because of its close relation to the neural tube and its contents, the cerebrospinal fluid. It stands for "*integration*." The evolutionary youngest is the anterior midline; its main function is "*adaptation*," which he attributes to the "*line of immunity*." These three lines "*wrap up life*" (Dunshirn, 2006, p. 44).

Franklin Sills, who was inspired by Rollin Becker and James Jealous, wrote in his book - *Craniosacral Biodynamics* - that the Breath of Life is initially expressed as a midline function within the embryonic disc, arising from the Stillness of the source. Its manifestation is an expression of intention, the intention to incarnate and manifest as a human being (Sills, 1997). In his lecture given 1997 in Boston, Sills continues to elaborate the essence of the midline:

The Breath of Life can be experienced in rhythmic cycles of expansion. Its rhythm is found throughout the manifest world, an unconditional divine, unifying current. Its essence is expressed within the fluids of the body as potency. Potency is the expression of the universal within the particular (Sills, 1997, p. 64)

James Jealous (1996), another renowned osteopath influenced by the works of Sutherland, Becker and Fulford, describes the midline arising from the Stillness, generated by the Breath of Life. "The functional midline remains present throughout life and our structure and physiological motion remain oriented to this midline". In *The Stillness of Life: The Osteopathic Philosophy of Rollin E. Becker, D.O.* (2000), Becker spoke of a 'Master Fulcrum,' and made the following statement: "It is present and is the Breath of Life for that

individual,” indicating that this fulcrum was omnipresent in the human body (Becker, 2001, p. 179).

The only found reference on the concept of the central chain comes from the Canadian College of Osteopathy, developed by Druelle; mostly this concept is known through lectures, with limited published literature, though a few master theses mention this concept and discuss its relevance in osteopathic treatment. One thesis by Danzl-Lehec (2015), who studied at the DOK (Deutsches Osteopathie Kolleg) in Germany, examines the treatment of the central chain. She takes the definition of the central chain from a post-graduate course called the Concept of the Central Chain, which Druelle gave at a conference at Frauenchiemsee, Germany in 2013 (Druelle, 2010):

- La chaîne centrale représente une unité fonctionnelle permettant l'élaboration d'une cohérence centrale à la fois biomécanique, biodynamique et bioénergétique.

- Il s'agit d'une succession de fulcræ naturels issus d'équilibres réciproques qui permet l'autorégulation physiologique et la mise en résonance de notre Conscience en évolution et sa manifestation animée par la Vie.

- La cohérence centrale ainsi manifestée s'exprime à différents niveaux posturale, hormonal, vasculaire, nerveux, tissulaire, liquidien, vibratoire ... et permet de garantir l'homéostasie et la santé. –

(- The central chain presents a functional unity, which permits the elaboration of a central coherence, which is of biomechanical, biodynamic, and bioenergetic quality.

- It is about a succession of natural fulcrums, brought about by reciprocal equilibriums, which permit a physiological autoregulation, and bring our evolving consciousness in resonance, and its animated manifestation by life.

-This manifested central coherence expresses itself on different levels – postural, hormonal, vascular, neurological, tissular, fascial, fluidic, and vibratory – this permits to secure the homeostasis of health (Personal Translation)).

Danzl-Lehec explores the effect of treatment when working in connection with the central chain, and her results suggest that we should take into account how the body connects on many levels in order to heal effectively. This effect is something that Still already made clear when he said: “We look at the body in health as meaning perfection and harmony, not in one part, but in the whole” (Still, 1902, p. 34).

In conclusion, it is remarkable to note that there are different concepts considering the whole of the person. From a craniosacral biodynamic perspective as applied by Jealous and Sills, it is called the midline, with the breath of life emerging, having its origin in embryology. A traditional osteopathic background, with the teachings from Still, Becker, Sutherland, Fulford, supports the concept of the central chain, with its connection on different levels (Forget, 2014). Comparing these two concepts could be valuable to investigate. Notably, osteopaths base their science in *physics*, whereas Western allopaths practice *chemistry* – their pharmacodynamic tools treat chemical moieties known as genes and gene products. Osteopaths recognise the basic chemistry of genes, but focus on the *physics* as well as *quantum physics* of the midline within the double helix itself (McPartland, 2005). Albert Einstein (March 14, 1879 to April 18, 1955) was a German mathematician and physicist who developed the special and general theories of relativity. In 1921, he won the Nobel Prize for physics for his explanation of the photoelectric effect. Up until now his research and his ideas

are very influential. He had a close connection to different parts of physics, mathematics and also philosophy, see Figure 8 (Neffe, 2013).

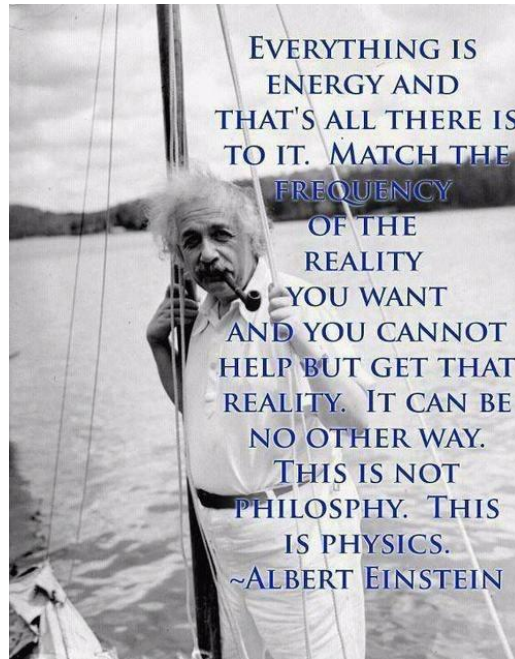


Figure 8. Albert Einstein – postcard bought in London 2017

2.4. Peruvian Literature Review about Traditional Andean Healing

2.4.1. Introduction

Para mi solo recorrer los caminos que tienen corazón, cualquier camino que tenga corazón. Por ahí yo recorro, y la única prueba que vale es atravesar todo su largo. Y por ahí yo recorro mirando, mirando, sin aliento. (Castaneda, 1997)

(For me there is only the travelling on paths that have heart, on any path that may have heart. There I travel, and the only worthwhile challenge is to traverse its full length. And there I travel looking, looking, breathlessly (Castaneda, 1997)).

To understand traditional Peruvian healing methods, we must explore the context of the Peruvian culture. Peruvian culture as it is today, exists since the Spanish Inquisition in 1572, when the last Inka ruler, Tupac Amaru I, was killed (Arguedas, 2015). The reliable literature about Peruvian history was written by Spanish-Peruvians trying to re-capture the Inka dynasties (www.discover-peru.org). So sometimes it was not easy to discern the authenticity of information within the existing material. To find relevant literature concerning Peruvian healing and their tradition the keywords were applied in scientific and non-scientific sites and publications. The main sources for this chapter include Arguedas, a native historian (Arguedas, 2015), Jenkins (2013), an author about the Inka tradition, Wilcox (2004), a healer and historian of the Andean healing tradition, Torra (2013), an indigenous cultures historian; Oviedo (2014), an Andean traditions teacher; Dunn and Driessen personal friends and teachers of Andean customs and rituals (Dunn, 2016; Driessen, 2011), who lived in the Andes and work with the locals, as well as personal encounters with indigenous people of the Andes.

The origin of the Peruvian, and especially Andean, mystical tradition is lost in time, as it was only passed on orally, and was customized after the Spanish Inquisition. In an oral culture, only that which is of high value withstands the test of time. So being a practical

culture, what remained with the Peruvians were traditions that were useful in generating well-being for the individual, community and culture (Arguedas, 2015). The Q'eros, who live in the high Andes, have retained much of their Peruvian heritage and are known as the keepers of ancient knowledge and as one of the most highly respected mystic tribes in the southern and central Andes (Beck, 2016). Their language is Quechua and is present in many traditional customs. The Q'eros have a unique knowledge base that ranges from ancient spiritual practices to their famous weaving techniques and finally to agricultural expertise (Jenkins, 2013). Andean weaving is rich with innumerable Quechua symbols and patterns, as seen in Figure 9.



Figure 9. Andean weaving
Photograph taken at Valle Sagrado in 2016.

Anthropomorphic, zoomorphic, and geometric patterns tell complex stories of the interactions between the artisans and their natural environment. Every detail of a textile conveys meaning, from the woven symbols themselves, to the colors and spin of the yarn, to

the placement of Quechua symbols in relation to other icons woven into the textile. Their traditions, customs and beliefs were communicated through their myths and legends, their urban planning, ceremonies and festivals, dances, symbols, and in their language (Torra, 2013).

2.4.2. History of Peru and Andean tradition

The Inka civilisation began around 1,000 AD and developed from earlier cultures such as Chavin, Tiahuanaco, and Wari. Inkas believed that they invoked together the Creator God, *Viracocha*, and the Sun God, *Inti*, thereby regarding themselves as the “Children of the Sun” (Cartwright, 2014). At the height of the Inkan Empire around 1550, the Inka tradition was the source of spiritual nourishment for about 16 million people, thereby sustaining a world empire in matters of faith. Some relics remain today in Peru, like Machu Picchu, Ollantaytambo, and sacred sites in Cuzco, which was the capital during the era of the Inkas (Bakula, 1997) Not to get lost in the history of Peru, which is a very fascinating and interesting, though page filling, the focus here is on the healing tradition of the Andes, and especially the Q´eros, as they are the best-known keepers of this tradition according to Peter Suchy, the leader of a humanitarian mission to the Andes (<http://www.qero.at>). In contrast, the healing traditions of the Amazonians who reside in the jungles of the Amazon River are distinctly different and not part of this study (Villoldo, 2009).

The Sacred Andean Tradition is one that works primarily on an energy level. By tuning into the refined energy of the *apus* (mountain spirits) and *Pachamama* (Mother Earth). To Andeans, *Pachamama* is not simply the earth element.

She is our living, breathing, life-giving mother who loves unconditionally. We plant one kernel of corn and she gives back to us hundreds. We give her our heavy energy and she gives back new perspective and new life. (Dunn, 2016, p. 23)

For the Andean tradition, the entire universe and all that is in it consists of living energy, *kawsay*. People can move this energy using their intentions, their minds (Beck, 2016). When it comes to energy dynamics, the Andean tradition is more digital than analog. There are two expressions (or kinds) of energy in relation to the human energy body, but they are not really energies as much as informational states about energy. There is either *sami* (*kawsay* that moves) or *hucha* (*kawsay* that is slowed or barely moving). There also are two energy relationships, and in this case the dynamic is almost purely informational: *masintin* and *yanantin*. Either an energy you are in engagement with or in relation to, it is similar to your energy state (*masintin*) or it is dissimilar (*yanantin*). Furthermore, energy is either compatible or not compatible with your energy state (Oviedo, 2014). Important to this concept is the fact that energy is just energy; there is no moral overlay: no good, bad, positive, negative, angelic, demonic energy. So *kawsay pacha* signifies the world of living energy, *kawsay* means living energy and *pacha* means space-time – the Inkas understood that space and time were interrelated as informed by Wilcox, 2016 in a personal communication on 23rd of August 2016.

An important aspect of living a fulfilled life is the balance of *munay* (love), in the human body, which is the root of the Tree of Life (*sach'amama* – mother tree). *Munay* interconnects all of creation to form a greater whole (Torra, 2013); it spans the feet to the abdomen and connects us with Mother Earth, who represents earthly love. The feet and legs are the human part that connects to earth, and the abdomen, from which proceeds human life, is linked to the womb of the earth, which gives life to all types of beings on the earth (the

feminine). *Munay* complements *yachay* (wisdom), which consists of flowers and fruits, and extends from the neck to the top part of the head, connects us with Father Sky, and represents cosmic wisdom. This is the human space where reactions, responses, or mental results are manifested with respect to life, from ignorance or unconsciousness to wisdom (the masculine). For the Andean people, only a person in the fullness of love (*munay*) and in wisdom (*yachay*) is able to recreate (*llank'ay*) life in a harmonious and balanced way, which is the destiny and challenge of human beings, or their mission in this state or expression of life (Oviedo, 2014) and can be seen in Figure 10.



Figure 10. Inca Religion
 Photograph taken at Cusco in 2016.

2.4.3. Peruvian healing tradition

A *Paqo*, a practitioner of the Andean healing tradition, behaves differently than the more commonly known *shaman*, as he does not seek a state of altered consciousness but a state to "see reality as reality is." Guided by his own intention, the *Paqo* moves in a playful way between the three worlds: The world we live in (*kay pacha*), the upper world (*hanaq pacha* or higher self) and the *uku pacha*, (the inner world or shadow world). He is always connected to these three worlds and in direct touch with *pachamama* (Mother Earth), the *apus* (the mountain spirits) and *ñustas* (a feminine nature energy, princess of the mountain), his *itu apu*, *paqarina* (other words for nature energy and guardian places) and his guiding star as well as his ancestors, teachers and helpers (Wilcox, 2004). Table 2 shows a list of different Gods that the Inkas worshipped and are still part of present-day Peruvian custom.

Table 2
Overview of the different gods the Peruvian worshipped

Viracocha	The Creator, he created the Sun and the Moon.
Inti	The Sun and most important God in Inca religion, he ruled above all others
Mama Killa	Mother Moon, wife of Inti
Illapa	God of Weather. Thunder and war
Ekkeko	God of wealth
Imahmana Viracocha	Son of Viracocha, sent to earth by his father to verify people follow his commands
Apu	Mountain God
Mama Cocha or Cochamama	Mother Sea
Chasca	Goddess of the dawn and the dusk, Protector of young girls
Supay	God of Death
Coco Mama	Goddess of Health and Happiness
Urcaquary	God of treasures and buried riches
Pariacaca	God of Rain and Water.
Mama Oello	The mother Goddess of the Incas, she taught the Incas spinning.
Zaramama	Goddess of Grain and Corn
Mama Pacha or Pachamama	Goddess of the Earth

Retrieved from Arguedas (2015).

The practitioners of the Andean tradition also refer to themselves as *curanderos*. One of the most important concepts of Andean traditional healing, which the *curanderos* always

apply, is *Ayni*. There is no real translation for this word – it is a meaning of several things. (Castaneda, 1997)

Ayni is a reflection of the reality that exists in the energy world, where everything is connected and interrelated. *Ayni* is therefore simply a description of reality and seeks to remind us of our innate abilities as co-creators of our world.

(<https://qerofoundation.wordpress.com>).

According to Appel and Beck the law of *ayni* is multifaceted, but simply put: When you give something, you are entitled to get something back, and when you get something you have an obligation to reciprocate and give something back. The Q'ero call this law the sacred art of reciprocity because they want to bring the energy back to the divine – to that which is One. However, *ayni* is more than just this return of energy. It is about lifting each other up to higher levels so that everyone grows. It is about sharing, so all have what they need. It is about sharing knowledge and wisdom so that humanity grows, and harmony is strengthened. *Ayni* is a form of equality (Appel and Beck, 2015).

Most *curanderos* experience a certain initiation during their lifetime, and then find their master, where they learn and study and go through various rituals (Wilcox, 2004).

There are two types of *paqos*: the *Pampa mesayoq* – he is a master of the nature energies, particularly of the feminine energies, those of the *pachamama*, the “cosmic mother.” *Pampa mesayoqs* are initiated into the ways of the nature spirits and are responsible for giving them ritual acknowledgment, including for the rivers, the trees, the rocks, the plants, the animals, which serve nature as well as their community. With all their experience they are experts in making *despachos*, a gratitude ceremony to mother earth, in *coca* divination, and at

herbal and energy healing. *Pampa mesayoqs* serve as intermediaries between villagers and the supernatural forces that affect every aspect of their lives (Calverley, 2006).

The power the *curanderos* receive is awesome in its beauty and in its capacity to penetrate to the heart of the healers' universe. By taking the pulse of the metaphysical, the *paqo* learns to reveal the condition of the physical. (Castaneda, 1997)

Pampa mesayoqs can treat a physical disease, diagnose a psychological or spiritual illness, and propitiate the spirits to increase your good luck and fortune, or cleanse your house or energy field of heavy energy (*hucha*) (Wilcox, 2004).

The *alto mesayoqs* of Q'ero are the most highly regarded in the Andes. They need to receive all the *karpays* (initiation) from their mentors. They must maintain balance between the world of *pañã*, the ordinary, and *lloq' e*, the non-ordinary world. *Lloq' e* is what connects the *alto mesayoq* with mystery and enigma and what connects him with the unfolding of unknown energies (Pratt, 2007).

Most of the times the first initiation of an *alto mesayoq* is by being struck by lightning and surviving, that is the call to the sacred path. Anthropologist Washington Rozas Alvarez writes: "The apus chose paqos through lightning and can choose any person. He will feel chosen, *qoñinruna*, which means 'person chosen by ray'. After this, he will look for a Master from whom to receive the *karpay*, which is the initiation." (Rozas Alvarez, 1983, p. 253).

An *alto mesayoq's* training is long and arduous, often spanning a decade, and includes enduring many trials and tests (Rozas Alvarez, 1983) that test the candidate spiritually,

physically and even financially. An apprentice provides payment to a teacher in money, alpacas, llamas, and personal labor during the training period (Appel and Beck, 2015).

Figure 11 shows the different aspects of the healing tradition with the Q'eros, in the Andes.



Figure 11. Q'ero medicine wheel

Retrieved from <http://www.drakeinnerprizes.com/shamanmw.htm>

2.4.4. *The heart in Peruvian healing*

The most reliable literature on Peruvian/Andean healing, of which there is little, is by Wilcox, where there is a wide agreement of the sacred healing path from different *curanderos* to what the researcher experienced herself during the training in Peru.

The underpinning of authentic service of Peruvian healers is the feeling of joy, not to be mistaken for happiness, an emotion, which is transitory and dependent on external circumstances. In contrast, joy is a state of awareness and being that is immune to what is happening in life. It emerges unbidden from the heart, from the soul, from the life source of your being says Wilcox (2016). The Inka Seed and heart have no *hucha*- heavy energy. They are pure *sami*- light energy, and so while it is possible to bring more *sami* to the Inka Seed and the heart for additional empowerment, there is no need to clean them. It is the connection with *Wiraqocha*, the god of creation. It is the link with our divinity and encodes our fullest potential, and as such it always has been and always will be pure, no matter what happens as human beings in the course of our lives. The heart is the place where *munay* is perceived, and also is the foundation of the Andean mystical tradition (Jenkins, 2011). The heart is often described as unconditional love, and the Andean *paqos* define it as love grounded in will. This aspect of unconditional love is quite important for Andean energy work. In the energetic body, *munay* is not found singularly in the heart but is a fusion of the energy of the heart with the Inka Seed. When these two centers merge, something greater results, and that is *munay* (Beck, 2016).

Munay is infused with the flow of energy from all the *chunpis* (energy belts) and with the *kawsay* from outside us, from the cosmos. The Inka Seed can be thought of as the God/Cosmos Within; the *kawsay pacha* and world are the God/Cosmos Without. The union of

“within” and “without” happens through *munay*. Only *munay* integrates the two (Driessen, 2011).

Because of this energetic back and forth, of the within and the without, it makes sense that *munay* must include will. Not as in willfulness or willpower, but as in directed intent—as in having the personal energetic power to carry out the intent. Also, it is will as in direct personal experience explains Wilcox (2016).

2.4.5. Continuity within the body

The aim of the Andean tradition is to see reality for what it is—not only with the physical eye but also with the *Ñawis*, the energetic eyes of a human’s energetic body, the *chunpis*. The concept of chakras is Eastern—usually Hindu or Buddhist—in origin. The *chunpis* are Andean cosmic tradition as it is passed down from Juan Núñez del Prado one of the masters of the Q’ero (Torra, 2012). The following explanation is taken from Q’enti Wasi by Wilcox (2004) and offers a comparison of these two concepts.

To call the *chunpis* “chakras” is to confuse two entirely different traditions, for as one will see, there is little to no similarity between *chunpis* and chakras.

Chakras are usually described as spinning or swirling vortices of light energy. The word itself is Sanskrit for “wheel” or “disk.” Traditionally, seven of them align along the spine from the root of the body to the top of the head. They are centers where energy and matter meet, facilitating the flow of life-force energy. The chakras are aligned with major nerve plexuses and organs of the body, and each is associated with a color, and with various human emotional traits and states of consciousness (Mahswarananada, 2006).

The *chunpis* are belts or bands of *kawsay*, the animating energy of the universe. This Quechua word literally means “belt,” of which there are four and a quasi-fifth belt. The lower belt is at the trunk of the body, wrapping around the hips and between the legs. The three other *chunpis* are around the belly area, the chest area, and the throat area. The fifth belt encompasses the two physical eyes and the seventh eye (also known as the third eye) at the center of the forehead (Medicina Andina, 2018).

The *chunpis* are not wheels or disks. They are bands that wrap around the body and interpenetrate it. They are not connected to or aligned with the spine, as chakras are, nor do they spin. Figure 12 shows that the energetic body has bands called Chumpis, which, in a number of four, begin in the Ñawis surrounding the Poqpo in the form of a strap.

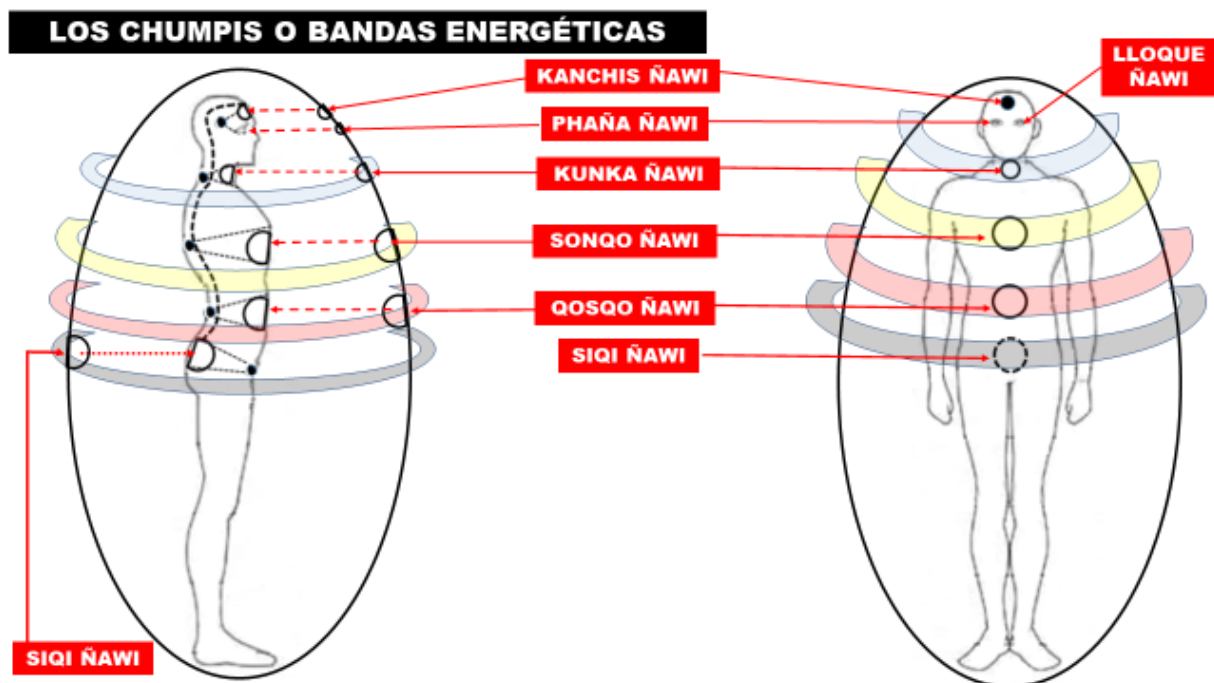


Figure 12. Energetic body showing four Chumpis and Ñawis
Retrieved from <http://karpayni.com/tradiciones-milenarias/tradicion-andino-amazonica/cosmovision-andina/>

The *chunpis* do not exist until woven into their *poq'po*, which happens during the *karpay*, called the *Chunpi Away* (pronounced “ah-why” and which means “to weave” in

Quechua). In contrast, the *ñawis* exist from birth. The work is to “awaken” or “open” these mystical eyes. This part of the *karpay* is called the *Ñawi K'ichay* (Driessen, 2011).

Both the chakras and the *chunpis* are associated with colors and elements. The seven chakras from the lowest chakra to the highest are associated with the following colors, respectively: red, orange, yellow, green, light blue, dark blue/indigo, violet.

For the *chunpis*, the lower belt is black and associated with water. The belt around the belly is red and related to earth (this belt is not associated with the sacral and solar plexus areas; it is around the entire trunk of the body at the belly area and the eye is usually located below the navel). The belt around the chest/heart level is gold and associated with the sun. The belt at the throat is silver and linked with moon and wind. The quasi-fifth belt comprising the two physical eyes and the seventh eye is violet (Appel and Beck, 2015).

Both the chakras and *chunpis* mediate flows of energy to and through the energy and physical bodies. The consequence of blocked or stalled energy is the same in both systems, loss of well-being. However, the similarities of the energy dynamics stop there.

For the chakras, the four upper chakras are said to relate to spirituality and the higher cognitive and emotional capacities, such as insight, creativity, and love. The three lower chakras are associated with the more physical and instinctual selves, including survival, self-image, social bonds, power, family, and the like. The elements and senses of the belts are usually identified as follows: the root chakra with earth and sense of smell, the sacral with water and taste, solar plexus with fire and sight, heart with air and touch, throat with ether and hearing, third eye with light and perception, and crown with spirit and being (Wilcox, 2017).

The *chunpis*, in contrast, each confer a specific range of capacities. The entire range of energy practices is to master one's energy to perceive and relate to every nuance of *kawsay*. Since the entire cosmos and everything in nature is made of *sami*, there is nothing to protect oneself from. The capacities of consciousness encoded within the belts can be known or have development potential. The specific capacities are the following (Appel and Beck, 2015).

The three eyes (two physical eyes and seventh eye) confer a capacity for insight and mystical vision, called *qaway*. At the throat, the capacity is *rimay*, which is to speak with integrity and power, even magical power, such that the sounds or vocalizations you make can affect physical reality (Medicina Andina, 2018).

At the heart and Inka Seed level is *kanay*, the capacity to be who one really is, to express and live one's mission here on Earth. According to Appel and Beck the Inka Seed to one's essence and to recognize one's power of being (Appel and Beck, 2015).

At the belly, the *qosqo*, is personal power, especially in relation to the kinetic capacity to take action in the world and to live with *kuyay*, or engaged passion (Salcedo, 2017).

At the root, the capacities involve being able to act for maximum effect and to measure the power at the current time.

The physical, mental, emotional, psychological and energetic capacities of the *chunpis* and *ñawis* are quite distinct from those associated traditionally with the chakras. Knowing the difference between these two systems of describing energy points on the body is important (Wilcox, 2017).

Figure 13 shows the Ñawis, which are connected to the energy centers.

LOS ÑAWIS O CENTROS ENERGÉTICOS

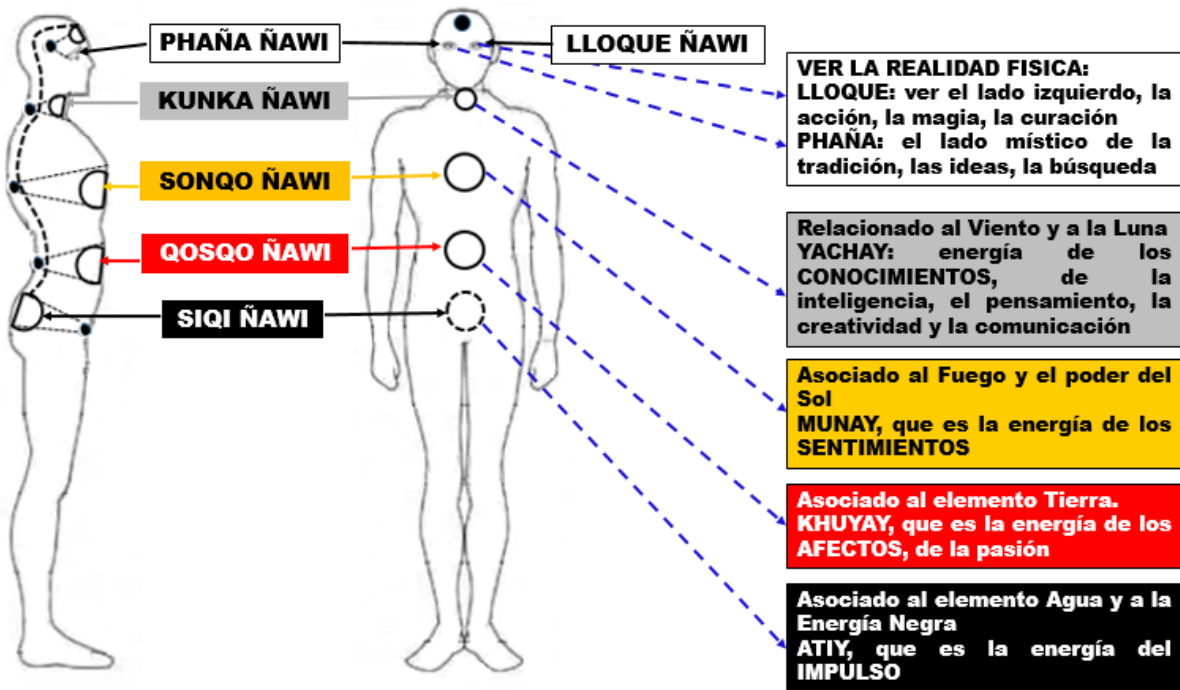


Figure 13. Ñawis connected to the energy centers

Retrieved from <http://karpayni.com/tradiciones-milenarias/tradicion-andino-amazonica/cosmovision-andina/>.

There is still much more to say about the Andean healing tradition and the sacred path of Initiation. Additional information can be found in APPENDIX C

2.5. Conclusion

In regard to this study an extensive literature research on non-osteopathic, osteopathic and Peruvian data was conducted and elaborated. The research was expanded to different contexts and languages to achieve a reliable and rich amount of valid information. It appeared that there is a lack of reliable written material or at least it was not easy to discern within the material that exists. Because of this lack of information this presentation is only one part of the information as other parts are not available in writing. For example contemporary writings on the concept of the central chain outside of the CEO, though it was the goal to expand further to

other areas. Also the concepts in Andean medicine are focused on the transmitted and written documents of the Q'ero.

The heart appears often as an element in non-osteopathic literature, especially in psychological, esoteric, philosophical, ancient, spiritual, and anthroposophical circles, as well as in medical sciences relating to its functional and structural aspects. Some of these studies are connected to osteopathic principles and deserve continued contemplation alongside ongoing scientific research.

On the topic of a continuity within the body the only reliable non-osteopathic information was in the field of embryology. So it is necessary to bring more interest onto that issue, and clarify or even emphasise it to the scientific world of medicine.

The osteopathic literature review, conveyed more information on the heart, especially as Maier (2016) had it extensively elaborated focussing on the heart as a main fulcrum.

Unfortunately, not much published osteopathic literature was available on the concept of the central chain, except by Druelle and in some recent theses, including those by Brigitte Danzl Lehec (2015), Marie-Claude Bélanger (2008), Line Godcharles (2002), Carole Lachance et Carole Leduc (1996). These have been used as a foundation in understanding of the research subject.

The other reference is in craniosacral biodynamics, where a continuity within the body is called the midline. This idea is encapsulated in the *Breath of Life*, as it is called by Sills, the founder of craniosacral biodynamics (Sills, 2001), and there are some written documents on that. Craniosacral biodynamics is a topic for further examination as it seems to be important to

osteopathic treatment. The significance of the midline is, as it turns out from the literature review, more on an energetic level (Jealous, 1996).

The literature review of Andean healing tradition was quite strenuous, as not much original published literature was found. The growing interest of the Western world in traditional healing methods augmented the written documents, although its sources are questionable, and great care of origin were taken. The connection of a central energetic midline was discovered in a profound review of Peruvian and Andean literature (Appel and Beck, 2015). Due to personal interest, the researcher got involved in the sacred path and was mentored by Andean curanderos, who also contributed to the literature review and in the understanding of the topic.

The heart as a linking element seemed justified, though there are more similarities, which can be further investigated. The Andean healers don't acknowledge the heart so much as an organ, but more the energy, the love that is related to it (Appel and Beck, 2015). This relation is called *munay* and is essential to life. The question to that revelation is: is there a relation of the heart with its energetic properties as seen by the Andean healers to current scientific findings and views held by the osteopathic community?

Still believed in the unity of spirit, nature and man (Still, 1908). The Andean healers are very connected with the cosmic energies, creation and all living beings (Appel and Beck, 2015). So, could there be a consent within these aspects, of how osteopaths see healing, with the spiritual aspect of the Andean tradition? Hence it is worth to investigate further and see what other connections exist.

CHAPTER 3. METHODOLOGY

3. METHODOLOGY

3.1. Introduction

This chapter outlines the methods and procedures used to conduct this study: collecting the data, organizing, analyzing and synthesizing the data.

Exploring and comparing the views held about this research topic allowed for deeper understanding—This research is similar to Maier's (2016), though different in its goal and purpose, the two methodologies are comparable. Maier's thesis explores the heart as a central fulcrum of the body, with more allopathic and structural emphasis. Whereas this study examines the **significance of the heart as a fulcrum in relation to the central chain/ a continuity within the body** and its relevance for a holistic approach in healing, such as osteopathy. This aspect is then put into relation with the traditional Andean healing as its foundation could potentially come from similar natural philosophy as osteopathy.

This chapter includes the research design, the methods of data collection, sampling strategies, the data analysis as well as the issues of ethical consideration, trustworthiness, transferability, and bias.

3.2. Research design

Method is an important consideration when beginning a research study. This study intends not only to be scientifically valuable for the osteopathic community but also to other professionals exploring health and holism. The first step was to find the adequate method for this research. Professions which are based on philosophical foundations and which have traditionally emphasised on holism, patient-centeredness, and a wellness model of care, and

are therefore different from the quantitative approach of medicine fare better by applying qualitative studies with the sociocultural and interpretive approaches (Burns and Burns, 2007). Therefore an ethnographic-qualitative study with in-depth expert interviews was chosen to amplify the experiences and wisdom of osteopathic professionals and authentic Peruvian healers (Dufour, 2012). Ezzy (2002) points out that qualitative research is done through establishing relationships with people, places, and their customs. Qualitative observation and data analysis are best done when the observer becomes part of the pattern (as in the art of weaving). Ezzy (2002) implies that qualitative analysis is also a dialogue between tradition and innovation. Rigorously conducted qualitative research listens attentively to “the data” or to “the other” during interviews and as a consequence reveals new understanding and builds new theories (Froschauer and Lueger, 2003). Qualitative research does not pretend to be uninfluenced by pre-existing understandings. Rather, it actively engages these pre-existing understandings, theories and assumptions, allowing them to be transformed and changed into new theories (Dufour, 2012). Lapan et al (2012) define theory as a statement about relationships between variables or concepts. A theory is important for qualitative research as it shapes both how qualitative data analysis is conducted and also how it is analysed and interpreted (Ezzy, 2002). Field and Morse state that the qualitative researcher's emphasis is on the construction of the theory, and the quantitative researcher's emphasis is in the testing of the theory (Ritchie et al, 2013).

To better understand the heart as a physiological structure and metaphysical concept and how it is fundamental to both osteopathic treatment and the Peruvian healing tradition, different fields of study were explored. Osteopathic philosophy is a critical part of a

practitioner's understanding but ongoing scientific testing is also necessary to validate this method of treatment.

In the pursuit of this study the following procedures were approached:

- Osteopathic documents available at the different osteopathic schools, CEO affiliated and non-CEO affiliated, concerning the heart or concept of the central chain were read as a preliminary base for information and a source for references. These documents included: course scripts, presentations, theses.
- Historical and contemporary published books and articles pertaining to osteopathy, medicine and Peruvian and Andean traditional healing were key to researching the different aspects of the concept of the central chain and the heart. The establishment of keywords, which are listed in Table 3, helped to precisely search for material concerning the research questions.
- During the literature research and review phase, the questions for the interviews emerged, and were verified in close contact with colleagues and the research advisor. They were modified to achieve a better and more comprehensive understanding of the research topic. As suggested by the Jury following the protocol, open-ended questions were formulated to have the ability to evoke responses that are meaningful and culturally salient to the participant, as well as unanticipated by the researcher and also rich and explanatory in nature (Mack et al., 2005). The questionnaires can be seen in Appendices D and E
- To learn more about the traditional Peruvian healing the researcher spent about 9 months from July- Dec 2015, and from July-Sept 2016 in different parts of Peru. The personal encounters with the locals and engaging with indigenous Peruvian healers

made it possible to have true experience of Peruvian culture and also to meet traditional healers for the interviews.

- To achieve a diverse sampling of osteopathic representatives various international conferences and courses were visited or osteopaths were met by recommendation. All osteopaths were approached in person and asked for an interview, respecting their time and dignity refer to Appendix F
- During the interview process, the experts revealed new thoughts, which led to a more in-depth consideration of certain aspects related to the research questions and intensified the literature review. Therefore, the collected data even more augmented and clarified the results and its impact for this investigation.
- The analysis of data was done after transcription and validation of the transcripts by the interviewees. An external statistician as informed by Appendix G quantified and verified the collected data.
- After analysing and synthesising the documents from the literature review and the data from the interviews the findings lead to a conclusion to answer the research questions.

This list of steps was followed to develop this study. In the following parts the procedure will be explained in detail.

3.3. Methods of data collection

Maier (2016) states in her thesis that the researcher collecting the data could weaken a qualitative study. To insure objectivity and accurate analysis, the use of triangulation methods for data collection was employed. This procedure established the validity and the trustworthiness of this study without creating bias (Bloomberg and Volpe, 2012):

- **Documentary text** was reviewed in non-osteopathic literature from ancient to present, including latest results of contemporary medicine and scientific research. This approach is essential for a sufficient understanding and exploration of the significance of the heart and the continuity within the body outside of the osteopathic field.

- **Osteopathic literature** from when it first appeared to today was reviewed. This wide time span gives the study historic context within the osteopathic field. Respecting the studies from other authors on the heart, Maier et.al, who referred to the more allopathic approach of the topic, this study focuses more on the holistic view.

- **Peruvian literature** was searched to gain insight into Peruvian culture, tradition and healing methods.

To gain further independent insight, two sets of **interviews** were conducted. One with thirteen experienced osteopaths and one with seven genuine Andean healers that offer their expertise and add to a greater understanding of the research questions.

3.3.1. Sampling methods

For the literature review, relevant published and non-published documents were found through databases and references from colleagues that contributed to answering the research questions, so a criterion sampling process was applied. In order to select adequate interview participants, expert sampling was chosen to collect data from personal experience. These were the two types of purposeful sampling methods (Bloomberg, 2012).

3.3.1.1 Criterion sampling

Whilst there are no closely defined rules for sample size, sampling in qualitative research usually relies on small numbers with the aim of studying in depth and detail (Patton, 2015). Seeking a richness of information about a particular phenomenon, the sample is derived purposefully rather than randomly (Ezzy, 2002).

To satisfy the effort of adequate literature research, it is necessary to develop an appropriate grid according to the keywords until the topic has been saturated (Bloomberg, 2012). The sampling for the literature data evolved with the diversity of the collected information, including articles, with references to primary sources, and also talking to colleagues, until no more information emerged from the gathered documents. This pursuit was an ongoing, even during the thesis writing.

After exploring the non-published theses and papers related to the research question from the CEO affiliated schools, the researcher continued to investigate the references from these documents within the historical osteopathic and non-osteopathic literature: first of all to gain an overview of the heart and its related notions as well as on the continuity within the body, wherein systematically keywords were specified to gain relevant information for answering the research questions, referring to Table 3 on page 77. It was relevant to look at primary sources (first-hand writings and factual accounts of events) as well as secondary sources (interpretations of primary sources) of osteopathic literature from the establishment of osteopathy until today, non-osteopathic literature and literature on traditional Peruvian healing, relying on online databases like: Google, PubMed, Osteopathic Medicine, osteopathic-research, museum of osteopathic medicine, research gate, Thieme Online, HeartMath Institute, qualitative research.net. Also sourced were journals like: Osteopathische

Medizin, HeartMath Institute Journal, Neuroscience Journal, research net and libraries online, like Steve Paulus Osteopathy, InkaWorld, Q'enti Wasi, and in person. This broad source of reference material led to a more extensive preoccupation with the research topic and added to a greater variability of insight.

For this study's goal, purposeful criterion sampling indicated that documents, published and non-published related theses, journal articles, and books printed in English, French, or German be included in this investigation, especially considering recent research on the heart and on a central continuity within the body. Archival and current osteopathic literature from different countries was examined referring to the requirements, mentioned above and the use of a pre-set list of keywords, which are listed in Table 3.

Table 3
Primary keywords for literature research

Non osteopathic literature	Osteopathic literature	Peruvian literature
Heart (different aspects, and different languages)	Heart	Heart
Continuity of the body	Continuity/Central Chain, Midline	Peruvian/Andean Healing Continuity of the body
Midline	Tree of life	Inka Tradition
Holism/holistic human	Holism	Tree of life
Neurocardiology	Breath of life	Shamanism/curanderos
	A.T. Still	Inkan mysticism

With fluency in English and German and lesser ability in Spanish and French, the researcher had access to a wealth of literature. To establish an understanding of the founding of osteopathy and its contemporary influences, the researcher implemented the literature review with the works of Still and included relevant written documents from influential osteopaths of Still's contemporaries until latest international publications. This literature

review continued as also the references of the collected data were integrated and also recommended literature from the interview participants were studied.

The same method was applied for the literature on traditional Peruvian healing. Though much discourse exists on shamanism, not so much on authentic traditional healing, which is why the interviews were critical to understanding this subject. In addition, the interview participants contributed useful information and literature.

3.3.1.2 Expert sampling

In order to glean useful knowledge from authorities in relevant fields, the expert sampling technique was used. The purpose of ‘expert’, or ‘representative’ sampling, is to attain a general understanding that can be applied to a larger population. Therefore individuals known to be experts in their field are chosen to represent a specific group of professionals (Polgar, 2008). Hence, this sampling method identified key participants in an effort to ensure the data would highlight potential new areas of interest and clarify the research questions, and guarantee that this group of experts would accurately represent both the views of the osteopathic community that work with the heart and the central chain/continuity within the body and of the authentic Peruvian healers.

To gain the best possible results from a smaller sample size, Green and Thorogood (2009) advised to seek out the most experienced participants, which the researcher fulfilled by contacting experienced osteopaths and renowned experts in osteopathic treatment, as recommended by colleagues and also well-known speakers from workshops and at conferences. To establish a great variety of aspects and heterogeneity, it was important to find experienced osteopaths, though it was not necessary that they were specialised in any way, or

that they had any dedication to the research topic. This effort also assured credibility and an unbiased analysis. To this effect from October 2016 till May 2017, 16 respected osteopaths from seven countries (English-speaking and non-English-speaking countries in North America and Europe) were approached by the researcher and asked for interviews, during workshops, conferences, personal visits and from recommendations of colleagues.

Initially the sample size was 10, as stated in the research proposal. Conducting and analysing 13 interviews definitely exceeded the qualitative input of knowledge and helped to achieve saturation of data, as validated by the statistician.

This effort of selecting international osteopathic authorities augmented the external validity of this research as suggested by Mack, Woodson, McQueen, Guest and Namey (2005).

From July 2016 until Sept. 2017 the researcher was intensely involved with the Andean healers. To approach authentic Andean healers, it was necessary to contact native people and to gain their confidence, to be invited to the curanderos. This required patience and mingling with the local people. Their trust was paramount, and from there the curanderos recommended further healers, to participate in the interviews. Seven curanderos from different parts of Peru were willing to participate in the interviews.

3.3.1.3 Inclusion criteria

Each osteopath included in the interviews had to have five years of completed professional training and at least five years of working experience as proposed by Maier's experience (2016). Most of the interviewed osteopaths exceeded the essentially proposed ten years of working experience as set up in the proposal. Only one osteopath, who had a

University degree in medical studies and in that area a patient practice for many years, did not have the ten years of osteopathic working experience after finishing the five years of osteopathic studies. Nonetheless it seemed relevant to include that osteopath with her expertise in the interviews. The decision that five years of working experience suffice the inclusion criteria, was that most osteopaths have a clinical education of at least 4 years and additional patient experience prior to the osteopathic studies, which are a pre-requisite in European countries. This was also justified by the research director.

Table 4
Demographic of osteopathic interview participants

Training Institution	Degree	Country of work	Years of Practice	CEO affiliated
CEO	DO, Bac	Canada	21	Y
CEO	DO, MSc.	Canada	18	Y
Atman College	DO, DSc.O	Canada	36	Y
IAO, Belgium	DO	Germany	30	N
IWGS Paris	DO	France	35	N
Maidstone England	DO	France	44	N
College of Osteopathic Medicine of the Pacific	DO	USA	25	N
SICO	DO	Switzerland	13	Y
IAO, OSD	Bsc Päd Ost.	Germany	5	N
European School of Osteopathy Maidstone UK	DO	UK	39	N
Irish School of Classical Osteopathy	DO	Ireland	16	N
Union University	PhD	UK	39	N
London, BCNO	BA, DO	UK	44	N

Sixteen potential interview candidates from seven countries were asked to participate in the interview to serve heterogeneity and differing aspects of perception: Three declined and the other 13 participated. A total of 13 viable interviews from osteopaths were completed successfully as Table 4 shows. It is also worth mentioning that the interviewees were almost equally divided in female and male osteopaths. The interviews were conducted all in person, two in German, nine in English and two in French, which were simultaneously translated into English and German.

For the Peruvian interviews, participants had to be trained healers, who were currently practicing for at least five years. Since the interviews were either in English or Spanish, the researcher had a bilingual native Peruvian teacher at the Collegio Max-Uhle, also fluent in English, transcribe the text and audio into English and help with the native Quechua Language of the Andes, which is commonly used by the Andean healers.

Eight healers were invited to participate and seven accepted as can be seen in Table 5. These healers were included if they had been practicing for at least five years. The interviews

were conducted in English, Spanish, or Quechua, with the aid of a native translator, three in person, one via email and two via written letters.

Table 5
Demographic of Peruvian interview participants

Working place	Years of experience
Arequipa	37
Cuzco	24
Pisac	9
Huancayo	20
Huancayo	23
Junin	5
Aguas Calientes	45

3.3.2. Problem-centered interviews

To lend credibility, transferability and saturation of data to this qualitative health research, problem-centered interviews were conducted (Green and Thorogood, 2009). The problem-centered interview is a theory-generating method that tries to neutralize the alleged contradiction between being directed by theory or being open-minded so that the interplay of inductive and deductive thinking contributes to increased knowledge (<http://www.qualitative-research.net>). This method can uncover rich descriptive data based on the personal participant experiences. Information gathered during the interviews can move the innovation process from general topics to more specific insights.

If communication is reasonable and acceptable on the reconstruction of orientations and actions, the interview participants respond with trust and thus open up; they feel that they are being taken seriously. This relationship based on trust is key to a successful interview, as it motivates the respondent to remember and self-reflect. Credible results are most likely if the person being interviewed feels safe and is allowed to answer honestly without being led. The

pre-requisite for this procedure was to develop a questionnaire consistent for each participant with open-ended questions allowing the interviewee to freely express his/her opinion and expertise.

Froschauer and Lueger (2003) summarize the effort of qualitative interviews like this:

The amount of work that qualitative interviews entail is often underestimated. Often standing behind this is the wrong assumption that it is sufficient to talk to people and to summarise their statements to gain a qualitative analysis. That may contribute to common perception, but disregards the analytical potential of qualitative analysis. Most often it is not the ostensible statements themselves that lead to greater understanding, but the accurate analysis of the structure and original conditions in which the interview statements were made. (p. 8)

Therefore, sophisticated investigative and analytical strategies were required. While establishing contact with the interviewee, besides ensuring anonymity clause of the interview's transcript and explaining the desired form of conversation, the study's main questions were elaborated. (<http://www.qualitative-research.net>)

3.3.2.1 Interview guidelines

Thesis directors, osteopathic colleagues and students of osteopathy gave guidance in composing the questionnaire for osteopathic experts as well as the one for Peruvian healers. The osteopathic letters of request for interviews (Appendix F), recruitment questionnaire (Appendix H), and consent form (Appendix I), and the questionnaire for interviews (Appendix D) were written in English and French. The letters for recruitment for Andean healer (Appendix J) with their consent form (Appendix I) and the questionnaire for the Peruvian healers (Appendix E) were written in English and Spanish

All 13 osteopaths were invited to participate in person after meeting at a course or conference and all interviews were conducted face to face. Respecting the participant's time

and privacy was key. Nine interviews were in English, two in German, and two in French, where one was simultaneously translated into English, by a bilingual osteopathic translator and one into German, also by a professional translator, who was present at the conference. All interviews were transcribed by the researcher, and then independently checked for accuracy by a German osteopath who is fluent in English and French. The German ones were translated into English after transcription by the researcher.

Each face-to-face interview lasted around 20 minutes, most ranging from between 10 minutes to 25 minutes; two were about an hour long.

Problem-centered interviews, with pre-set, open-ended questions, facilitated to have reliable data to identify keywords and to relate the data of the two sets of interviews, and also acknowledge the experience of experts in the field of osteopathy regarding the research questions.

The seven interviews with Peruvian healers were more complicated to organize. Having spent nine months in Peru, the researcher was fortunate to meet with a few trustworthy healers, while travelling or by explicit recommendation. Most of them were asked directly to participate in the study and accepted the invitation. One interview was conducted directly in English, one via email, and the other four in Spanish. Three were in a written form. A native speaking Peruvian who is also fluent in English helped with the transcription and translation. Some native Quechua words that have a certain cultural meaning were kept, as they enhance the integrity of the research.

As also applied by Maier (2016), all participating experts for the interviews received a letter of consent and submitted some relevant personal information. Once these forms were

completed, dated, signed and returned to the researcher, the conversation could begin and be recorded, as it was agreed. Completed consent letters were required for the interviews conducted through email or on paper (Appendices I).

For the procedure of the interview, it was important to create a trustworthy atmosphere so the participant felt confident and open to express his or her opinion and experience in regards to the interview questions. In addition, participants were invited to express themselves candidly, allowing the researcher to observe without interfering in the interview process. The resulting data was not affected by the researcher's subjectivity or expectation because of the integrity of the interview process (Froschauer and Lueger, 2003).

For this study, it was the researcher's goal to collect information from experts in the osteopathic community as well as from authentic Peruvian healers to have satisfiable data to contribute to answering the research questions without influencing the participants. To obtain freedom and flow of speech by the participant, it was necessary to create specific open-ended questions (Appendix D and E), which were in a certain order being more precise towards the end. That approach left space for participants to talk about their own opinions and experiences in their specialized fields and think and evaluate the matter possibly in new ways (Froschauer and Lueger, 2003). One question in the osteopathic questionnaire was a *Yes* or *No* answer, as Maier (2016) suggested that it was necessary to consider if, at all, the osteopaths treated the heart.

The questions for the Peruvian healers were also open-ended and structured to gain reliable information and knowledge about their sacred art of healing and how they conceived

the significance of the heart and a continuity within the body as can be seen in Appendix E. The same procedures as described above were used during the interview phase.

3.3.2.2 Consent to interview

Prior to each interview, each participant signed a written informed consent form Appendix I, which was retained by the researcher, additionally to his personal data Appendices H and J (Froschauer and Lueger, 2003).

In addition, an anonymity clause was included to protect the participants' identities.

Also, the use of a recorder during the face-to-face interview was agreed upon.

3.3.2.3 Transcribing, approval and storing of interviews

Following each osteopathic interview, the audio recording was transcribed by the researcher and reviewed for quality and accuracy by an osteopathic colleague. The transcripts then were sent back to the interviewees for approval, allowing participants to edit and approve the text and guaranteeing that participant data was precisely reflected. The Spanish interviews were given to the native Peruvian for transcription and translation to capture all the details correctly. The researcher having studied Spanish was able to verify the transcribed documents with the interviews. The Peruvian interviews, which were not emailed, were also sent back for approval via email.

The transcription of each interview was verbatim to reflect the whole attitude of the participant, though stutters and mispronunciations were **excluded** in the transcript for a continuous flow of information, which is also called an intelligent verbatim. Exclamations and

personal expressions were **included** (Davidson, 2009). The name of each participant was replaced with a chronological number for purposes of anonymity.

Two osteopathic interviews were conducted in French, with one translated into English one into German, which is the native language of the researcher and could be translated by herself, like the two German conducted interviews. After finishing the transcripts, they were reviewed by a German osteopathic colleague, who speaks German, French and English and then sent to each participant for accuracy and for approval.

Ten osteopaths sent their approval back by the pre-set time frame and three were approved following the interview. Participant anonymity has been respected, appearing as O1, O2, and so forth, to O13 in the analysis (Chapter 4).

A Peruvian translator transcribed the Spanish interviews, which were clarified by the researcher and verified through approval by the Peruvian healers. From the two audio-taped transcripts of the Andean interviews, both were sent back with approval. The same principle of anonymity is applied with the Andean healers appearing as P1, P2 up to P6, in the analysis, chapter 4.

Sending the transcripts to each participant for approval ensured that the data was accurately understood and presented by the interviewer and created coherence between the researcher and the participant. The comments added by the participants to the interview transcripts were essential in perceptibly demonstrating their attitude and their experience considering the research topic (Froschauer and Lueger, 2003). These updated transcripts were integrated into the data as requested by the experts, and the edited transcripts were specifically saved for the analysis of the data.

The recorded files and transcribed interviews with the approved data were saved in a specific folder on the researcher's computer and an external hard-drive with an extra access code to secure privacy. The researcher will store the interview material for five years as suggested Froschauer and Lueger (2003)

3.3.3. Saturation

The point of data saturation is contingent upon concurrent data analysis and data collection (Lapan et al, 2012). Three pools of data were collected: the literature review and two sets of interviews. Fortunately, more information was gained based on the analysis of the interviews, as the participants contributed to a wider range of knowledge. This procedure led to a simultaneous collection of data from document review and interviews, which helped refine keywords and include participant references. This process allowed for an iterative creation of knowledge and helped establish unbiased data for answering the research questions, until no more new information emerged.

This effort was very satisfactory, and with time, the data collection ceased as more and more of the content repeated itself and saturation was met, so the research questions were answered, or at least a holistic picture was established, just like a weaving cloth in the Andes. Traditional weaving is an incredibly important component of identity in the high Andes, along with traditional alpaca herding and the use of the native Quechua language. Since Quechua was originally an oral language, weaving was the means by which people communicated their thoughts and feelings about the natural world, how stories were told, and histories recorded. It all starts with a frame, a few threads and then the weaver creates a piece of art with the wool and his creativity (<https://qerofoundation.wordpress.com>). Just like a qualitative research thesis, there is a question, and with research material, reviewing, analysing, and lots of work

and patience a written document is produced informing the reader of its originality and eventually producing new insights.

The historical and contemporary document review was conducted to study what has come to be known on the topic of the central chain, or a continuity within the body, the significance of the heart and also the traditional healing of the Peruvians, while the data collected from the interviews from osteopaths and Peruvian Healers reveal also their personal opinion and experience, with the individual expression of their personality, which is also part of qualitative interpretation. The answers of the interviews were coded and quantified in an Excel spreadsheet created by the researcher and sent to the statistician to develop a graphical demonstration and to validate the codes and the saturation of data.

3.3.4. Summary of data collection

Triangulation of data collection methods improved the trustworthiness of this research through different approaches. One approach was literature review from different angles – non-osteopathic, osteopathic and Peruvian, and the second one was to compare two sets of interviews with osteopathic experts and authentic Peruvian healers. These data collection methods insured the quality of information for qualitative research (Crabtree and Miller, 1999).

In order to make this research feasible and efficient, the literature review was directed by applying a selected list of databases and keywords, identified in Table 3 that enhanced the credibility and reliability of the study. During the analysing process, new possibilities unfolded. The realisation of the interviews was likewise done in a consistent way by posing

the same nine pre-set questions for each participating osteopath see Appendix D and 11 questions for the Peruvian healers in Appendix E (Froschauer and Lueger, 2003).

3.4. Data Analysis

3.4.1. Document analysis

A historical and contemporary osteopathic and non-osteopathic document review was conducted with keywords, displayed in Table 3, referring to the research questions to delimit the search. The analysis of the literature review served as a foundation for topic comprehension and as a guideline for the interview questions (Ezzy, 2002).

In order to analyse the literature on Peruvian healing, a similar step-by-step procedure was planned but proved to be less successful. Although there was a number of publications on shamanism available, the literature on authentic Peruvian healing was sparse. Therefore, the information and the conclusions on this topic have to rely heavily on the interviews with the individual healers. The Peruvian literature was primarily found over the internet with the curiosity of finding information about traditional Peruvian healing, Peruvian customs on websites like: *Q'enti Wasi*, Ayaruna Institute, Inka World. Though over time and with personal contact to Peruvian healers, more specific documents evolved and having a personal tutor, who is a curandero helped with the understanding of the culture and the healing.

3.4.2. Analyses of interviews

For this qualitative study, the goal is to create new theory and qualitative content analysis (QCA) was chosen. Qualitative content analysis is a research method for making replicable and valid inferences from data, with the purpose of providing knowledge, new

insights, a representation of facts and a practical guide to one own's application (Mayring, 2000).

Two separate sets of interviews: one with osteopaths and one with Peruvian Healers had to be analysed and coded, so QCA was the best choice to merge the data and produce an efficient analysis. Two methods can be applied within the QCA. The first is the inductive category development, which relies on inductive reasoning and the emergence of themes from raw data after repeated examination and comparison. It is often a time-consuming process, requiring in-depth reading and rereading of material. Second, deductive category development also was applied (Bradford, 2017).

In qualitative content analysis, coding categories are derived directly from the data. With a directed approach, analysis starts with the research questions in mind and relevant findings from the literature as guidance for initial codes (Ezzy, 2002). This is a systematic and reproducible way to collect, sort, and analyze data according to a pre-set category system and then synthesise the information to produce new knowledge (Bloomberg and Volpe, 2012). First, the goal was to describe the experience and the knowledge of the osteopathic experts and the traditional Peruvian healers concerning the research questions. The final aim was to generalize the statements by comparing the two sets of interviews.

According to Mayring, qualitative content analysis is “an approach of empirical, methodological controlled analysis of texts within their context of communication, following content analytical rules and step by step models, without rash quantification” (Mayring, 2000, paragraph 5). Such an approach increased the reliability and credibility of this study. An overall of 12,512 words have been analysed and coded for valuable information with the

osteopathic expert interviews. From the interviews of the Andean healers a total of 16,216 words were analysed, categorised and documented.

As there were two sets of interviews that had to be analysed the researcher decided to do a manual analysis and accepted the assistance of an external statistician, see Appendix G, who implemented the interview analysis with analysing software for qualitative research, Nvivo. The statistician also advised the researcher in different possibilities of analysis and its significances, leading to the use of a descriptive method as well as a comparative method. The descriptive analysis shows the variety and brilliant explorations of the significance of the research question. To realize the magnitude of the responses as seen in Chapter 4, a graphical presentation was added. To quantify and compare the two sets of interviews, codes were established and analysed as listed in Tables 6 and 7. The codes were affirmed by another colleague, and tested. The comparison of the interviews is relevant for the study to highlight the interrelation between osteopathic treatment and the traditional healing of the Andes, including the discrepancies and accordances. The comparison of the two sets of interviews helped to understand and explore the research question. And while competing versions emerged, it justified the relevance and the correlation of osteopathic concepts and traditional Peruvian healing.

Four codes were primarily set up after the first data analysis within the osteopathic interviews to signify the main tenets of the research question and then several subcategories were added to clarify the meaning as shown in Table 6. This method was also applied to the interviews with the Peruvian healers, establishing two main codes, refer to Table 7.

Froschauer and Lueger (2003) remind that the interview language is important because the resulting data analysis was key to the overall study. To increase credibility, the researcher valued and analysed the semantics, the expression as well as the content of language considering the background of each participant (Green and Thorogood, 2009). The edits and the approved transcripts from the interviews added to the credibility of data.

3.4.3. Ethical considerations

Scientific pursuits should be done with ethical standards in mind. Research dealing with sensitive subjects, feelings and emotional wellbeing requires constant reflection and rebalancing to meet the needs of all the parties involved and to be ethical (Abrahams, 2007).

During the collection of the literature and especially during the interview phase and its analysis, it was important to be sensitive and maintain research ethics (Bloomberg and Volpe, 2012). The ethical risks connected with this qualitative study principally involved informed consent, freedom of speech, and discretion (Abrahams, 2007). Interview participants all read, agreed and signed the consent waiver before the interview started. The other elemental factor for ethical standards was that anonymity was kept for the transcripts and especially for the analysis and presentation of the data. Each interview participant answered on a volunteer basis and provided freely his/her experience and state of knowledge and had the chance to edit his/her transcripts for accurate reflection of the data. The method of transcript transference to the interviewees did not allow others access to the information and did not enable its distribution, thus the principles of privacy, confidentiality and anonymity, which are basic principles of human dignity, were honoured (Meor-Jaffe, 2011).

3.4.4. Issues of subjectivity

Referring to Maier (2016), the researcher is the one collecting the data during qualitative research, thereby making it subjective by nature. It could lack a certain control of validity and reliability of the collected material (Ritchie et al, 2013). To obtain trustworthiness and to limit all questionable doubt, active measures were taken, including the triangulation of data collection and the use of problem-centered interviews. Efforts were made to be trustworthy, pay attention to detail, be sincere and reflect upon validity, dependability, transferability, and confirmability (Bloomberg and Volpe, 2012). Also, keeping a personal journal to monitor subjectivity helped to maintain an objective view and to stay scientifically sound. Thorough pre-reading by non-osteopathic people also deflected subjectivity and bias.

3.4.4.1 Validity, reliability and credibility

According to Stenbacka, “the concept of reliability is even misleading in qualitative research. If a qualitative study is discussed with reliability as a criterion, the consequence is rather that the study is no good” (Stenbacka, 2001, p. 7). Lincoln & Guba (1985) state that there can be no validity without reliability, therefore a demonstration of validity is sufficient to establish reliability and therefore reliability is to be considered a consequence of the validity in a qualitative study. The validation criteria for this study was controlled by following triangulation of data collection, so there were two main aspects to gather information, which was also distributed to different directions. The first aspect was that three different areas of literature were investigated, and the second aspect was the conduction of two separate sets of expert interviews. That process insured and increased credibility of the findings towards the research questions.

To identify key literature, it was inevitable to review various sources and databases and verify references. With the researcher's scientific background, it was of uttermost importance to find and review primary resources and original documents. The review phase was an iterative process to continue surveying literature as the analysis of the interviews progressed.

Polgar and Thomas recommend increasing external validity, which was accomplished by interviewing an almost equal number of male and female osteopaths from a wide range of ages and cultural backgrounds (Polgar, 2008). The interviewed Peruvian healers – both male and female -- came from different parts of Peru and had varied traditional training in healing. Each participant had the chance to review and edit his/her interview transcript for accurate presentation of information, thereby validating the interview data (Patton, 2015).

To ensure the results mirrored the collected data, the following strategies were employed:

1. Pre-testing of the interview questions. Question wording is key to effective interviews and in minimizing biased response (Mertens, 2009). Therefore, each question was pre-tested to identify wording problems and correct them. People not affiliated with the interviews helped with the pre-testing. There were 5 osteopathic and non-osteopathic people, who assisted in the formulation of the questions and feedback from the thesis director, until the questions presented in Appendix D, were established. Pre-testing occurred for the interviews with osteopaths as well as with the Peruvian Healers.

2. Hiring an external computer data analyst to merge and process all the measurable data gathered from the interview material. The computer technician, who used the software

program Nvivo as he was habitual to using that program, enabled a detailed and nuanced, unbiased statistical analysis, which can be seen graphically in Chapter 4.

Concerning reliability, obtaining consistent interview results, as each participant is an individual and acts specifically by occasion. Even if the same settings with the same participants were achieved it could still lead to a different outcome as it is highly dependent on the interrelationship of the interviewer and the interviewee. In that means this is a unique presentation of data. Hence, the essence of reliability for this qualitative research relied with the consistency of the interview questions and the analysis of the statistician.

To add credibility and contribute more scientifically to this study, contemporary data on scientific research and international osteopathic theses were included. The validation of the expert interviews was important for the interactive aspect and further serves as credibility for this study. To ensure diverse expertise and enhance sincerity, osteopathic expert participants both affiliated and non-affiliated with the Collège d'Études Ostéopathiques of Montreal were approached to participate in the interviews (Froschauer and Lueger, 2003).

3.4.4.2 Dependability

To improve trustworthiness, establishing dependability was critical. Considering Maier's thesis (2016) and her coding scheme made it indispensable to use other codes, not to repeat her findings, rather to let new aspects evolve out of the interviews, though some of them might be similar. Therefore, a specific coding scheme was developed securing the outcome of the research question and also making it comparable to the two sets of interviews. Coding is a central process because it helps the researchers not only to sort the data, but also to understand the underlying meanings in the text (Saldaña, 2015).

The codes that were established brought together the answers from different questions for analysis without immediate interpretation. An essential factor for the synthesis was to distance oneself from the outcome of the analysis - to be unprejudiced - and let new ideas evolve naturally. Therefore, the final codes were kept simple to refer to the research question. Ezzy (2002) recommends several strategies for checking the progress of the analysis while still in the field. To assess trustworthiness of the account, three issues are relevant (Ezzy, 2002):

1. Checking interpretations developed thus far with the participants themselves.
2. Initial coding during transcription of the interview data.
3. Maintaining a reflective journal on the research project.

The first three codes of the osteopathic coding scheme deal with the title of the research: central chain, fulcrum, relationship between the heart and the central chain, whereas the fourth code is the connection of the heart to the continuity within the body, which is an essential part for osteopathic treatment. The third code relating to the perception of the heart is the linking element to the Peruvian healing aspect on the heart. All four codes are relevant to giving this study a more quantifiable, reliable analysis, and especially the third code considering the heart and pericardium connects the osteopathic aspects to the Peruvian healing tradition.

Revising and condensing the coding scheme is a strenuous undertaking (Maier, 2016). The number of codes depends on the context, the nature of the data and to what degree of fineness the researcher wants to examine the detail (Saldaña, 2015). Saldaña recommends that

the researcher organises the categories hierarchically in main categories and subcategories in order to understand the relationship between them and to eliminate unrelated information.

Table 6
Coding scheme of osteopathic interview data

Code	Subcategories	Code description
Code 1: significance of the Central Chain/continuum of the body	Chain/continuum of the body	the different aspects of a continuity within the body
	Center of the Body/Central Axis	it is the center of the body
	different elements/natural elements	there are different elements incorporated within
	central organisation potential	it has an organisation potential,
	reference point	the Osteopath uses it as a reference for treatment
	person's consciousness	it is connected to the person's consciousness
	tree of life	it is the tree of life
	energetic potential/liquid, reverberating light	the continuity is connected to a energetic potential
	central continuity/unified organism	there is a central continuity within the body
	breath of life/Stillness/biodynamic concept	correlation to the biodynamic concept
	fascial chains/fluidic/different axis	structural explanation
	tremulations	specific connection to Swedenborg
	midline	correlation to the biodynamic concept
	respiratory system	the continuity is connected to the respiratory system
	different axis/ANS	there is more than one axis within this central chain, and there is a connection to the nervous system
Code 2: Definition of a Fulcrum		what is the current meaning of fulcrum, for the Dos
	area of support/ balance	a fulcrum is created as a balance point
	reference point	a fulcrum can be used as a reference point
	organising point/ generator/power point change	a fulcrum is established to achieve change in the body
	point of stillness/inertia	within the fulcrum there is peace, stillness
	reciprocal balance	a fulcrum can be used as a reciprocal balance between two parts
	source of efficiency/potency/biodynamic force	from the fulcrum a biodynamic force can come forth
	for metabolic exchange	the fulcrum is a place where metabolic exchange is possible
Code 3: Significance/ Perception from the Heart/Pericardium		how is the heart/pericardium perceived in Osteopathic treatment
	emotional	the heart is connected to feelings
	structural	the heart is taken as a visceral organ, with its surrounding structures
	health	the heart is important for the person's health
	spiritual/pure consciousness/soul	there is a connection to a spiritual level
	fluidic	the heart is connected to the blood, and its flow
	Personality/truth/reality of the person	the heart is reference to the person itself
	emf	there is an intrinsic nervous system of the heart
	central organiser/ central point of coherence	the heart is a vital organ
	strong connection to the blood/homeostasis	the heart is the driving force for blood and for homeostasis
	summary of all/wholeness of everything	all is connected to the heart
	reference point	how is the person living
joy/love/happiness	true feelings are incorporated in the heart	
Code 4: Connection between Heart/Pericardium to the Central Chain		
	central role	the heart is important for the central chain
	center of life	the heart is vital for life
	central fulcrum/geometrical fulcrum	the heart is a center on the structural level
	heart as interchange for the breath of life	the heart has a higher significance for life
	/higher life force/pure consciousness	

The coding scheme that was applied for the synthesis can be viewed in Table 6 for the osteopaths and in Table 7 for the Peruvian healers. In chapter 4, the comparison will be made after explicitly analysing each section.

Table 7
Coding scheme for interviews with Peruvian healers

Code #1	subcategory	Code description
Significance/	house of God/connection to a greater whole	higher consciousness
Perception from the Heart	aura/vibratory level	the heart is perceived on an electro-magnetic level
	organ of purification	the heart purifies the blood
	sensory organ	the heart is considered to be a sensory organ
	pure feelings/love, gratitude	it is connected to pure feelings-like love, joy, gratitude
	consciousness/opening of the heart	the heart has a connection to consciousness
	- /deepest essence/the truth	-/it is related to one's personality
	wholeness of everything	the heart is a summary of all
	intuition	the heart is the place of intuition
	living in Ayni/reciprocity	the heart is connected to reciprocity
Code #2		
Treatment of the heart	God given love	when treated from the heart, love will be felt
	purification/cleansing on a spiritual and physical level	to be healthy, the heart has to be pure
	despacho ceremony	a ceremony of gratitude towards whatever is needed
	healthy/natural food	what the person eats affects his health
	connecting with the Inka seed	from your purest essence, there is healing
	munay -love and healing	the heart is connected to love
	ritual with herbs/plants	to heal the heart herbs, and plants are applied
	prayer	prayer is a form to connect the heart to its source
	energy/love transmissions	the healer uses energy to connect to the patient
	relaxation/spending time in nature	to calm the heart, relaxation is important, and also the connection to nature

3.4.4.3 Transferability

Transferability is applied by the readers; it does not involve broad claims, but invites the research reader to make connections between elements of this study and their own experience.

To accomplish transferability, it was necessary to provide abundant description of the topic within the literature review, as seen in chapter 2, to have a reliable list of primary sources, as well as the descriptive approach of the interview analysis, where the reader can get involved in the experience of the experts, see chapter 4. Literature spanning the osteopathic history was consulted pertaining to the significance of the heart and its relation to continuity within the body. This venue was continued with the knowledge of traditional Peruvian healers. An overview of Peruvian data emerged from the Peruvian literature review, which gave a

foundation to the healing tradition and was supported by the authentic interviews with native Peruvian healers (section 4.5).

3.4.5. Bias and confirmability

It is essential to mention that the researcher lived and travelled in Peru for nine months, where the Peruvian healing methods were studied. Becoming an apprentice for a traditional curandero was an honor and gave deeper understanding of Peruvian culture. To ease bias, the researcher visited different parts of the Andes and met with various authentic healers recommended by Peruvian friends and locals and talked to the indigenous people. The reflective journal, which is available on request or seen in part in Appendix K, helped to sort the different experiences and provides some documentation on the Peruvian culture and healing tradition.

It is a pre-requisite that the investigator immerse himself in the field of study, which leads to subjectivity, which naturally brings bias. To increase the overall validity, the researcher applied triangulation of data collection and employed specific sampling strategies in order to eliminate the potential bias of this study (Bloomberg and Volpe, 2012). To gain adequate differentiation amongst osteopathic experts different international osteopathic symposiums, workshops and courses were attended to find CEO-affiliated as well as non-CEO-affiliated osteopaths, with differing background and cultures, as considered by Froschauer and Lueger (2003).

Maier (2016) warns the researcher who collects and codes the data could inadvertently become biased, which could lead to biased data analysis. “Selecting some parts of your material as relevant and other parts as irrelevant can introduce a substantial bias into your

analysis” (Schreier, 2012, p. 82). It was the researcher’s goal to investigate all perspectives objectively, which is a challenging task and can interfere with personal convictions. Thus, to expand the horizon of consciousness and knowledge is quite inspiring. As the reader can convince himself in Chapter 4, all the surrounding context will be considered in the overall analysis as the descriptive part tries to contribute to the greater understanding of the research question. Because a pre-set list of keywords was used in searching out and synthesizing the interview data, objectivity was again increased. Also the transcripts and translations were checked independently by an osteopathic colleague, not affiliated with the CEO. Further, using an external statistician to analyse and draw up the statistical value of the interview facts contributed to the confirmability of this research.

3.5. Conclusion

This methodology chapter gave information on the two different data collection methods, which were applied to gather historical and contemporary data concerning the research questions. These were the literature review and the two sets of interviews with osteopathic experts and traditional Peruvian healers. The sample decisions were guided by reference to the research interpretive framework and realistically by practicalities and logistics. To ensure the ethics of research the guidelines concerning anonymity and respect of the participants were followed. The analysis was done manually by the researcher, with the assistance of an external statistician for a descriptive and comparative approach of the data. This led to a triangulation of data and also helped to ensure the validity, reliability and transferability. To confront the challenge of being biased as a qualitative researcher, some objectivity was gained by having to sets of interviews with more than the required experts, also by writing a personal journal and by regularly exchanging with the research director.

CHAPTER 4. SYNTHESIS AND ANALYSIS OF DATA

4. SYNTHESIS AND ANALYSIS OF DATA

4.1. Introduction

The goal of interview analysis is to describe the rich and extensive knowledge and experience of a selected group of people, known for their expertise in a certain field (de Hoyos, 2012). This then helps the researcher to establish a construct to explain a concept, which needs to be clarified or validated. In this research, the question was to justify the concept of the central chain, the significance of the heart from both an osteopathic and a traditional Peruvian viewpoint, and then to compare these viewpoints. The following sections will explore the results of all interviews. The significance of the results is discussed in Chapter 5.

4.2. Analysis of Interviews

“Every doctor must make an inner journey, taking his understanding beyond the limits of the physical body and into the heart of a deeper reality” (Wilson, 2011, p. 51).

The analysis is the heart of a research, as it synthesises all the relevant information and extrapolates greater meaning, first by presenting the data, then by exploring it and finally by interpreting it (Miles, Huberman and Saldaña, 2013). That is a challenging act, requiring care, sensitivity and perception to elaborate the responses of the interview participants (Froschauer and Lueger, 2003).

After analysing each question from the interviews for relevant information and exploring its content, codes were established to delimit the amount of data and to synthesise the information. Some of the questions were primarily to gather information, though once the

content was more deeply explored, became valuable to the overall understanding of the participant's view, and were therefore included in the statistical process. Each question was systematically analysed and statistically presented.

4.2.1. Analysis of osteopathic interviews

“Truth belongs to no one section of the world. It is the inner spiritual flame that burns at the center of every life” (Trowbridge, 1991, p. 156)

This chapter presents the analysis and synthesis of the responses of 13 experienced osteopaths to nine questions. These questions were designed to investigate what views and attitudes exist among international osteopaths with different backgrounds to establish a wider perception of the concept of the central chain, its origin, its significance and then its relation to the heart. Seventeen osteopaths, who were teachers of the heart, and concept of the central chain, speakers at conferences, or recommended by colleagues, were personally asked to participate in the interviews and 13 accepted the invitation and gave their eloquent, experienced, vivid answers. The overall data gave great understanding, a new dimension, additional flavor and color to the context of the research subject.

4.2.2. Analysis of the interviews from the Peruvian healers

The Peruvian Healers were initially contacted to gain insight into their healing wisdom. The first questions were to establish a foundation of knowledge based on their healing experience. Seven in-depth interviews with true Peruvian Healers were conducted. To know if they are true healers required openness, intuition on the researcher's part and a personal recounted history of the healer's initiation and training as well as recommendations by trusted Peruvians. Each questionnaire contained 11 questions, though not all participants responded

question by question, but more narratively, offering additional details and context. Q'echua words have been left in the analysis of the interviews for relevance and authenticity and are explained.

4.3. Analysis of the Osteopathic Interviews

This section presents the answers from the 13 international osteopaths, to a definite series of questions that will lead to a greater appreciation of the research topic, taking the reader on a journey for raising awareness on their path to osteopathic insight. The order of the quotations is not always numerical but in a sense of similar responses.

4.3.1. Question #1: What does the concept of the central chain in osteopathy, or an equivalent of a continuity within the body, mean to you?

There was an overall of 17 different aspects on the concept of the central chain or an equivalent of continuity within the body.

The most mentioned notion was that it resembles a **central continuity** within the body. O7 states: “The body is a unified organism. You can't isolate it and take apart. The interrelation is so intertwined, as a totality not as a part”

O3 signifies: “For me it is the central axis”, O 9 states: “it is like an axis around which the symmetry of the body is established”.

O4 puts it like that: “everything is connected, is united”.

Five osteopaths referred to it as the **midline**, though most of the respondents recognized this concept as an **essential element of the whole**.

O1 constitutes: “I see it as the **center of the body**, for sure a connection, and the (elements) are part of one whole thing.”

O2 takes it more to an **energetic** level: “it is a central organisation potential that serves as a reference point throughout your lifetime and even pre- conception. And continues on after death.”

O3 has a precise and **holistic** notion of that concept and relates to it on **many levels**:

“For me it is the **tree of life**. If you are looking at it from an embryological standpoint, you have an initial organisation around the primitive streak. For me the central chain exists in another plane prior to its manifestation in the physical realm. The matter will organise around it. At a more subtle level, it is directly connected with the essential element of the person, who that person is, her consciousness. The central chain can be seen as a generator, related to the energy of the (individual) itself, and there is a part that is universal. And the pure consciousness, that manifests this breath of life. There is that interchange, or meeting on a **physical level, mental, emotional** level. There is also a rhythmic balance interchange between the coherence principle of the universal realm, vs the pure consciousness, and that of the individualised realm of the person’s own consciousness, and individualised manifestation.”

O13 mentions that it is a very important concept though known with **different names**:

“It is everything, in a sense, that without it, without the coherent integration of the whole, our work would probably be impossible. And so the process of eliciting health, because it depends on the communication and integration of the **central chain**, or the **reciprocal tension membrane**-people call it differently, describing the same thing.”

O11 specifies that she is most interested: “in the **wholeness** of the fluid body, and the tidal body of long tide. And the potency, the liquid light, that is streaming through the whole, where there is instant communication, from one place to another. So that speaks to me as continuity. And my perception is of wholeness, where everything is inter-connected. And we are very much fields phenomenon, we are fields within fields within fields. So each field is like a coalescence of a more subtle field. It is coming more and more into physically and as well as personality.”

4.3.2. Question #2: Who has taught you about that?

Some of the osteopaths are affiliated with the CEO and had heard about that concept of the central chain from Philippe Druelle DO, who is the headmaster of different osteopathic schools in Canada and Europe and has contributed a lot to the profession of osteopathy. As this concept is closely linked to Druelle, and not all osteopaths are affiliated with the CEO, different aspects and concepts appeared, and were elaborated. Most osteopaths, related to the CEO had heard from Druelle about this concept, and others, especially non-English speaking osteopaths, who are not linked to the CEO, had their own experience with it.

It was his **own work with his patients**; O3 admits “because I didn’t necessarily know of any literally written concept at that time.”

O4 names **different teachers** who he knows are associated with this concept:

“I heard about the Chains in Belgium. One of the famous people was Brunelle Francis, Triana and also Stuart Korr, from England. Also, Jan Kampes gave a lot of courses and Prof. Chila. Prof. Jenner and Prof. Winfried Neuhuber, from Berlin, both take great interest with this concept. Prof. Rohen works a lot with the chains in relation with the embryology and its metamorphosis. You have to go back to embryology, there the chains develop.”

4.3.3. Question #3: What are its elements and their significances?

O1 regards the heart and pericardium as the highest significance of **different elements** “*and not as it is seen now as one thing. I don’t see it as one thing.*” There was a total of 16 different possibilities that the osteopaths mentioned if the continuity had elements and to what extent they had significance.

Some DO’s have a **structural** approach as O8: there is a “very important link between the cranium and the heart, the diaphragm and the organs.”

For the majority it was on an **energetic** level, having a certain potential. O2 declares: “The central chain is a central continuity, it is a central alignment, a **potential**, a column of stillness, an area of reverberance of consciousness within the materialized realm.” A further implication is mentioned by O4 considering different **chains** and **vibration**: There is a unity within the body: the **visceral chains**, the **fascial chains**, within them you also have to mention the **tremulations** - the elements of vibration in the body. They are built in 4 different chains: in the blood, in the cranium, in the fascia, in the bone. That comes from Swedenborg, Ex Cerebrum - different chains. Also, it is important to know about the **Energy** fields. There are 7 different levels: from the Cylinder to the surface. That is part of the Biodynamic osteopathy.”

For O6 the importance lies not in elements, “but solely in Anatomy and Embryology.”

O5 adds the natural elements to support the continuity within the body: “it’s the main support to help health to be present. There are a lot of different axis, regarding all the elements, it can be even wood, water, earth, fire, light, you can find different axis. All the elements are present.” And O5 compares it to nature: “You know, everything that is growing

is growing around an axis. And if you see a tree that is not well balanced at the beginning along its axis the harvest of health and happiness will be lost.”

O10 relates to his own experience: “All the fascial continuum, all the fluidic continuum, in the body. The stabilization with the heart, with the pericardium, the phrenic center, and then all the continuum linking to the pelvis. There are three main areas that need to be considered: the sites of the respiration systems – the skull with the primary system, the chest with the secondary system and the pelvis with the tertiary respiratory mechanism.”

O3 puts it metaphorically: “It is that reverberating light column, and energy, that could be like your tree trunk of the Christmas tree, but each branch in itself is infinite. You could say, central chain reverberates with everything, so it is all of man. Because you have the tree trunk, and everything that attaches to the tree trunk, and it is one continuous thing.”

O13 summarises different aspects: “There are different elements in a sense that you can look at integration on different levels. You can look at it in an amorphous way, you can look at it in a psychoemotional dimension, the physical, mechanical dimension, or energetic dimension. So as a concept, it is something you can apply to every level of existence.”

4.3.4. Question #4: How would you consider its relevance in osteopathic treatment?

Most of the Interview participants agreed that this Concept is of major importance in osteopathic treatment as it serves as a **reference point** as well as an **organisation potential** and is certainly part of the **holistic approach** to the patient.

O2 states her opinion: “I think it serves as a major **reference point** in order to help the **coherence** of the person, the manifested realm of the coherence of the person. The being has

its own coherence, but its manifestation needs some reference point, so the central chain serves as part of that.”

O11 reasons that “it is **essential**, it is really supporting the system, settling deeply into the holistic shift, there is a sense of **wholeness** and primary respiration coming to work.”

O10 puts it precisely and attributes its relevance to osteopathic roots: “it is fundamental. And that goes back to Andrew Taylor Still, talking about the Unity of the Body, the **holistic** approach of the body - not only the physical body, but also the mind and the spirit, and the soul.”

4.3.5. Question #5: What is your definition of a Fulcrum?

This question seemed essential, since the heart is seen as an important center, concerning the concept of the central chain. And one of the explanations of the central chain, is that it is a succession of fulcrums (van Vliet, 2016). So it was fundamental to find a consent on this aspect, or at least a common ground for the analysis. The definition of fulcrum varies in the osteopathic community as different aspects and qualities are considered. For most of the DO’s, a fulcrum signifies a **point of balance**, and a **center of motion**, which serves the **potency** and biodynamic force to allow organisation and change to occur.

O13 describes:

You can place it almost anywhere you like, either in your own body, or within your own Sutherland fulcrum. And in the end, it becomes a still point within your consciousness around which other things can be measured, or experienced.

O11 has a similar connotation:

A fulcrum is a point of stillness, in relation to which things organise. And we have natural fulcrums, which tend to be around the midline, and relate to the biodynamic forces. And we have initial or conditional fulcrum, which relate to conditions, to things that have happened, that haven't been resolved.

Another aspect comes from O12, who sees a fulcrum more as a **reference point** of health inside and outside of the body:

For me, a fulcrum is the center of something. It is where the potency is. The point of inertia, everything is centered around. And you can have healthy fulcrums, and fulcrums that may not be so healthy. So, there are inner fulcrums of the body, and even fulcrums that are outside of the body.”

O10 points out the importance of a fulcrum: “it is the contact you give to allow the body to express in reciprocity with this contact. It is also another **fundamental principle.**”

O3 explores the fulcrum:

You need to have some state of balance, so that the breath of life, with the PRM [primary respiratory mechanism], the biodynamic force, the potency - so that all this can manifest. These things act permanently, PRM, biodynamic force, breath of life. Without balance, the machine may be maintained, but there won't be adaptation. There can't be expression of that universal energy, or inner energy without balance.

O1 states the connection of “the central chain and fulcrum, that all of the elements are fulcrum – fulcra. And the heart is especially that central point of the other ones, so it has more importance.”

4.3.6. Question #6 Specifying about the heart: In what ways do the heart and the pericardium have significance for you in osteopathic treatment?

Maier (2016) pointed out in her thesis about the Heart as the Central Fulcrum of the Body that it is imperative to inquire whether the interviewed osteopaths treated the heart (Maier, 2016). That was a 100% yes answer. Interesting, though, were the different viewpoints

that were mentioned for the recognition of the heart and pericardium during treatment as can be seen in Figure 16 on page 129.

That question about the connection of the heart/pericardium in osteopathic treatment showed the highest diversity in answers, which should not be withheld to the reader.

O1 sees the heart specific: “It has more importance to be **centered** in the body. And it has certain rules that the other areas not encounter.”

O2 gives an overview of the **different levels**:

- The heart in the tissues, the anatomical pump
 - The heart in the fluids and the lines of force that it constitutes
 - The heart in the fields, which is a central oscillator
 - The heart in its form, which is relevant to the person’s emotional state.
- Yes. In multiple layers of the body, but also in relation to the person’s psychic construct, emotional construct and spiritual construct.

Other DO’s work on a physical, structural level:

O4 relates the heart to disease: “On a visceral level and also on a psychological level. The heart is the king of the body. If people have a disease for a long time, they suffer with the heart.”

O6 has a strong connection to the heart and its different levels:

I want to talk about the pericard. You can treat the pericard a lot, because it has different points of attachment: cervical, sternal. Then you have the fibrous skeleton of the heart. Then you have the coronary arteries, the intraventricular arteries. You can do a fascial work on the heart, in relation to the pericard, intravisceral, because you can work on the skeleton of the heart. And also on a vascular level with the aorta, or with the vena cava. But through listening I arrive on the different levels, and I can treat there, too. There you can see the heart with the emotional aspects that is the level on which we exist on an affective level. I want to be recognised as a person,

in the realm of feelings. That is dependent on what you give, but also what you receive.

O3 talks in length about the different aspects of the heart and explains its important role within the **fluidic system**:

It is as if the heart was doing a summary of the wholeness of the (person within). So, the blood is being purified, oxygenated, and filled in the lung system. But as it is going to the lung, and going back from the lung, it is dynamised by the beating of the heart. So, it is not just oxygenating fresh blood that is going through the body; it is fresh blood, that is oxygenated, and dynamised. So, it is active oxygen, not passive oxygen.

O5 has a philosophical point of view:

As I said, everything starts from the heart and begins with the heart. It is present everywhere, but it is non-local, too. The heart is not only the physical heart, the heart is everywhere, and the center is everywhere. It is not in a specific place. We are only heart.

4.3.7. Question #7: What is the information that you perceive from the heart and pericardium?

O7 relates to the **different levels**: “I think mental, emotional and probably more spiritual level. Sometimes it manifests, as what the person might be feeling, as in sadness, or restriction of some sort.”

O2 also refers to the **different levels**:

And so you would see the heart as the main oscillator for the fields, and you would see the heart as a reverse switch driving mechanism for the fluids force, and we would see it in the tissue, as a reference to the pericardium as a center in the mediastinum and the rest of the body and soul. And pressure distribution.”

Every osteopath has his/her own experience with heart treatment as well from his/her own part as well as from the patient’s part. So, engaging with the participants’ differing

answers is intriguing and reveals a more precise picture of the perception of the heart and pericardium. This was the question with the highest variety amongst the answers.

O9 sees the **connection** with the patient:

I can see, if I get access to the heart of the patient, if I am allowed to get access, and how well it is integrated with its surroundings. I think there is a lot of psychological input at the heart, but to treat that you need space. Sometimes you can't even put your hand on the sternum, because there are so many emotions involved, that needs space.

O5 perceives it more on a **structural** level:

The pericardium is like working on the fascia, the ligaments, so it is important to know the anatomy of the pericardium, the places, where the pericardium is attached. And to know what sensations are coming from the pericardium, often it can be like protection, deep protection. And sometimes you can't work with the heart of the patient, because it is protected. But often it is an emotional protection, coming from wounds, coming from earlier time.

O12 also approaches the heart in a **structural** way and refers to it as a **reference point**:

There is that whole fascial connection that is going all the way up through the diaphragm, pericardium, thoracic outlet, right up into the head, and down to the toes as well. It is all connected, it can be a really good reference point for people's health.

She also adds that the heart can be seen on: "different levels: expression of health. How the soft tissue moves around the chest area, and if there is ignition. How much potency is in that ignition?"

O10 signifies the years of experience:

It is the real- center of the body, and in terms of mechanics, in terms of energy, on many different levels. And this area needs to find a point of stability, creating a negative pressure, allowing the heart to do its job, and to express all what it is supposed to express.

O11 relies on embryological development:

Perceiving on different levels. I can sense the tissues, the tension, initial fulcrums within the heart. Heart ignition - long tide, related on the initial folding of the heart in the fourth week, of how the person was welcomed at that time, discovery of pregnancy. Ignition affects everything, affects the stepping down from the long tide into the fluids. When the heart folds it is the time when embodiment becomes more possible. We need blood to embody.

The answer from O13 has an influence on the attitude towards heart treatment:

The heart and pericardium have significance as in regards of patient's experience. They are regenerators of more electromagnetic energy than any other part of the body. And as such they are like a dynamo that drives a lot of neuro emotionally, neuro hormonally activity in the body. But the heart is clinically significant as well, in terms of cardiac syndromes.

4.3.8. Question # 8: In what way does the heart/pericardium play a central role within the concept of the central chain and/or its equivalent of a continuity within the body?

Most of the interview participants declare that the heart plays a major role in the concept of the central chain, or a continuity within the body. They also see the heart as a geometrical fulcrum.

O11 explains that the heart and pericardium:

are a major fulcrum. The forces of embryology that continue to affect us throughout our lives. The heart becomes a fulcrum as the unfolding in fourth week comes into the center and meets the heart center and things form in relationship to it. So, it becomes an important fulcrum. And of course, it is very affected by conditions, on an emotional, psychological level, that relates to the physiology. So that can affect everything.

Talking about heart coherence, Coherence is the term used by scientists to describe a state of high psychological efficiency in which the nervous, cardiovascular, endocrine and immune systems are working efficiently and in harmony. Coherence is the basis of optimum performance and health in the human being (McCraty, 2016).

O12 sees the connection on a **physical** level:

The heart is a bridge. The heart and the whole diaphragm area is in communication with what is below and what is above. And you have that midline. And sometimes, the heart can act as a midline too in reference to the above and below concept, the cavities.

O1 also agrees with the heart playing a:

central role! It is the center of life. If it does not work, we will die the fastest. We can live without other organs, but without the heart it is not possible. The heart is the highest in the hierarchy; it is a great emotional place, the personality of that person. There is a great connection with the posture - the personality.

O2 refers to **different levels** of connection:

So the central chain must be aligned, must dialogue with the central fulcrum of the being, for sure. And the heart, whether it is in tissues, fluids, or fields, should align, become an interface with the central fulcrum of the being. But they are not in the same plane. They are in a different depth.

O4 takes the **emotional** part into account and also relates to **different levels**:

The heart only lives from love, tries to balance everything and believes it can solve everything. The heart doesn't get cancer. The pericardium is in connection with the fascia; it is without suspension, and it is filled with fluid. It helps to guide the heart on its chain. The heart is free in its space. It inherits the whole energy, the psyche. There are different levels: fascial, visceral, and emotional. The blood moves in a lemniscate through the heart that is very fundamental.

O6 has a sincere aspect of the relation of the heart to the person:

Traumas can have a big impact on the heart, like a car accident. The fear of dying, the fragility of being, the confrontation with your own mortality. We live, as if we were immortal that is on the level of the heart, the contact with your own being, your own mortality.

One very profound aspect of the connection of the heart to the person is seen by O3:

A human being in perfect health is someone, who can express joy. Joy is in the heart, joy is everywhere. It sparks up every part of you. It allows that illuminous being that you are to express itself. Because your primordial matter is light, like a liquid light.

4.3.9. Conclusion

To realize the depth of the interviews and to show a variety of approaches to the research topic, each question was taken with its spectrum of answers. When talking about the central chain/continuity within the body, many osteopaths refer to the embryological development as a starting point for this concept. The analysis of the interviews clearly showed the importance of the concept of the central chain, or a continuity within the body with its fascial, fluidic, energetic spiritual connection for osteopathic treatment as it incorporates the posture on a physical level. But even more importantly the holistic approach to the person becomes apparent, with his true authenticity and his realisation of life like O7 declares:

It is really a key area, for the totality of the person on a physiological point. It is an embodiment of the physical, but also the emotional, mental and spiritual is tight up there also. I think it is an important (concept), that it is free for the expression of the person and their connectivity with the rest of the body and the spirit realm, the higher life force.

The answers also signified the heart as a **vital and central organ**, as a reference for treatment, but also in relation to the person's true beliefs, personality and higher consciousness. The answer of O3 summarises it precisely:

That's why I think, by treating the heart, on a mechanical level, or biodynamic level, bio-energetic level, and to come into resonance with the being, we restore the dialogue between the pure consciousness and that person. They are all means to ignite the healing process. The heart is a region. But it summarises all, it summarises everything else.

The quote from O13 adds to that "People process the world through the heart."

4.4. Statistical Analysis of the Codes

The power of words must not be underestimated. The previous chapter illustrated the enigmatic richness of the different experiences of international osteopaths with different backgrounds. To quantify the data to make it more comprehensive and put it in relation to the research question, it was necessary to use deduction technique and make a quantifiable statistic. Therefore, the use of codes was applied. The implication of codes was not to reduce its essence rather to summarise and condense the data and show the significant details. In this chapter, the different Figures show the statistical overview of the codes, with its percentage share of all the osteopathic answers, and need not be explained further.

4.4.1. The significance of the concept of the central chain or a continuity within the body

In this pie chart, Figure 14, it is obvious that the significance of a continuity within the body is seen on various levels and with several associations. It could be an important task to elaborate on these different aspects and to put it into a reliable concept for a profound understanding.

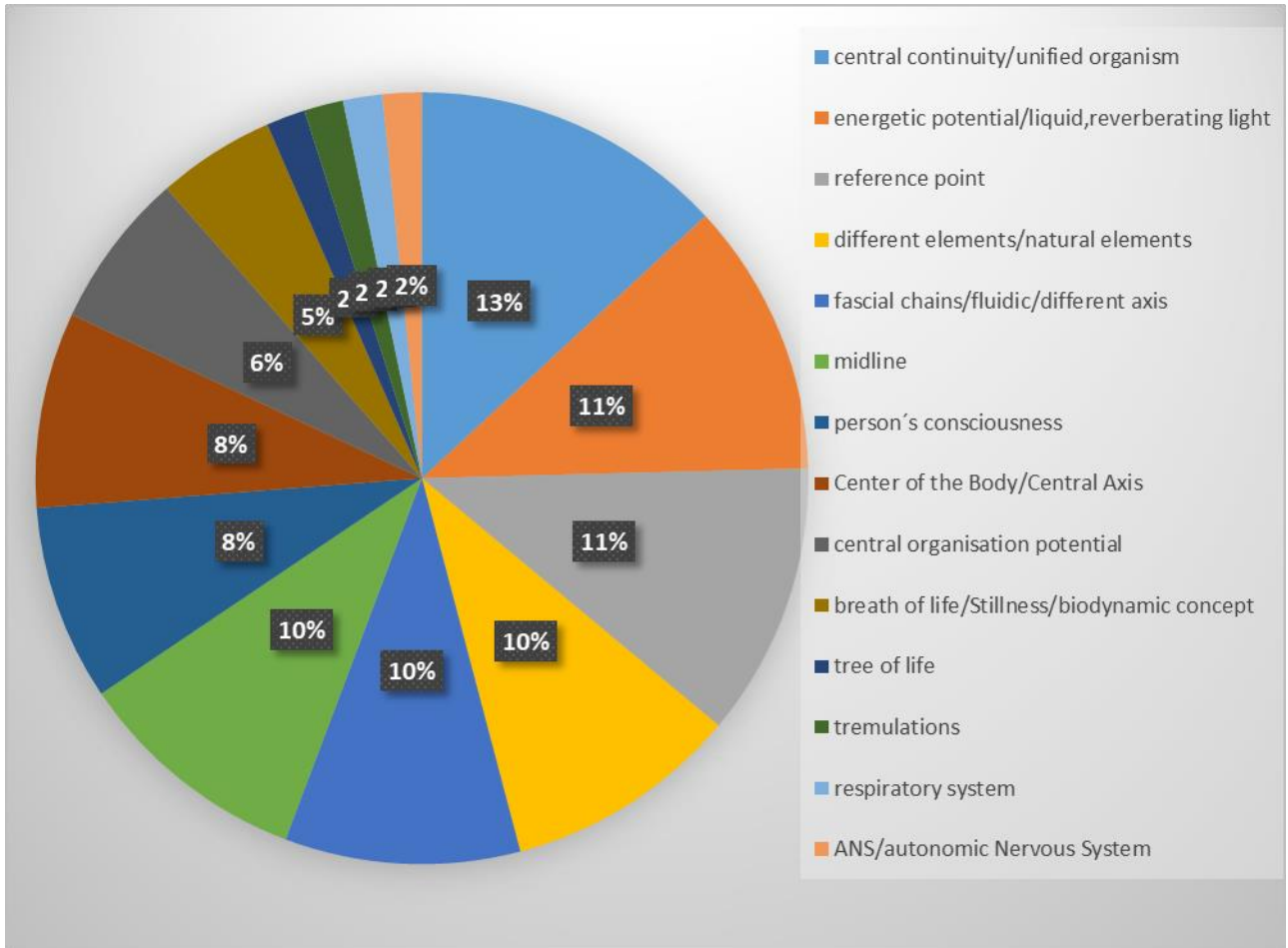


Figure 14. The significance of a continuity within the body

4.4.2. The definition of fulcrum

In his book *Osteopathic Medicine*, Van den Heede summarises the different aspects of a fulcrum:

The fulcrum enables the body to harmonize on the physical, chemical, and electrical levels. The fulcrum offers freedom of time and space and supports the body's vital power to restore. Thus, the fulcrum could be the balance place between the physical capacities and the energetic factors determining the body's expression in life. (p. 136)

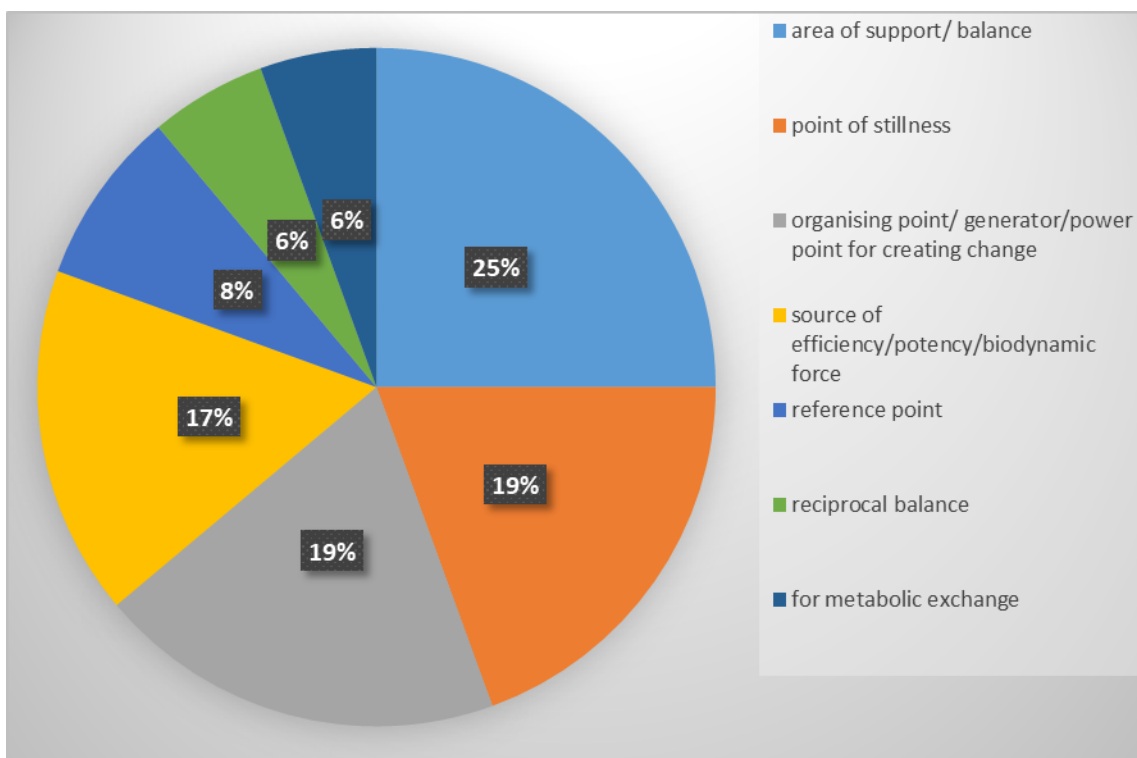


Figure 15. Definition of a fulcrum

This figure 15 shows the seven aspects of a fulcrum as considered by the osteopathic professionals from the interviews.

4.4.3. The significance of the heart/pericardium in osteopathic treatment

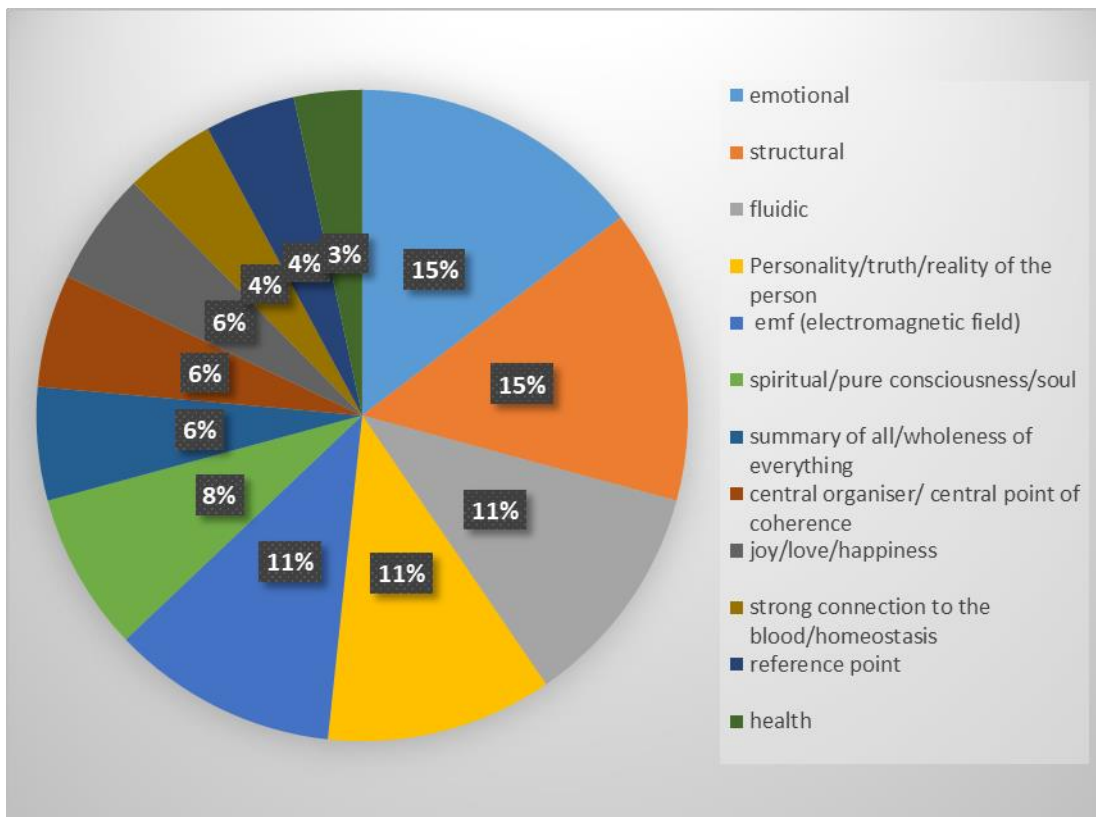


Figure 16. Significance of the heart/pericardium treatment

This aspect's diversity is substantial. Figure 16 shows the osteopaths' personal implication and amplitude of the possibilities of heart perception. Considering all facets during treatment to augment its effectiveness and support the healer within is a wise course of action.

4.4.4. The connection of the heart/pericardium to the concept of the central chain, or a continuity within the body

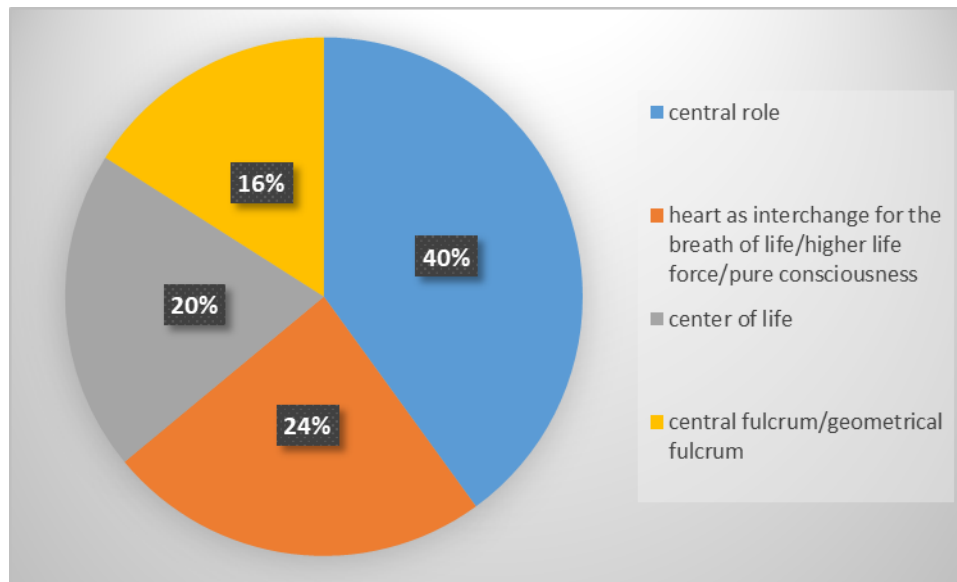


Figure 17. Connection of the Heart/Pericardium to the Continuity within the Body

In this Figure 17, it is evident that a majority of 40% of interviewed osteopaths recognize the heart playing a central role in the continuity within the body. A quarter realize the heart as an interchange to a higher life force, and a fifth consider the heart as the center of life. Sixteen percent see the heart as a geometrical and central fulcrum of the body.

4.4.5. Conclusion

The presentation of the codes shows the quantifiable information to the research question. This outcome signifies the distribution of the expert knowledge of international renowned osteopaths to the specific topics. To see the multitude of information graphically helps to recognize the various aspects and enhances the deeper significance of the heart and the midline in osteopathic treatment. The codes were used to summarise and especially crystallise the implications of the proficient osteopath answers for reader understanding.

4.5. Analysis of the Peruvian Interviews

To get an idea of the great wisdom of the Peruvian Healers, their ceremonial traditions, mystical worldview, and cultural heritage, it is important to work within the context of these people. In this chapter, the answers to specific questions will be elaborated in detail one-by-one. 6 Andean healers were interviewed and their answers give a detailed insight on traditional Andean healing. The sub-questions are included to make it more intelligible.

4.5.1. *Question #1: Where does the traditional Peruvian healing come from?*

This question acknowledges the tradition and context of Peruvian healing. Peruvians recount their personal know-how.

For P6, it is particular: “To be a healer is a vocation of the heart. The Inca medicine is based in love and compassion and it goes to our four bodies; **mental, emotional, spiritual** and **physical.**”

P2 gives more detail:

This is a path of conscious evolution. They are more mystical, seeking a personal relationship with Nature, and the spirit beings of the Pachamama (the material world), as well as with Wiraqocha (the metaphysical God). All their practices, including healing, are grounded in the human, in human life.

P3 also points out more facts and mentions a divine involvement:

But clearly it comes from nature. It comes from nature, like most physical and non-physical activities. It is by being with nature, in nature, listening and observing, but there is no history. In Peru, one of the important myths is that of Wiraqocha. This person that doesn't look anything like Peruvians, so clearly from outside, who has shown up at different places, at different times, to teach, to share knowledge. This Wiraqocha is also seen as an incarnation of a higher spiritual entity, an embodiment of the divine.

4.5.2. Question #2: How is the knowledge passed on?

The Peruvian culture did not have a written language, so mystical traditions were passed on orally (Torra, 2013).

P4 received his knowledge from family: “From parents to children, and in those places where people do not have access to a pharmacy, they are cured with natural medicine, which is transmitted among the locals.”

P1 sees it as a gift from God:

The origin of the healer comes through the parents, the third generation of the firstborn is the one who has the gift of healing. No, the healer or the natural doctor, no one can teach him, because he gets his knowledge through divinity. The three dimensions begin to work in this person who has the gift of healing, as it is: spiritual material and the body dimension.

P6 refers to his own teaching and states that healing is individual:

I started with my mentor when I was seven years of age, 49 years ago. Every day, I learn something new about (plant medicine) and spirit and healing and I connect with my intuition a little more. In this way, a healer can never really finish his training because every client is unique. There is no standard approach and no textbook to consult because we are dealing with individual emotions and thoughts, so every person is different.

P5 recounts her own story: “It is transmitted from lip to ear; there are no books or practical knowledge. You learn from the family, from grandparents to grandchildren, how grandparents healed or what they used, while talking, knowledge is inherited.”

P3 considers an important aspect of learning:

It is a matter of wanting that knowledge, and it is a matter of doing what is necessary in order to get it. So, this is a science, but it is a science that is deeply connected to spirituality. Because plants are not just seen as biological expressions, but also seen as spirits, as energies. And like all

spiritual processes, for instance, it is an apprenticeship, as the person prepares himself and is ready to receive more knowledge.

4.5.3. *Question #3: What does the healing of the person include?*

For this question, the healers all agree that healing first depends on the patient and then it incorporates, herbs, plants, ceremony, *munay* (love), and others.

P4 states what is important for him: “In the first place, the diagnosis, and according to it the respective treatment with herbs, infusions, “*emplastos*” or others.”

An “*emplasto*” is a preparation consisting of applying one or more herbs on the outside of the body for medical purposes.

P1 agrees with that: “Depending on the patient's illness. Through the hands or through a ritual or through an herb or tea or mate.”

P5 is precise with the explanation, which is very personal and valuable to encounter:

The person's healing comprises re-ordering their energy. From disharmony to harmony and fluidity of energy-

Physical Diseases. - As I emphasize, of the stomach, of the head and of the spine, these diseases are cleansed with guinea pig and then rubbed or massaged onto the body with ancestral techniques such as the “*manteo*” or used to return the internal organs to their place and “*soba*” (rubbing) to remove the overhead of the head. When making long trips or a great effort, the brain goes away, but, with pulls, it can be returned to its place

Spiritual diseases - are the diseases of nature, such as those caused by removing caps or tombs. Earth gases that are called “*chacho abueles*” can cause drying of the skin or wounds that do not have medicinal origin. Earth gases, produced by the decomposition of bones or metals cause rare diseases that have no solution with conventional medicine can only be cured by rubbing a *cuy* (guinea pig) or a toad, you can also use a pigeon, hen or snake.

Emotional Diseases -Like sorrows, melancholies, loves, scares, fears, etc. Rituals are used to call the soul, to make strong the spirit and to have no fear or scares. With ceremonies to call the soul, where he had the accident, or where he was frightened, the astral is collected and harmonized again.

P2 sees the essential issue in the energy-body of the person:

In terms of healing, the Andean mystical practices are all about moving this stuck energy: cleansing the *poq'po* (energy belt) of *hucha* (heavy energy). In healing, thus, what a *paqo* is doing—no matter what the outward manifestation through ritual or ceremony or personal practice—is getting *hucha* moving again.

4.5.4. Question #4: What treating methods do you use?

The treating methods vary depending on the disease and on the patient, and in some repeats and completes the previous question.

P1 mentions:

It is treated depending on the disease; if the disease is bodily it is treated with specific herbs for that person. If the disease is spiritual such as a scare, land grab or *Ccaicca* or if it was a disease produced by witchcraft, it is treated with rituals through the spirit.

P2 explains the context of the healing with **intent**:

The Andeans came to the understanding that “intent” alone is enough to drive energy. We need nothing but intent to interact with the world of living energy and to influence it. Thus, intent is next to ritual and ceremony in the Andes, even in healing. The work is invisible! It all comes down to refining and using intent. As such, their mystical practice is elemental—it is simple, refined, direct, and efficient.

P3 reveals that it is more **nature** that supports the healing:

There are many levels of healing. And it depends on where the healer is at, in his viewpoint. Basically, the plants have a certain energy – each one of them. So, we go to them because there is either a dysfunction, a blockage, or a desire to expand. So, the medicine person will feel which plant best

resonates with the predicament that the person is experiencing. It is the plant that is calling people.

P5 explains her own practice of healing:

The methods are holistic ancestral. Intuition as a therapist when I touch the person. And evaluations that we call "aura scan," which is a color drawing that shows information on how the aura is and the origin of your problem, whether it is spiritual, physical or magical or if they are spirits that have been impregnated in the body. Then a list of treatments and elements that each patient needs according to their problem. Can be baths with flowers, herbs, resins or urine, also "*sahumar*" [perfuming, flavoring with incense or burning herbs and oils] or burn resins or seeds and ceremonies to return illness or disharmony to their place.

4.5.5. Question #5: What is the connection of the spirit and the body?

P1 puts it quite clearly: "Only through the spirit can you see what the patient has, only through the spirit. The patient's eyes are a window to his body. Through internal feelings."

P3 has his own notation: "For me the body is a manifestation, an expression of spirit. It is basically an expression of spirit, of mind, or of the heart."

P6 states the connection with the three worlds that have a great influence in healing: "In our healing process we have to work with these three levels. The Hanaq Pachama [Father Universe], Kay Pacha [Mother earth] - this dimension, Uju Pacha or [Spirit] world - inner world, these are the three worlds in the Incan cosmology."

P5 adds to that explanation:

Three dimensions and a connection with energy regents of birth called *Apus*, *Apucunas*, grandparents. When we lose this connection, we lose our spirit, when we make a ceremony to each dimension or the origin of the problem, we harmonize with the different diseases (physical, spiritual and emotional).

P3 also adds a very thought-provoking point of Peruvian history and especially modern life:

It is very interesting, because people here over the last 30 years have experienced a radical change in their lifestyle. There is still a deep spiritual connection, but on the physical level a lot has changed. It is a process of integrating this modern life. Now what I see is how the new diet is affecting people here. In a place, where people have experienced scarcity, hunger, at times, how new products on the market, packaged foods for instance, how it impacts their health and their mental capacities. They are not quite aware of it, yet. And also their lifestyle has changed; it is less physical. Because less people work in the field of agriculture. So, I can see how it affects them, how modern life has changed their lifestyle. But I feel that there is still a very deep connection with nature.

4.5.6. Question #6: *What is the significance of the heart within your consciousness of life?*

P2 delivers a concise explanation:

We feel we are the masters of *munay*. We have an exquisite sensibility about love as an energy. Feelings are the “big” expressions of our humanness, whereas emotions are the transitory, circumstance-driven emotional responses we have. The distinction is important, because emotions are generated or “live” in our *qosqo*, the primary energy center of the *poq’po* around the belly, whereas feelings “live” in the energy center that is at the level of our heart. The level, or “home” of *munay* in our *poq’po* includes both our heart and our Inka Seed (the energy imprint of where we came from—God; our connection to our divinity, our spirit self).

P3 describes it precisely:

The heart is the center. In the heart, we hold what is our deepest essence, the truth. And most people struggle to embody, to live their truth, and their essence. The heart is also right in the middle; it is the bridge between the lower and the higher energy centers.

P5 finds significance in a **pure heart**: “It is intuition, and practice the virtues, not deceive, not defraud, not lie. Having a clean heart to receive the messages of nature and the Apus.”

P4 sees the heart on **fluid level**: A healthy heart makes life develop normally. The blood flow allows the heart to connect with the other parts.” The relation between the heart and the spirit is mentioned: “Total, as it is reflected in all aspects.” The way it is diagnosed is: “through the pulse,” and treated with: “relaxation.”

P1 elaborates the connection of the heart to **spirituality**:

The Heart is a house of God, the Heart for us. The heart has to be clean and pure because it is the house of God where Wiraqocha comes and lives, lives there. You have to learn to touch that heart, but who will teach you is - He will.”

There is also some practical advice: “I speak of the spiritual heart that you prepare that spiritual heart for God to come there, to rest there.” P1 also recognizes the heart as a **sensory organ**: “The heart is only as a sense, as the ear a feeling of inner feeling, we hear with our Heart what God wants to tell us.”

4.5.7. Question #7: What kind of rituals do you do, and what is their significance?

P1 clearly notes the specialty about the rituals: “There are rituals that we know through divine teachings that we cannot explain this ritual very well because it is sacred; there are two things that are important in rituals they are sacred and secret.”

P1 also exclaims that there is a very important connection between the healing person, and the patient:

The healer is inside you. If you ask him for wisdom, he will give you. All herbs do not work alone; you have to give life and healing to those herbs so that those herbs are activated and your patients heal.”

P2 knows what is essential for healing:

All healing comes through *munay* [love]. No one can “heal” without being in a state of caring, compassion, even love. A *paqo* can undertake an intention and practice to energetically connect his or her heart to his or her Inka Seed. In this way, the imprint of the divine, of the God Self, flows directly and more powerfully into the human heart, which can be seen as raising the person’s physical vibration.

P3 names a few:

- There are cleansing ritual of all sorts. Rituals: that varies from moment to moment, from person to person. I encourage people to spend more time with nature and to engage their physical bodies because the heart and the lungs are intimately connected and the action of breathing brings fresh oxygen and therefore fresh blood into all our physical body. The fresh blood increases the ability of the body to do what it is born to do. We are feeding our physical bodies with the most important element, which is oxygen. And the first organ to benefit from it, is the heart.
- *Despacho*- offerings. The Andean people heal with their hearts. It is about being in a heart space. Not in judgment. In traditional societies, it is very clear that we are a community, and everybody is connected.
- Energy transmissions
- Coca leaf readings – divinations. They are about going deeper into the person. So really connecting with their hearts and not only with their minds. It is a wonderful diagnostic tool.

P5 describes the significance of rituals as: “Ordering the energy and living with the permission and gratitude of all that surrounds us and our feeling of a clean heart without having feelings of competition or evil.”

4.5.8. Conclusion

The presentation of the answers from the Peruvian healers elaborates the different aspects of **healing**, their **perception of the heart** and their **connection to the spiritual world** and what rituals are done for the patients and for right living. The healer interviews gave a lucid insight on their beliefs and experiences, which is immense and valuable to the understanding of Peruvian healing. It shows their strong connection to Nature, God and their

essential interest in the well-being of men. They live from a place called *munay*, which means love, to stay in reciprocity, *ayni*, with all living things, Mother Earth, and their surroundings. They see the evolution of mankind as a path to the seven levels of consciousness: Several of their prophecies relate to the “rise of the New Humanity”—which they are not passively waiting for but are actively assisting in the manifestation of. This New Humanity is expressed as our species living in integrity—having harmonized the three human powers and having achieved the sixth level of human consciousness, more information can be found in Appendix C. Andean prophecy says that as a species we have the capacity to advance to this stage again, and paqos are actively engaged in furthering the prophecy through their own energy practices, especially by moving energy through intention.

4.6. Coding of the Peruvian Interviews

The same procedure of enhancing the meaning of data was applied to the Peruvian interviews. After the codes emerged, after analysing the interview data, they were synthesized and graphically represented to show the percentage share of information, taken from each question. This methodology supports the scientific approach to this study. Though only the questions considering the heart were taken into account.

4.6.1 The significance of the heart

Figure 18 points out the Andean's traditional perception of the heart. Clearly, the notion of the heart to love, respect, feel gratitude and pure feelings accounts for 25% of the interviewed healers. For 20%, the heart connects to higher consciousness and contains the deepest essence and truth of a person.

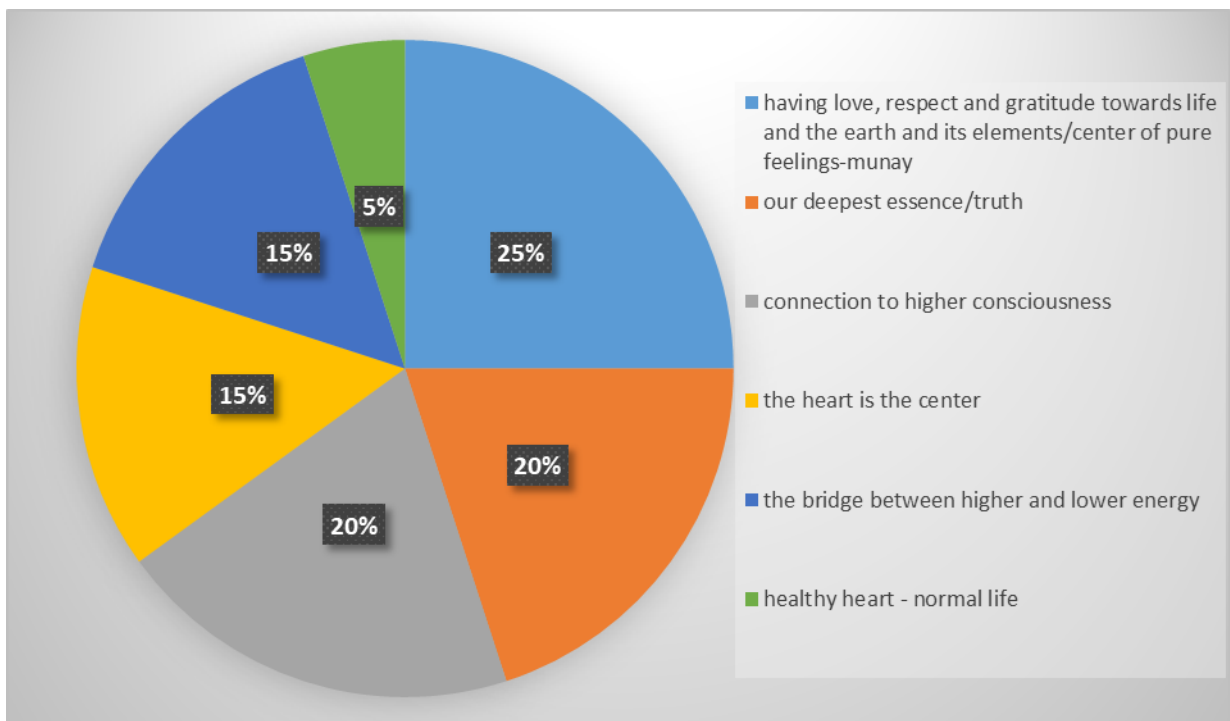


Figure 18. Significance of the heart

4.6.2. Treatment of the heart

The treatment of the heart in Andean tradition is deeply rooted in their belief and cosmology. Therefore, to aid the heart plant ceremonies, healers apply spiritual energy, practice prayer and forgiveness, and spend time in nature as shown in Figure 19.

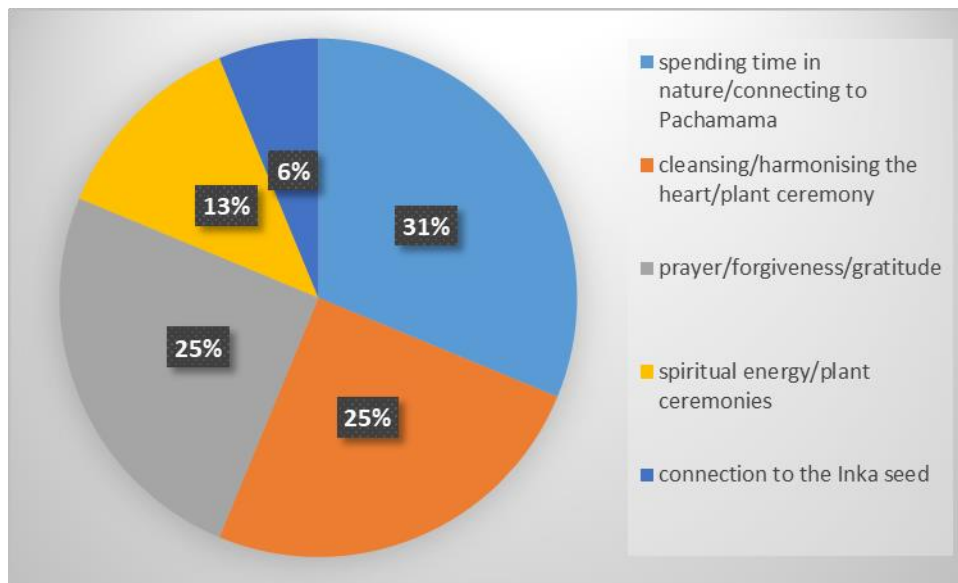


Figure 19. Treatment of the heart

4.6.3. Conclusion

One must investigate the spiritual beliefs of a group of people to better understand their culture. In Peruvian healing culture the interviews revealed that the heart has a transcendental notion and an intense connection to nature, higher consciousness and the deepest essence of a person. It also symbolises the connection of the Peruvian people to nature and their spirituality, which is present in their everyday lives.

4.7. Conclusion

During the process of the interviews, the analysis and especially during documenting of the data, with its incredible spectrum of diversity, the connection between how osteopaths

and Peruvian healers perceive the heart became clear. One of course has to respect the cultural background and tradition, but there seems to be quite a unity, which lies underneath this comparison.

The interviewed osteopaths treated the heart, while perceiving it on different levels. Though the heart is mostly treated as a structural body element, other aspects contribute to its functioning of the person as a whole. So, the heart is seen as the reality of the person, his consciousness with his personality and his personal reality. A person's soul and higher consciousness are uniquely connected. The heart is also a very important center for coherence and organisation.

The standard view of science is that consciousness is an epiphenomenon of the body—meaning it arises as a result of the anatomy, complexity, and wiring of the brain. It is said to be a product of neurological activity, yet there is a great deal of published research and philosophy that challenges this idea. “Consciousness is not confined inside the head, but a fundamental property of reality that spans time and space” (Dispenza, 2016, p. 152).

These notions are also shared with the Peruvian healers, as their culture and customs are even closer to nature and their ceremonies include an intimate exchange with the cosmic forces. The curanderos recognise the heart as the center of the person, with its capacity to connect to the deepest essence and truth of the person. They see a great potential in the Inka Seed, which is in the heart, and it is one's life choice to grow into the fullness of one's personal capacities. The Andean healers move energy with intention and create a possibility for self-healing of the patient. It is a form of intention, and energy must follow intention.

One of the interesting revelations of the analysis of these interviews were the three ways that ideas were expressed as mentioned from Froschauer and Lueger (2003):

1- Finding direct, precise explanations or definitions

2 - Using metaphors to describe a certain phenomenon

3 - No words at all, just the in-betweens, which are only discovered by the context, and through the direct contact with the interview participant.

The first method of conveying ideas is more scientific and can be quantitatively defined: the information can be coded and counted. The second leads to interpretation and more subjective analysis and requires a qualification of the content, depending on the researcher's set of mind, experience or expectations (bias) (Froschauer and Lueger, 2003). To avoid bias, the number of osteopaths interviewed was increased, to have enough verifiable data, to objectively quantify the information as validated by the statistician. The third type of communication was based upon personal interaction with the participants but did not influence the outcome of the data analysis. Instead, this authentic exchanged enhanced the researcher's interest in studying and looking behind the veil of analytical approach of the subject.

The descriptive part of the analysis gives the reader the chance to also experience that and to draw his own conclusions. The interviews are rich and extensive in information, which is necessary to justify the research questions.

CHAPTER 5. DISCUSSION

5. DISCUSSION

5.1. Introduction

The discussion about data displays appears in what is called an analytic text or narrative. Analytic narrative draws attention to the features of the displayed data and makes sense of them, weaving them together and permitting the analyst to draw conclusions and add interpretations (Miles et al., 2013). This study tried to find insights into the relevance of the heart as a main fulcrum of the central chain from three different perspectives. The literature review, and two sets of expert interviews. It is a qualitative study, comparing literature from the dawn of the osteopathic profession, and also the latest scientific researches with the actual view of osteopathic professionals and traditional Peruvian healers. Thereby it is seen important for the advancement of the osteopathic profession, as it combines the roots of osteopathy, as established by Still with the scientific development of today. It elucidates the lack of information on the heart as a central fulcrum in relation to the central chain. In addition, it implemented the perspective of traditional Peruvian healing about the function and meaning of the heart. To see if there is a link between osteopathic treatment and traditional approaches to healing, the analysis of the two sets of interviews will be compared. The research regards both the science and the art of holistic perception to better reflect the nature of osteopathy.

In order to achieve this comparison, a systematic literature review, with historical and contemporary documents - both osteopathic and non-osteopathic - was conducted. The search continued until all research on this topic had been included, which brought to light a great

diversification of research questions and served as a foundation for triangulation on the topic and to specify the interview questions.

This chapter will conclude the results from the literature review compared to the interviews in relation to the first research sub-question:

What is the concept of the central chain in osteopathy?

What is the importance of the heart as a main fulcrum within the concept of the central chain and osteopathic treatment?

It also will summarise the second sub-question:

What is the healing in the ancient tradition of the Peruvian natural healers? What is their understanding of the heart's significance?

This qualitative study tries to demonstrate the connection of the significance of the heart within osteopathic treatment as well as in Peruvian healing.

5.2. Results and their Implication for Osteopaths

The discussion of results will reveal the interpretation of the data and its significance to osteopathic treatment. It will also show the synthesis of the views of osteopathic experts and Peruvian healers concerning the heart and its possible impact on osteopathy.

. The quotes from the interviews will be highly valued and if applicable or necessary supported by findings from the literature review.

5.2.1. The concept of the central chain in osteopathy

Even though relevant literature and references were thoroughly reviewed, the central chain concept was not mentioned, either osteopathically or non-osteopathically, in any internationally published papers. Some non-published manuscripts, like theses from the CCO, DOK, SICO and other CEO-affiliated and non CEO-affiliated colleges, were found that suggest the central chain is particularly a concept of Druelle DO. The study of other osteopathic manuscripts revealed that something comparable to the central chain existed, and was called the **midline** by different authors (Dunshirn, 2006). Therefore, a wider notion of the relevant concept needed to be offered to the interview of specialists. The responses of the international osteopaths, considering their educational and cultural background, suggested they more or less all had contemplated intensively on a structure or concept of a continuity within the body.

The structure and concepts, however, were on different levels: physical, fascial, fluidic, energetic and spiritual, relating to:

- Tremulations
- Tree of life
- Midline with the breath of life
- Consciousness
- Reference for health

One osteopath mentioned tremulations, which relate to the writings of Emmanuel Swedenborg, who had a great influence on Still's thinking and concepts of medicine (Stark, 2013):

For I lay it down as a principle that the tremulation begins in the fluid, [...] and they thus communicate a trembling motion to the membranes, and also to their bones, so that almost the whole body is brought into a state of subtle tremulation, which causes sensation. (Swedenborg, 1919, p. 138)

Swedenborg concludes “that tremulation makes the greater part of our living force, and, in fact, takes the role of nature itself in our life” (Swedenborg, 1919, p. 319).

Another expert sees it as the tree of life. The **tree of life** is mentioned in many writings, especially in anthroposophy, from Steiner:

Let us compare the heart of a man to the trunk of a tree. By custom, we say the root of a tree, which conveys to the mind the part that is in the ground. When we speak of the heart of a tree, we generally aim to express the center. (Steiner, 1910, p. 91)

Ten percent of osteopaths interviewed referred to the continuity within the body as the midline. That is a concept within biodynamic osteopathy, and cranio-sacral biodynamics (Sills, 2001).

An essential part of biodynamic concept is the **breath of life**, which was also mentioned in the interviews:

Breath of Life is the force of nature that after conception emanates a multi-tidal potency from inside the core midline of the embryo. Breath of Life suffuses the embryo with the forces of life and consciousness that ebb and flow as primary respiration. Pacemaker cells then become the SA Node of the heart, which emanates a self-existing radiance that directs the multi-tidal fractal motion of Life, Consciousness, and Love in protoplasm that maintains and heals your body, and evolves your consciousness. (Ridley, 2006, p. 64)

A majority of the interviewed experts related the continuity with **consciousness**. Consciousness has accompanied humanity since early human history (Tiller and Dibble, 2001). Though our industrial age with the rise of the different medical and other scientific domains have questioned its relevance at the end of the second millennium, it now re-enters

the scientific and philosophical concepts of the western world (Chalmers, 2010).

Understanding our physical and mental development gives context and depth to working with consciousness. “Heart of Listening”, by Milne, for example defines consciousness as “a form of energy. It refers to a presence of a meta communicator, or central awareness of self”

(Milne, 1998, p. xvii). Milne sees it as a spiritual aspect of the continuity within the body.

“Spirit refers to the measurable electrical field of the human body, which begins with conception and shuts down at the moment of death” (1998, p. 171).

Continuity was also seen on a **structural level**, combining different elements; interviewees said: “like pearls on necklace (O1) or “that the elements for me are manifested transitory fulcrums of the chains that have been actualized through the process of progressive materialisation” (O2), or even “regarding the natural elements, it can be even wood, water, earth, fire, light” (O5).

Reviewing the published literature, it was observed that no one has analysed the literature surrounding the central chain to elaborate its significance in osteopathic treatment, besides the mentioned non-published theses and papers. However, **all interviewed osteopaths refer to some sort of continuity within the body that plays a major role in osteopathic treatment.** Concluding from the insight of the interviewed osteopaths this continuity should be considered with each patient in each treatment as part of a holistic approach. In answering the research questions, this study has filled a gap in the existing written knowledge. It is necessary to clearly identify and clarify the continuity within the physical and non-physical systems of the body. It could be worthwhile to study the concept of the central chain further, in its basics, to gain a deeper comprehension of its implication and also in its greater spectrum

of incorporating this concept in oneself and the treatment of the patient, with the awareness that “healing is the memory of being whole” (Chopra, 2015).

5.2.2. The importance of the heart as a main fulcrum within the concept of the central chain and osteopathic treatment

The review of the literature reveals that the heart is more than just physical. Research in the last fifty years demonstrates that the heart has electromagnetic capacities and even has its own communication system via hormones and photons, to interact with the whole body and its surroundings (McCraty, 2016) (Chapter 2, p. 31). The heart is not only a circulatory organ but also a sensory organ, which plays an essential role for the wellbeing of the person. It implies that the heart is an expression of the personality and even the personal reality, it connects to all parts of the body, it is the origin of vital sensations, and it receives information from outside of the body, hence the heart can be seen as a receptor to the connection to a higher consciousness (Dispenza, 2016).

The interviews with international osteopathic experts helped accomplish the task of obtaining expert opinions and brought extensive insight on the connection of the heart in relation to the concept of the central chain. Fifty-six percent of the interviewed osteopaths realize the **heart to have a central role in connection to the continuity of the body** and twenty-five percent acknowledge the heart to be the **center of life** that acts as an **interchange for a higher life force**. The heart so far has mostly been seen as a structural, though very emotional organ. During the interviews, it became clearer that the heart had profound implications on different aspects of life. One of the participants, O13 points out “that people process the world through the heart.” A highly favoured notion by most osteopaths is that the heart has an important role with emotions and therefore has an impact on the health of the

whole body and person. That makes the heart a central organ of the whole organism and the continuity within the body, considering the structural, fluidic, electromagnetic, energetic, psycho-emotional, and hormonal systems. All the interviewed osteopaths declared that they included the heart in their treatment and appreciate the consequence of its influence on the patient's healing capacity. In this sense it should be implicated to acknowledge the heart in relation to a continuity within the body with its quality to connecting to higher life force and unfolding of one's potential.

5.2.3. The healing in the ancient tradition of the Peruvian natural healers

There are no written records of the traditions of the Peruvian indigenous people, but there is a strong oral tradition to preserve and transmit the customs and their heritage. Listening to those who are knowledgeable and skilled in these traditions is vital. The Andes healers do not use words for acknowledging their tradition: they share it with their hearts, awareness and ceremonies (Appel and Beck, 2015). Their wisdom can be summarised as follows: for the Andean healers **it is elemental to treat the person as a whole** and not the just the symptoms. They approach patient treatment differently, including the use of prayer, herbs, ceremonies, or hands-on-treatment. Treatment is mainly to **restore the flow of energy** and establish a **connection of the patient to nature**. Usually, the healer has no apprenticeship; he is initiated, say the participants:

The healer or the natural doctor, no one can teach him, because he gets his knowledge through divinity. The three dimensions begin to work in this person who has the gift of healing, as it is: spiritual, material and the body dimension. The corporeal is the body of the person who heals; the material is the herbs and the spiritual is through the spirit of God. The healer is only a medium. (P1)

The healing customs are personal and depend on the patient's situation, one interviewed healer mentioned: "The most necessary thing is that each body has harmony with its spirit" (P1). Most of the rituals are between the healer and the patient: "All rituals are sacred and secret. Because if not, were not rituals, the ritual is a thank you that you do to God and God gives you what you ask" (P1).

The Andean curanderos are focused on the earthly, on the human, but seeking to heal and evolve psychologically, emotionally, and spiritually. They are more mystical, seeking a personal like someone's expressing it by saying "relationship with Nature, and the spirit beings of the Pachamama (the material world), as well as with Wiraqocha (the metaphysical God)" (P2). One of their important healing missions according to another participant is: "The person's healing comprises re-ordering their energy. From disharmony to harmony and fluidity of energy" (P5).

5.2.4. The understanding of the significance of the heart in Andean healing tradition

The heart in Andean healing tradition has a profound connection with the creator, which needs to be understood (Dunn, 2016). For the Andeans, the heart is ignited by the Inka Seed, and incorporates **pure feelings, like respect, love, appreciation, joy, dignity, humbleness**. One interviewed healer is expressing it like this:

The Heart is a house of God, the Heart for us. The heart has to be clean and pure because it is the house of God where Wiraqocha comes and lives, lives there. No, the heart is only as a sense, as the ear a feeling of inner feeling, we hear with our Heart what God wants to tell us. (P1)

The Andeans hold the insight that, referring to a participant: "The heart is the center. In the heart we hold what is our deepest essence, the truth" (P3). This is encouraged by their deep connectedness to nature, to their gods, to the mountains, to the rivers, and to the animals.

To live with a pure heart means to live in harmony with oneself and the surroundings, to give and to serve for a higher good. The Andeans also receive in gratitude, and they share their gifts and joy with their people and nature. To do so, they offer ceremonies, with herbs and flowers, and celebrate with dances. For the treatment of the heart, the idea of the interviewed healers, as reflected by one healer is to:

Ordering the energy and living with the permission and gratitude of all that surrounds us and our feeling of a clean heart without having feelings of competition or evil. Going back to practicing the virtues, doing circles of women to solve our problems and disharmonies, the summary sharing and doing Ayni. (P5)

5.3. Comparison of the Heart in Osteopathic Treatment and Peruvian Healing

We are here to serve the patient. We can't allow ourselves to judge what is good or bad for the patient; we have to remain neutral. The Breath of Life allows us to take a neutral position that corresponds to love itself, which doesn't originate from our own heart, but from the heart of the world. (Jealous, 2002, p. 27)

Comparing the appreciations of the heart both in osteopathic treatment and Peruvian tradition, this study found a high concordance concerning relevance of the heart for the process of healing. They both seem to realise the heart more than a structural organ, but as a **center of life, as part of the person's personality, his true essence**. And even further, the heart is seen as a **portal to higher consciousness with great potentials to wisdom, to truth**, and to the capability to live a fulfilled life. It is considered a sensory organ according to many participants, some say: "hear with our Heart what God wants to tell us" (P1). The heart not only pumps, it also dynamises the blood and activates the tissues with "fresh blood, that is oxygenated, and dynamised" (O3). "This vibration of the heart is also one of unity" (P3). The true feelings associated with the heart surely connect the different cultures: "As a healer, you are taught to walk with love, respect and gratitude to life, the earth and every element that

surrounds us” (P5). The advice to actually live according to the true nature of the heart is by “opening one’s heart and letting go of judgement. The heart is about acceptance” (P3). That would lead to “engaging yourself to be who you are, in truth” (O3).

During the process of the interviews, the analysis and especially during documenting of the data, with its incredible spectrum of diversity, the connection between how osteopaths and Peruvian healers perceive the heart became clear. One of course has to respect the cultural background and tradition, but there seems to be quite a unity, which lies underneath this comparison.

The interviewed osteopaths treated the heart, while perceiving it on different levels. Though the heart is mostly treated as a structural body element, other aspects contribute to its functioning of the person as a whole. So, the heart is seen as the reality of the person, his consciousness with his personality and his personal reality. A person’s soul and higher consciousness are uniquely connected. The heart is also a very important center for coherence and organisation as seen in Figure 20.

The standard view of science is that consciousness is an epiphenomenon of the body—meaning it arises as a result of the anatomy, complexity, and wiring of the brain. It is said to be a product of neurological activity, yet there is a great deal of published research and philosophy that challenges this idea. “Consciousness is not confined inside the head, but a fundamental property of reality that spans time and space” (Dispenza, 2016).

These notions are also shared with the Peruvian healers, as their culture and customs are even closer to nature and their ceremonies include an intimate exchange with the cosmic forces. The curanderos recognise the heart as the center of the person, with its capacity to

connect to the deepest essence and truth of the person. They see a great potential in the Inka Seed, which is in the heart, and it is one's life choice to grow into the fullness of one's personal capacities. The Andean healers move energy with intention and create a possibility for self-healing of the patient. It is a form of intention, and energy must follow intention which can be referred to in Figure 20.

Andean traditional practices are directed toward this goal of becoming the most consciously evolved human being possible so that one can live his divinity while here in physical form in the human world (Appel and Beck, 2015).

The capacities of being in *ayni* cover major aspects of being: speaking with integrity and power, cultivating compassion and love, knowing who you are and not being afraid to live your individual power, being able not only to form clear intentions but also to carry those intentions out through action, effortlessly and successfully. (Wilcox, 2016, p. 20).

As a practitioner of the Andean mystical tradition, the healer experiences the world energetically as well as physically. A core practice is to use the energetic capacities (Castaneda, 1997).

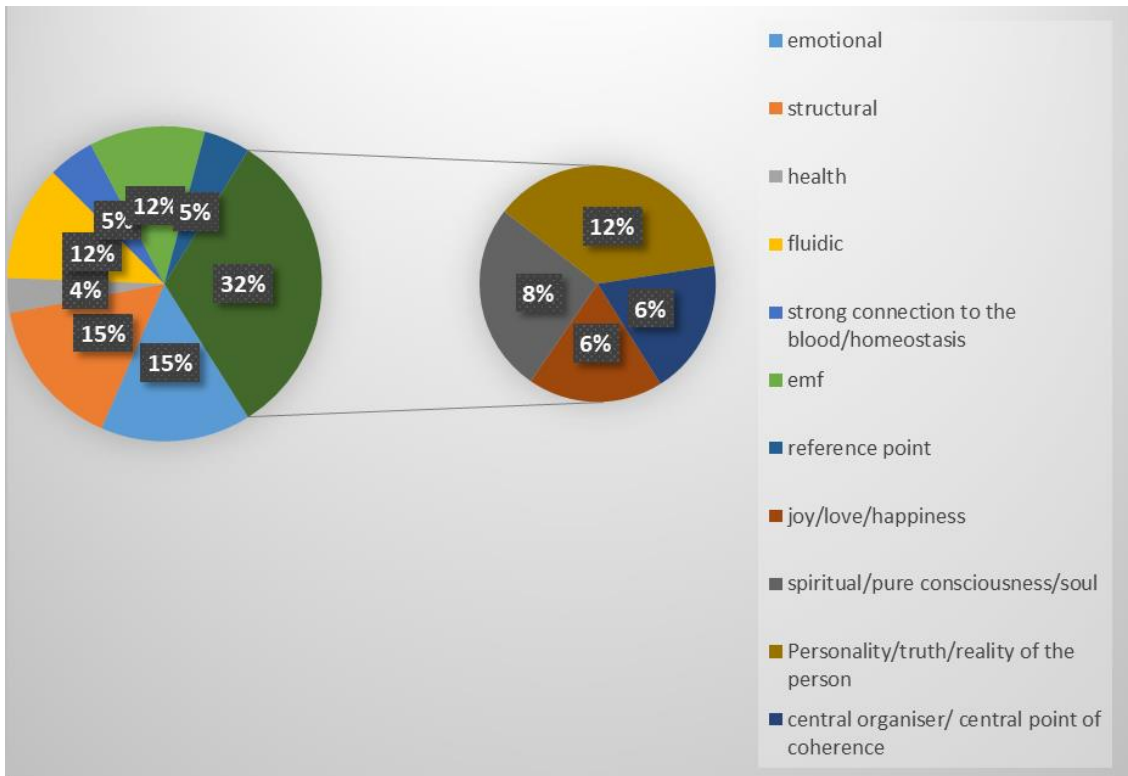


Figure 20. The Significance of the Heart in Osteopathy

This Figure 20 extracts the notions that are equivalent to the associations the interviewed Andean healers give to the heart. A third of the osteopathic answers also see the heart related to joy, love, the person's truth and personality, and as a central organiser, which can surely be seen as the Inka Seed.

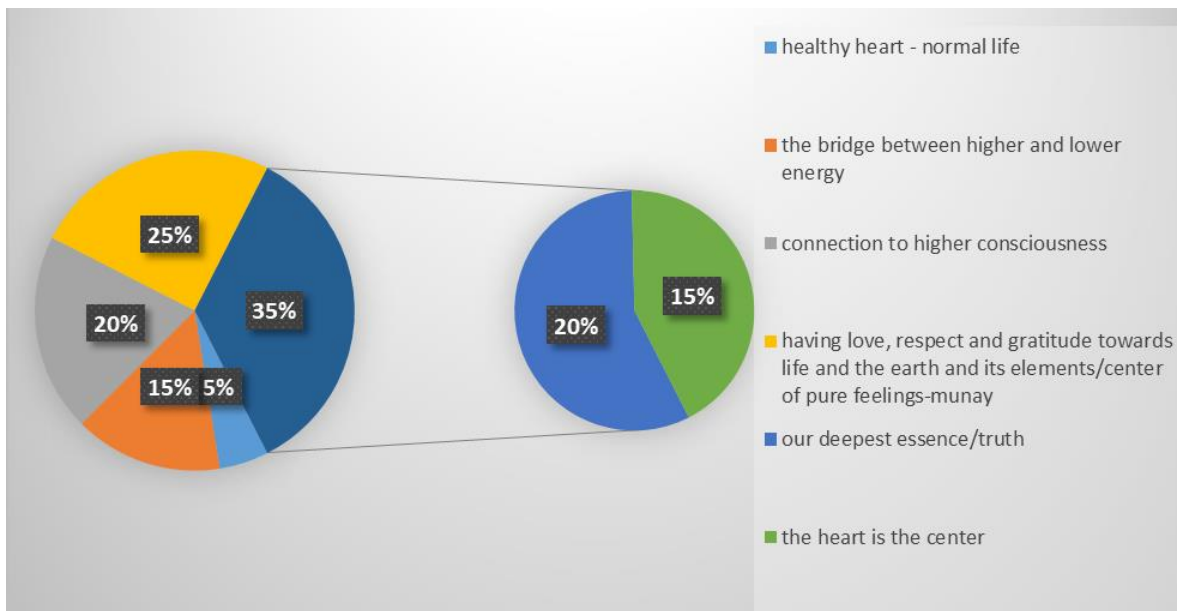


Figure 21. The Significance of the Heart in Peruvian Healing

Clearly, most Andeans conceive the heart on an energetic and spiritual level, but the osteopathic community also sees the heart as the center and relating to the deepest essence of the person, relate to Figure 21.

To conclude, the significance of the heart in osteopathy and Andean healing was compared with profound results listed in Table 8. The research conclusions show an accordance of more than 50% in the perception of the heart as the center of the person, connected to his personality and his deepest essence, with a close interrelation to higher consciousness. This perception is valuable to patient healing and should be highly respected in treatment.

Table 8
Comparison of osteopathic and Andean aspects of the heart

	Osteopaths	Andean Healers
Structural level	Fascial attachments (O6), anatomical pump (O2), anatomy of the fascia, pressure distribution (O2), connection with posture (O1)	
Fluidic level	Heart dynamises the blood (O3); the blood moves in a lemniscate through the heart,	Blood connects everything (P4), pumping fresh oxygen with the blood into the body (P2),
Visceral level	Pericard (O6), cardiac syndromes (O13), fascial attachments (O1)	Healthy heart makes life develop normally (P4)
Spiritual level	Center for body and soul (O2, O10), connection to consciousness (O3), heart ignition (O11), liquid light (O3), it summarises all (O3), connection to higher life force (O7)	The deepest essence, the truth (P3), connection to divinity (P2), it is intuition (P5), the house of God (P1)
Emotional level	Being recognised as a person (O6), being welcomed as a person (O11), emotional protection (O5), connection to personality, own being (O1, O6), heart only lives from love (O4), to express joy (O3)	Feelings are in the heart (P2), love (P2), being without judgement (P3), state of caring, compassion, gratitude (P2, P5)
Energetic level	Oscillator for fields, regenerator of electromagnetic energy (O13)	Bridge between lower and higher energy centers (P3), raising the person's vibration (P2)
Others	Center of the body (O1), it is a summary of the wholeness (O3), we are only heart (O5), reference point for people's health (O12), major fulcrum (O11), heart coherence (O11), center of life (O1), embodiment (O11)	Heart is the center (P3), practicing the virtues (P5), receiving messages from nature and the apus (P5), hear with our heart (P1)

In the West, people tend to compartmentalize, or separate, spirituality and science. It would be helpful to forge a unified spiritual and scientific context that supports a multidimensional perspective of perceived reality. This shift in thinking could lead to a mature way of self-development and healing. An integration of scientific and spiritual aspects of ourselves and our environment in treating, teaching and living as an osteopath could expand living from the authentic self. **By uniting the scientific, structural and spiritual aspects of**

the body, mind and heart, it could be possible to enlarge the potential of healing capacity and self-development.

During the interviews it became evident that most osteopaths treat the heart merely on a structural level, while still realizing its significance on the emotional, psychological, fluidic, hormonal, electromagnetic and even spiritual level. To appreciate, that by treating the heart, the osteopath not only touches on a physical level but also on an emotional, energetic and even spiritual level, healing could take place in a way further comprehensive way, connecting the patient to his personal potential. This multi-leveled approach could allow the patient as well as the osteopath to advance further in his personal achievements and realisations. The Andean healers see and treat in a much larger dimension and attribute much more significance to the heart, especially regarding its true potential of life. Integrating this dimension can be cultivated through training and discipline. Investigating how the marriage of spirit and science serves and facilitates osteopathic treatment is an important area of study.

5.4. Factors that influenced the Analysis

One critical point during the interviews and analysis was that the concept of the central chain is not a well-defined or widely recognised concept and currently only affiliated with Druelle. Some of the international osteopaths interviewed had heard about that concept this is the case for candidates # O1, O2, O3, O4, O8. All of the interviewed osteopaths had similar concepts in their own thinking, they All considered a continuity within the body. It could not be completely clarified what these different concepts have in common, which could be worth further study.

One osteopath may explain the concept of the central chain, rather in context with embryologic development processes or allocate it to anatomical structures; another may describe it as a function, and yet another may see this concept as an energetic or mental process, or even as an expression of a spiritual experience.

Therefore, it was a qualitative descriptive approach to serve these different aspects and not to reduce it by quantifying it with categories. Such a procedure would lead to a loss of the holistic approach relevant both in osteopathy and natural healing. The complexity of this topic demands a lot of open-mindedness and impartiality towards different osteopathic concepts. If clear, limited guidelines and regulations existed, the concept of the central chain, or a continuity within the body, would already be too confined and robbed of its most beautiful, exciting, secretive and beneficial elements. But surely it needs to be conceptualised, especially for making it accessible to students and fellow osteopaths.

In the words of one osteopathic interviewee the concept of the central chain could be summarised according to one participant as: “It unifies all levels of existence and life: structural, fascial, visceral, fluidic, electromagnetic, hormonal, psycho-emotional, energetic, spiritual, and for individual potential and consciousness” (O2).

However, to work with intent and on multiple levels doesn't mean that an osteopath can do this without critical reflection of himself, of the patient-therapist relation and of his “techniques.” On the contrary, this study points out in many passages that critical reflection is an indispensable requirement. In fact, a majority of interview participants called for a solid rooting of applied concepts - in anatomy, physiology, neurology, and embryology as an important tool for the osteopathic profession.

5.5. Limitations of the Research

Having been to Peru to study and encounter the traditional healing of the Andes, it was astonishing to realize how much is communicated without actually using words. The researcher came to the conclusion that the many facets of the heart and the Peruvian healing tradition do not have explicit words. Though, to write this study, words and explanations were necessary: a challenging and intensive task. Therefore, it was helpful and necessary to conduct interviews with Peruvian healers, to acknowledge their wisdom and tradition. Their experience and expertise enhanced the credibility of this study. Though it was an exciting task to encounter true native Andean healers, it led to a profound personal experience with inspiring people. The language barrier induced a greater sensibility and deeper reflection on the research topic. Expressing in words what the unspoken common understanding might mean can be seen as a limitation on one hand or as a benefit for personal evolution. For this study, the first-hand exposure was inspirational because it led to a deeper investigation and involvement with the local people.

There was a great acceptance within the osteopathic community when interviews were proposed. The mission was to invite osteopaths from different countries, who were experts in their fields and have prestigious reputations. Therefore, various conferences were visited to find speakers and participants. That process was quite time consuming and it was quite a task to visit the conferences and to manage to approach the speakers, at the right time and place. It was also obligatory to establish a trustworthy surrounding, and a sympathetic encounter. A narrow time-frame limited the interviews, but extensive information was gathered nonetheless. Thorough preparation, concise questions and attentive listening helped maximize the limited time.

The analysis of the interviews was complicated by another factor: Many common osteopathic terms are not clearly defined amongst practitioners. One encounters different phrasings that sometimes mean exactly the same thing for example the notion of Still Point, Long Tide, Big Wave, Potency; and also one sometimes comes across a particular term that has different meanings for different osteopaths, like: Tide, Breath of Life, Fulcrum, Heart Initiation. It could also be a worthwhile objective to structure the terms to find a common language for osteopaths globally. On the other hand, such homogenizing would diminish the quality and richness of each person`s experience.

CONCLUSION

6. CONCLUSION

In conclusion, after a detailed literature review, the analysis and interpretation of the interviews, it seems that working with the concept of the central chain can eventually become an encounter with the deepest layers of human life and often touches mental, spiritual aspects, which are not accessible with a traditional scientific approach, but serve as an important reference point for treatment and the health of the patient. The teachings of the continuity of the human individual ought to be a pre-requisite in the studies of osteopathy. The concept of the central chain seems to offer a full comprehension and has its implication for understanding individual dysfunction and for healing. This aspect should be considered for all osteopathic treatments and should have a fundamental place in teaching and training of osteopathic students.

With the experience of this research, it is the goal of the writer to create more consciousness of the heart as a center of life and its connection to the unity of men and nature, to transform the perspective of the reader from a mere scientific point of view of the bodily functions of the heart towards a greater sense of knowing and perceiving it also in its spiritual aspects.

The comparison of the Andean healing tradition with osteopathic treatment serves to bring more awareness to the roots of osteopathy, since its founder A.T. Still had been trained by the Native Americans. Native healers. This experience unites a deep-rooted connection to nature, creation and the person as a whole, a perspective that Still integrated in his osteopathic teachings.

If the laws of the Universe are systematic according to kind, then we must observe and follow each system faithfully if expect to change effects, because every change in cause gives a new effect. The Universe is governed by law. This law is Life. (Still, 1910, p. 23)

One aspect that evolved in the literature review from Lucas (2006) and from different Peruvian authors as well as from the Peruvian interview participants, is that the Shawnees and the Andeans seem to consider the heart as a portal to a higher consciousness, and the pure essence of oneself (Wilcox, 2004).

At this point of our historical development, it is inspirational to see the mystical spirituality of the heart meeting the scientific understanding of the mind, brain, body, and heart center in a powerful new synergy. Our human role could be to fully open our true self, which is the heart-based consciousness of infinite love and creativity in unity with creation as mentioned from one participant (O3).

To learn more in life, it is imperative to increase one's concept of knowledge. Simultaneously, as knowledge is obtained, it is time to move in different directions, by grasping and using these concepts to develop wisdom. Knowledge develops through analysis, differentiation, or deconstruction. Wisdom evolves by synthesis, integration, or by putting things together, to see with the eyes of the mind, and the intuition of the heart.

For these steps to be helpful, it is necessary to undertake one more action, which is wholeness: to bring together diversities, to have complementary activity. As osteopaths, there could be an obligation, with our deep level of wisdom, our curiosity of knowledge, our connectedness to creation, and our joy of appreciating life, so we can learn, we can understand, and we can act on the part of our patients. Darailans put it this way: "L'âme

engage le cœur à s'exprimer” (Daraillans, 2018). “The soul engages the heart to express itself” (personal translation).

This study should be seen and considered as a whole. Certainly, some chapters can be taken separately and looked at as elements in a designated order, but the essence can only be realized when looked at from a holistic point of view. It embodies a continuity and an energy of consciousness and dignity in search for wisdom and understanding. Healing in the Andes is through the heart. Though it implies no words, it is an experience with your whole being, and this study invites the reader to engage with that openness and intent to raise the healer within.

The whole beauty of a cloth, woven from indigenous Peruvian artisans, with its symbols and colors, can only be fully valued and appreciated when it is finished see Figure 22. Some threads go from one end to the other connecting this masterpiece, containing the weaver`s intention, skill, and energy.



Figure 22. An Andean weaving poncho
Photograph taken at Machu Picchu in 2015

It could be a fantastic and fulfilling task to learn to interweave the bodies' natural tendency to breathe, move, and rest, with the qualities of the heart –love, joy, gratitude, humility, respect, and empathy. The key to this process is to develop our kinesthetic sense—the sensation and awareness we have of our own movement and to open our hearts to perceive the world without judgement and live in joy. Such growth could surely enhance our personal lives as human beings, as osteopaths and our relationships with our patients. The core of this study found the heart not secret but sacred: a place of our innermost potential and passion to live our true and authentic self; to find the love, joy, compassion and gratitude towards life - within oneself. As osteopaths, we have the wonderful mission to find our own sacred hearts and support our patients to discover their own life's purpose.

It should be the goal of each osteopath to help people bring their physical, mental and emotional systems into balanced alignment with their heart's intuitive guidance. This unfolds the path for becoming heart-empowered individuals who choose the way of love, which they demonstrate through compassionate care for the well-being of themselves, and others.

As a recommendation for further studies, it would be a great contribution to establish a common terminology for osteopaths, so osteopaths could internationally understand the profession and to create a global osteopathic foundation with its philosophical roots and the latest scientific findings.

Also it would be a benefit for osteopaths and patients to set up a concept for holistic treatment, incorporating the central chain, midline, breath of life, with all its different levels and properties.

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- **APPENDIX A.**
- **Methodology of Proposal 2016**

APPENDIX A. Methodology of Proposal 2016

3. METHODOLOGY

This thesis is a qualitative literature research study with a field study to investigate the relevance of the Heart as a central fulcrum of the body and of the Concept of the Central Chain by Philippe Druelle DO with relation to the Ancient Wisdom of the Peruvian Healers. This will also include a true personal experiment with the Peruvian healers, as a part field study to explore the Peruvian culture and healing tradition. Philippe Druelle said in one of his lectures that with the right insight one can learn from his experience. *In many cases it is not an objective proof, but rather a personal experience that guides to a deeper understanding of the source.*

Qualitative Research is an approach for exploring and understanding, it honors the focus on individual meaning and the importance of rendering the complexity of a situation.

- 3.1. *Qualitative research design*

The prerogative of qualitative research is to orient towards the understanding of phenomena and to give importance to the meaning people give to their experiences (Dufour 2012). Qualitative research enables comprehension of certain theoretical aspects that cannot be reproduced experimentally. This proposed research utilizes a qualitative approach to explore, describe and develop a broader understanding of the Heart as a central fulcrum within the Concept of the Central Chain as intended in osteopathy, and its significance compared to the Ancient Wisdom of Traditional Healing. According to qualitative standards, the approach involves collection of subjective data from experience and point of views of people and it is not intended to provide a quantifiable explanation (Dufour 2012).

A qualitative approach was chosen due to the philosophical nature of the subject in exploring the meaning and understanding of the Concept of the Central Chain and its relevance compared to Nature Medicine. This qualitative research is based on subjective understanding and it derives data from the perception of osteopaths, their point of view and clinical experience to investigate a theoretical principle. And also a survey of traditional healers. Being as it is the aim of qualitative research is to draw attention to the meaning of phenomena rather than the frequency of phenomena, qualitative research seems a perfect fit for this topic. The research design utilizes a thorough review of historic and contemporary literature in the osteopathic, medical, philosophical, Peruvian field and also analyses data collected from interviews and personal experience.

- 3.2. *Methods*

To address the stated research questions the following tools will be used.

- Documentary Text Analysis in osteopathic literature past and present. Osteopathic literature based research focuses on plausible attempts to explore the importance of the Heart and the Concept of the Central Chain as intended in osteopathy. Published articles by osteopaths and osteopathic physicians will be included to the documentary analysis until saturation is achieved.

- Interviews with 8-10 experienced international osteopaths. The candidates will be individuated according to referral, renowned competence or literature evidence and contacted by the researcher directly. In order to develop an understanding of the clinical experience of how osteopaths perceive and use the Concept of the Central Chain in their osteopathic treatments, and how they indicate the significance of the Heart open ended oral questionnaires will be compiled and compared.

- Interviews with up to 5 authentic Peruvian Healers, recommended by personal relationship with more than 10 years of experience. Data will be collected from their life experience to reveal how they describe their ideology of healing and their appreciation of the Heart. That information will be very valuable, since their training of healing is passed on by knowledge and experience with nature, so it is very empiric and profound.
- Multidisciplinary literature review of external fields including philosophy of medicine, physics and physiology. The literature review of study fields external to osteopathy will be used as an element of contrast and reflection or to support the pertinence of this research and its findings.
- Field study: during the time in Peru there was lots of experiences and interactions with native Peruvians, living there for 6 months has also given a good insight of the Peruvian Culture. Travelling to different places has given many opportunities to get into contact with the Peruvian Healing. Even meeting some authentic Curanderos has made that trip very special and exquisite.

- 3.2.1. *Data Collection Tools*

Initially data collection will consist of the available osteopathic literature review of publications (books, journals, articles) regarding a definition of the Concept of the Central Chain and the heart, and its possible application. Internet search was and will be used for collecting data from various sources as the Meridian Institute, PubMed and OSTMED, utilizing key words such as “Central”, “Chain”, “Line”, “Midline”, and “Heart”...

To support validation requisites and to increase reliability triangulation principles will be applied, this will be done by using a variety of information sources on the same subject to get the same conclusion. Ideally three sources have to converge to satisfy triangulation criteria. For this research data collection tools will include a documentary analysis and questionnaires. (see 3.5.2. *Triangulation*).

- 3.2.2. *Documentary Analyses*

osteopathic and Peruvian literature both historical and current will be analyzed, the purpose of which is two-fold. Firstly, in order to gain further investigation into the theories and practices of osteopaths and Peruvian healers as to their understanding of the Concept of the Central Chain and their significance of the heart. This will contribute to a complete synthesis in order to answer the research questions and to satisfy triangulation criteria. Secondly to help in the formation of subject questions for the interviews and aid in bringing concepts together as they are revealed in the interviews, and to compare their outcome.

- **Definition and goal:** To ensure systematic analysis, the researcher will build a table to identify key words. The content of the table will be refined at completion of the literature review.
- **Sampling:** A structured documentary analysis will performed. Documents will be analyzed until completion of the selected texts or saturation is achieved.
- **Inclusion criteria of osteopathic literature:**
 - Documents must be written by an osteopath
 - Documents must address or must attempt to address a definition of the Concept of the Central Chain and/or the heart. Key words will be identified that may refer to the same concept by means of different words.
- **Exclusion criteria:**
 - Non-availability of a known document being out of print; the document is not written in English, German, Spanish or if in another language, it is not feasible to translation given its length or due to the lack of availability of a translator in that specific language.

- 3.2.3. *Interviews*

An open-ended interview will be used to collect information from about 10 international experienced osteopaths. The questions will be directed to international osteopaths with a minimum of 10 years clinical experience in practicing traditional osteopathy, with an interest in traditional osteopathy and an understanding of the Central Chain. The form of the questions presented, will first be written, so the osteopaths have an idea of the topic, and then it will be realised by recorded interview, so there will be more validity and depth to the subject. The questions for the interview with the osteopaths will clarify during literature research to target the important information.

An initial recruitment letter will be sent to verify criteria and interest in participating in the research. Collection of data from the interviews will continue until saturation is achieved. (see 3.5.3. *Saturation*).

An example of possible questions for the interview is part of the appendix.

Interviews with up to 5 authentic Peruvian Healers, recommended by personal relationship with more than 10 years of experience. Data will be collected from their life experience to reveal how they describe their ideology of healing and their appreciation of the Heart. That information will be very valuable, since their training of healing is passed on by knowledge and experience with nature, so it is very empiric and profound.

There is also a set of questions for the interviews with the Peruvian Healers in the Appendix.

- 3.3. *Limitations*

Conditions constituting limitations to this research are:

- Unavailability of documents or articles due to lack of writings on the subject or for the document being out of print.
- Language limitations. The researcher being fluent in English and German languages, also in parts Spanish and French, the literature review will be restricted to these languages. Since an international group of osteopaths will be recruited, subjects may be restricted due to language barrier.

- 3.4 *Sampling Strategies*

Sampling is the process or technique of selecting a suitable sample or representative part of a population for the purpose of determining parameters or characteristics of the whole population.

For the purpose of the study a criterion sampling strategy will be used. The criteria are set as per the interview requisites. This sample type is chosen to select and identify key osteopaths and Peruvian Healers, who may agree to participate in the study.

Snowball sampling will be further used, as subjects will be required to recommend useful potential candidates for the study.

To ensure the greatest richness of information collected through the study, efforts will be made to select osteopaths and healers, who represent a wide range of qualification, gender, age and geographical location.

- 3.5 *Validity and Reliability in Qualitative Research*

Developing validity standards in qualitative research is challenging because of the necessity to incorporate rigor and subjectivity as well as creativity into the scientific process.

- 3.5.1. *Management of Subjectivity*

The validation criteria for this study will be controlled by the following elements. Qualitative research is guided by subjective experience, the investigator must immerse himself in the field of study. This subjectivity naturally brings bias to the research; hence a fundamental step in

qualitative study implies the acknowledgment and management of the internal bias of the researcher (Hicks 1995).

Since the observer's bias may influence the data being collected, attempts to minimize it will be taken during the whole research process. This will be done by the use of journals and by working with the thesis advisor in formulating appropriate questions.

A field journal as a record of the decisions made during the emerging design will be used as a tool of reflection to monitor and manage subjectivity and as a support in maintaining clarity of relationship to the research subject.

A journal log of dates, time, places, persons, and activities to obtain access to informants and for each data set collected will also be kept.

- 3.5.2. *Triangulation*

Triangulation is a fundamental validating tool in qualitative research. It lends credibility to the findings by using multiple sources of information to get to the same conclusion. (Crabtree 1992). It also becomes a device for enhancing the credibility and persuasiveness of a research account. Ideally to validate a research, three sources have to converge, although two different sources may suffice, if they both converge toward the same conclusion. (Tardif, 2000 as quoted by (Dufour 2012). For this research a methodological approach to triangulation, which involves the convergence of data from multiple data collection sources, will be used.

Specifically this will include comparing information collected from the documentary analysis, from osteopaths and healers in the form of a questionnaire.

- 3.5.3. *Saturation*

Theoretical saturation in qualitative research occurs when new information, themes or explanations stop emerging from the data collection. It is the point at which iterations among data collection, analysis, and theory development shows a well evolved concept, and further observations bring minimal or no new information to further challenge or elaborate the research.

Thorough literature review will be undertaken in different fields and interviews will be performed. The data collected will be analyzed in search of emerging patterns.

Saturation can be also reached when the sampling strategy has been exhausted. This will depend on the subjects' willingness to participate as well as the research limitations previously mentioned in this protocol.

- 3.5.4. *Deontology*

The nature of ethical problems in qualitative research studies is subtle and different compared to problems in quantitative research, and it requires attention from the researcher as per his motivations and attitude. (Orb, Eisenhauer and Wynaden 2001).

Amongst ethical boundaries to be respected is the misrepresentation and misinterpretation concerning the content of the information delivered during the interviews. Consent and information is also a fundamental precept for ethical issues. A request letter of invitation to participate in the study, with a brief description of the purpose of the questionnaire will be sent to the osteopaths and Peruvian Healers selected for this study, and also validated by the thesis director.

Subjects participating in the research will be asked to sign a consent letter prior to receiving the questions for the interview.

- 3.6. *Journey to Peru*

Some literature has been found on the Internet about the Peruvian Incas. There are different tribes that live in various areas, as well in the Andes as in the Amazon area. To contact the Healers, some inquiries over Peruvian homepages have been made. Having stayed in

Arequipa, Peru, and taken part in the humanitarian mission, there was also the possibility to acquaint some Peruvian Healers and to integrate deeper into their society.

Also a family relative lives in the Amazon with an Indian tribe, and some connection has already been made.

Reflective Journal. The last form of data will be keeping a reflective journal and field notes about the personal experience with the Peruvian Healers. The journal allows the researcher to describe his feelings about conducting research in this area of study. According to Morrow and Smith (2000), the use of a reflective journal adds rigor to qualitative inquiry as the investigator is able to record her reactions, assumptions, expectations, and biases about the research process. The field notes will provide additional data for the analysis, it will contribute to a greater understanding of the Healing Methods of the Peruvian Healers and their view of the World, which will contribute to enlighten the connectedness within everything.

- **APPENDIX B.**

- **Comments and Recommendations for Protocol**

APPENDIX B. Comments and Recommendations for Protocol June 20, 2016

Title: A COMPARATIVE STUDY OF THE HEART AS A FULCRUM IN RELATION TO THE CENTRAL CHAIN AND THE ANCIENT WISDOM OF THE PERUVIAN HEALERS
This Protocol is accepted as is.

We would like to congratulate Daniela in her excellent progress in the understanding of the design of qualitative research.

The following are the recommendations that we suggest for the Thesis.

1. The heart as a central fulcrum in the concept of the Central Chain:
- must include more on the development of the concept of the central chain in osteopathy from an historical point of view as it has been described by other authors from A.T. Still to Philippe Druelle, DO.

2. The present proposition of interviews with osteopaths should be much more diverse to avoid bias in the sample population in order to have representative sampling.
A much larger sample size for the recruitment of osteopaths will enable you to have a more diverse response to your interview questions. This recruitment of osteopaths should come from many different schools internationally. The number required for your sample size should be verified with your statistician.

Possible candidates for the initial screening questionnaire may include the following:

Bernard Daraillans, DO (F) for somato-emotional aspect
Jean-Pierre Hoppner, DO(B) for embryology
Max Girardin, DO (B) (Anatomist and Physiologist)
Find other osteopaths from other German osteopathic schools.
Jane Stark, DOMP for history of Still.
René Briend, DO(F): more precision of midline/heart.

3. Recruitment of Peruvian healers should come from different areas for diversity in your answers, and the sample size should be increased.

4. Questionnaire:

a) The interviews are an essential part of your thesis and this needs more reflexion. The development of the Questionnaire will evolve with the review of articles, texts, thesis published and non-published from the various osteopathic Colleges and Osteopaths who have written about it-Europe, Canada, USA.

You may want to include a question pertaining to who taught you the concept of the central chain, where did you learn it and when did you learn it, (example undergraduate class or post-grad education?)

Keep your questionnaire to osteopaths more open-ended so you can gather more information; ie: Does the heart play a central role within the concept of the Central Chain or the continuum of the body? This is a yes/no answer; therefore you should work on the format of this type of question.

For the Peruvian Questionnaire, you may want to reduce the number of questions and direct your questions more towards your specific research.

5. Timeline dates are incorrect for submission of first protocol of 2015.

We strongly recommend that you reconsider your presentation date of the thesis.

6. Bibliography is not APA style

Sincerely,

Marie Colford, DO

Barbra Laett, DO

Protocol Jury Members June 2016

- **APPENDIX C.**

- **Additional Information on Andean Healing**

APPENDIX C. Additional Information on Andean Healing

Seven Levels of Consciousness

The 0 level is that of a baby. We all come in at the 0 level, the level in which there is no I or sense of separate self. People may be at the 0 level later in life. They would be those with little personal autonomy; someone who goes along with the wave of others or with what's current: wave of love, wave of war, hippie, anarchist, etc. It's the herd mentality; they prefer what others prefer, seek to fit in; their identity is defined through the group mind.

1st level: You have greater autonomy but still heavily depend on/need others to do things for you. This would be deep codependence. People look to others, especially authority figures (doctors, ministers, group leader) to direct their thinking and mold their belief system. They aren't so much part of a herd as a 0 level person, but still look more outside of themselves to know what to do and think than they do figuring things out themselves. They also tend to take but not give. They don't have the will or the personal power to think they can help themselves so they depend on themselves. They think they need a teacher or leader or guide, and if they lose that authority figure they lose their power. It's the level of the fetish, in Houston Smith's schema. Whatever the fetish is (person or a religion or an ideal), if they lose it or it is taken away from them, they lose their power and ability to direct their personal destiny.

2nd level: These are people who are making an effort to learn, expand and grow; they seek guidance from a teacher or peers but take on an us-them; they quickly latch on to one truth, at the expense of other possibilities because they are less open to testing, questioning. This us-them mentality creates discord and jealousy within the ranks, conflicts of ego. They put their teacher/authority figure on a pedestal (hero worship), but then complain about the authority figure or teacher behind his or her back while not having the courage to face that person; they are searching for their personal power but are duality-minded; they have a sense of self but still not a lot of autonomy from teachers or authority figures. This is a level commonly associated with adolescence, and with "adolescent" societies and cultures. This is the power of the clique. It's the motto "You're either for us or against us." It's black and white thinking, but also contains the element of multiplicity, groupthink. In the Houston schema, it would be the polytheist.

3rd level: People at this level have more personal power and autonomy, are more open to acquiring diverse knowledge, and tend to at least listen or consider the views of many teachers and authority figures; however, they tend to eventually attach themselves to or identify with the power of one tradition at the expense of others. They feel an exclusive connection, and think they have the "right" knowledge and that theirs is the only or best way; all others are wrong; this is the level of the guru. Whereas level two is more group-mind, this is more single mind, although the single mind attaches to a group, single belief, etc. In Smith's schema it's the monotheist view: we have the truth, this is the one truth, this is the best truth, etc. It's common in the religious and political spheres. It's nationalism. It's the dedicated Catholic or Muslim, the committed communist, Republican or Democrat. Whatever the "god" of that sphere, it's the mindset that you know the one true god and others who aren't with you don't have that connection.

4th level: the move toward what may be called the mystical; you trust your personal experience; you have the capacity to transcend symbolical and ritual patterns and overcome boundaries; can see common cause and connections; it's the sense of harmony with self and cosmos. For example, a fourth-level person can feel the power of the "God" connection in a church, mosque, synagogue, teepee, cave because he or she sees/understands what's behind the symbolic constructs and doctrines; it is not confusing the symbol for the sign; you are connected to your personal power in your own personal way

with your own style and you take responsibility for your autonomy; at this level you understand that teachers can't solve problems because we each need to find our own power; a fourth-level teacher would guide students but allow students total freedom, teach so the student can leave; at this level you are open to everything and are not exclusive, but that doesn't mean that you don't have specific beliefs and opinions, etc.; instead you consciously choose, and when that belief doesn't serve you then you are open to change. Most important, you don't insist that others believe what you believe; you are totally yourself and allow others to be as well. This is not "anything goes" in your life, because you also consciously choose an ethical system, a spiritual path, etc., but you understand that is only for you. Others will have their own way. You stand up for what you believe in, but you don't have to destroy others to insist on your way.

5th level: infallible healing; ability to heal anything, every time you try. Healing examples such as those found in the Bible in the Book of Acts, including raising people from the dead. Includes other manipulation of matter and time/space such as teleportation where you move yourself from one place to another without moving in between; perhaps being in two places at once. "Meta"-physical laws that go beyond known laws of physics; in tune with nature to the degree that you can influence matter.

6th level: Inka Seed (Taytanchis Ranti: you become the equal of the god of the seventh level); enlightened person, one who glows; you "become" the drop of the mystery that comes with you when your parents pulled you up out of the mystery; this is a potential within each of us, but 6th level beings are living that power of the drop of the cosmic power that is within them; they are awakened to it. Buddha, Jesus. They literally glow.

7th level: Not really known what qualities this has in the human realm; god as humans-humans as god; perhaps living as light beings, perhaps doing what Terence McKenna talked about, which is exteriorizing our soul, living as pure energy beings but still in the human realm.

Joan Parisi Wilcox - Qentiwasi.com

- **APPENDIX D.**

- **Questions for Interview with osteopaths**

APPENDIX D. Questions for Interview with osteopaths

1. What does the Concept of the Central Chain in osteopathy, or an equivalent of a continuity within the body, mean to you?
 2. Who has taught you about that?
 3. How would you describe it and define it?
 4. What are its elements and their significances?
 5. How would you consider its relevance in osteopathic Treatment?
 6. Specifying about the heart: In what ways do the heart and the pericardium have significance for you in osteopathic Treatment?
 7. How do you perceive the dynamic and energy of the heart /pericardium?
 8. In what way does the heart/pericardium play a central role within the Concept of the Central Chain or the continuum of the body?
- Any further considerations?

- **APPENDIX E.**

- **Questionnaire for Peruvian healers**

APPENDIX E. Questionnaire for Peruvian healers

A COMPARATIVE STUDY OF THE HEART AS A FULCRUM IN RELATION TO THE CENTRAL CHAIN AND THE TRADITIONAL WISDOM OF THE PERUVIAN NATURAL HEALERS

Questionnaire for Traditional Peruvian Healing

Please answer the questions to your full knowledge to aid in a greater understanding of the Traditional Nature Medicine of Peru

1. Where does the traditional Peruvian healing come from?
2. How is the knowledge passed on?
3. What does the Healing of the person include?
4. What treating methods do you use?
5. a) What is the connection of the spirit and the body?
b) How do you “see” it?
c) How do you treat it?
d) What is the significance of it?
e) In daily life?
6. a) What is the significance of the heart within your consciousness of life?
b) What are the connections of the heart to the other structures of the body?
c) What is the significance of the heart on a spiritual level, emotional level, physiological level?
d) What is the language of the heart?
e) How do you perceive it?
f) What are the ways to treat the heart?
7. What kind of rituals do you do?
8. What rituals help the connection with the heart?
9. How do these rituals work in the spiritual world.
10. What is the impact of the rituals on people’s lives.
11. Any other comments concerning the heart or its connections?

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- **APPENDIX F.**

- **Letter of Request for interviews for osteopaths**

APPENDIX F. Letter of request for interviews for osteopaths:

Dear osteopath,

My name is Daniela Friesecke,

I have completed my osteopathic Studies at the DOK in Germany, affiliated with the College d'Études Ostéopathiques (CEO), Canada, in 2014 and obtained my Certificate of osteopathy. To attain my final Diploma of osteopathy I am currently working on my thesis project, for which I am asking your participation.

The subject of my research is

A COMPARATIVE STUDY OF THE HEART AS A FULCRUM IN RELATION TO THE CENTRAL CHAIN IN OSTEOPATHY AND THE ANCIENT WISDOM OF THE PERUVIAN HEALERS - A QUALITATIVE STUDY

In summary, this research will explore how a sample of international osteopaths understand, describe and perceive the Concept of the Central Chain, and the significance of the Heart, and how they use this concept in their treatments.

Data gathering for this study includes collecting experiences from a selected international group of osteopaths in the form of interviews. Given your knowledge and expertise in this field, your participation would prove to be invaluable to the advancement both to the osteopathic understanding and the scientific understanding of the Concept of the Central Chain, the significance of the Heart and its application in osteopathic practice.

Your participation in this project would involve taking part in an interview consisting of 7 open ended questions. The interview will take 45 minutes to complete. The more detailed and comprehensive your answers are, the more it will contribute to the scientific understanding of osteopathy and its validity. You will receive the questions beforehand, to have some prior thoughts about it. All information obtained from this questionnaire will be used solely for the purpose of the above research project.

I invite you to complete the enclosed questionnaire and indicate your interest in participating. As mentioned, your participation would be greatly appreciated. I will contact you in the next 2-3 weeks to discuss your possible participation.

Thank you for your consideration.

Best regards, Daniela Friesecke

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- **APPENDIX G.**

- **Letter from Statistician**

APPENDIX G. Letter from Statistician

Alexander Nedopil, M.D. - University of British Columbia - Vancouver, BC

Subject: Support for statistical analysis for Daniela Friesecke's research project

2019-05-07

To whom it may concern,

I supported Daniela Friesecke's research project: *A comparative study of the heart as a fulcrum in relation to the central chain and the ancient wisdom of the Peruvian healers*, by performing the data analysis, calculating distribution plots, generating graphics and counseling in the writing of the statistical aspects of the manuscript.

The data analysis is descriptive. The questionnaires were analyzed, and the answers categorized. Simple regression analyzed the correlation between answer categories and subjects asked.

,

Sincerely yours,



Dr. Alexander Nedopil

- **APPENDIX H.**
- **Personal Data from osteopaths**

APPENDIX H. Personal Data from osteopaths

Personal Information:

Name: _____

Street: _____

City: _____ State: _____

Zip: _____ Country: _____

Email address: _____

Phone: _____

Gender: Male Female Age: _____

Education:

College/University: _____

Degree: _____

Practice:

Are you currently practicing? Yes No

Total Years: _____

Practice address

Street: _____

City: _____ State: _____ Zip: _____

Country: _____

Initials:

- **APPENDIX I.**

- **Consent form for interviews**

APPENDIX I. Consent form for interviews

I agree to participate in Daniela Friesecke´s thesis project for the Swiss International College of osteopathy, entitled:

**A COMPARATIVE STUDY OF THE HEART AS A FULCRUM IN RELATION TO THE
CENTRAL CHAIN IN OSTEOPATHY AND THE ANCIENT WISDOM OF THE
PERUVIAN HEALERS**

A QUALITATIVE STUDY

I understand and agree that my participation in the project will include the participation in an interview.

I understand that the answers I supply in the interview will be used solely for the purpose of the above thesis project.

The interview will take approximately 45 min to complete.

Name (please print)

Signature

Date

- **APPENDIX J.**

- **Recruitment letter and letter of personal information for Andean healers**

APPENDIX J. Recruitment letter and letter of personal information for Andean healers

Dear Curandero,

August 2017

My name is Daniela Friesecke.

I have been a student of osteopathic manual therapy for the last five years at the Deutsche Osteopathie Kolleg, DOK, Germany, affiliated with the College d'Études Ostéopathiques (CEO), Canada.

I have completed my studies and obtained my Certificate of osteopathy and as a requirement to attain my final Diploma of osteopathy I am currently working on my thesis project, for which I am asking your participation.

The subject of my research is

A COMPARATIVE STUDY OF THE HEART AS A FULCRUM IN RELATION TO THE CENTRAL CHAIN AND THE TRADITIONAL WISDOM OF THE PERUVIAN HEALERS

In summary, this research will explore how a sample of healers from different parts of Peru and with different backgrounds understand, describe and perceive healing and the significance of the heart and how they treat.

Data gathering for this study includes collecting experiences from a selected group of curanderos around Peru in the form of a questionnaire.

Given your knowledge and expertise in this field, your participation would prove to be invaluable to the advancement both to the holistic understanding of traditional healing as well as the layperson's understanding of the Natural Medicine and its application to serve the well-being of people.

Your participation in this project would involve filling out a questionnaire consisting of open ended questions, and sent via email. The questionnaire will take 45 minutes to an hour to complete. All information obtained from this questionnaire will be used solely for the purpose of the above research project.

I invite you to complete the enclosed questionnaire and indicate your interest in participating. As mentioned, your participation will be greatly appreciated.

I will contact you in the next 2-3 days to discuss your possible participation.
Thank you for your consideration.

Please feel free to contact me, if you have any questions.

Best Regards and blessings,
Daniela Friesecke

Thesis writer student for the Swiss International College of osteopathy in affiliation with the College d'Études Ostéopathiques.

Personal Information:

Name:

Address: _____

City: _____ State: _____

Zip: _____ Country: _____

Email address: _____

Phone: _____

Gender: Male Female

Age: _____

Education:

College/University: _____

Degree: _____

Practice:

Are you currently practicing? Yes No

Total Years: _____

Kind of Practice: _____

Subject of your Practice: _____

Special profession: _____

Practice address

Street: _____

City: _____ State: _____ Zip: _____

Country: _____

Initials:

- APPENDIX K.

- Personal journal

APPENDIX K. Personal journal

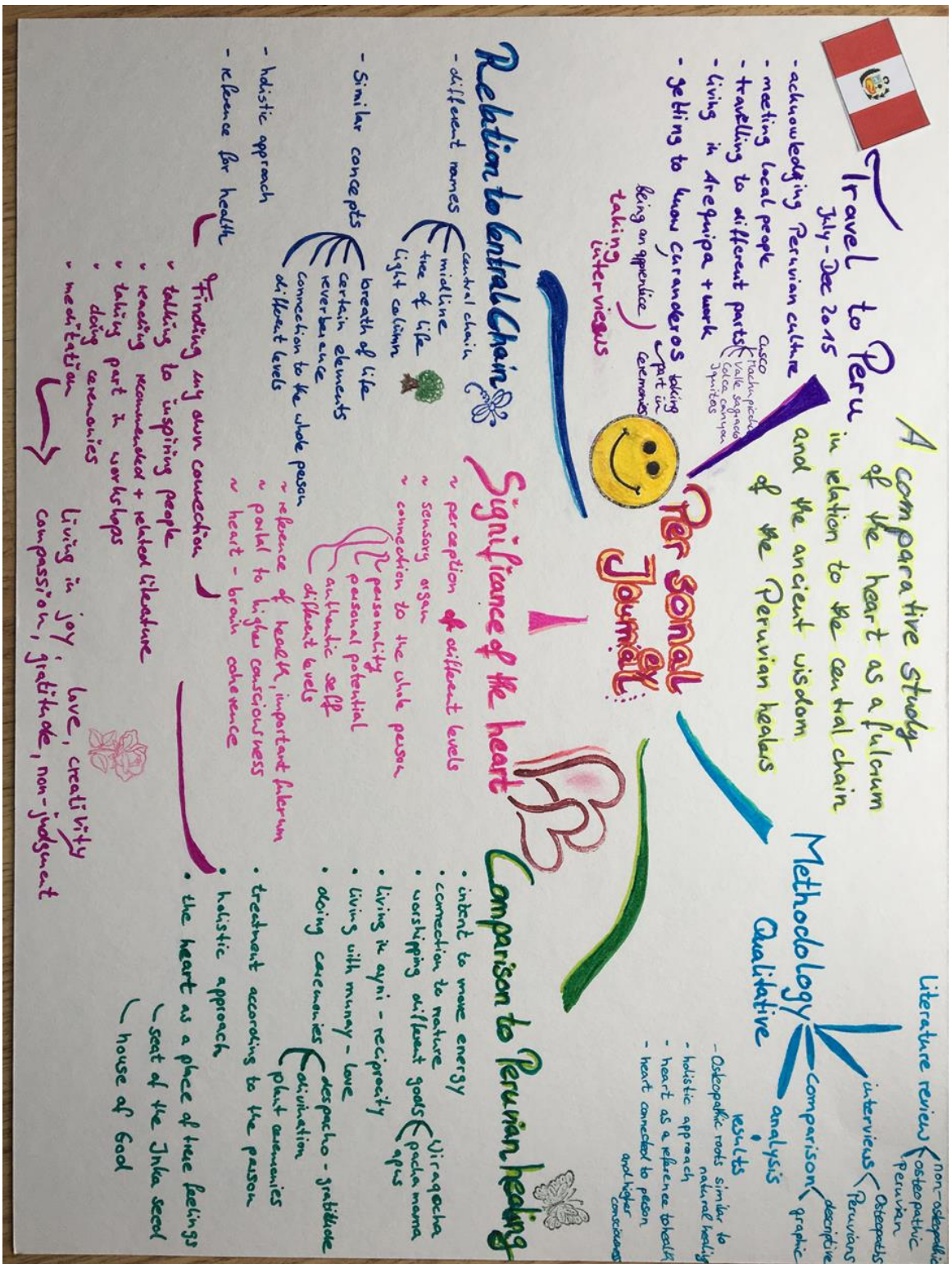


Figure 23. Personal Journal - own work

To have a clearer notion of my personal journal of the last three years from the time of my accepted proposal June 20, 2016 until now, I chose a mindmap to demonstrate that it also was a personal journey. It includes different aspects in the specific times of exploration of the subject. Though it cannot be described in a chronological order, as it evolved as a holistic picture of understanding, experience and was an iterative process of transformation.

Undertaking this research study has been an invaluable learning experience. I have gained some understanding of the nature of research and of the cyclical, sometimes confusing, nature of the research process. During the time of writing this thesis many wonderful things have happened, I met great and inspiring people, I took part in different kinds of ceremonies, initiations and workshops. The people encouraged me to gain a deeper understanding of my own life, to find my personal potential, to live in harmony with myself and then to incorporate it with my surroundings, my family, my friends, my patients and the people I meet. I am very grateful and suffused for all the people I encountered, the experiences I had, and the lessons and blessings I received. To include the scientific part in this research increased the understanding and acceptance for a wider spectrum of readers and helped to establish a holistic discourse of the research question.

It was a real gift to get involved in this study. This research study has also provided some key philosophies which have helped me examine my own professional values, and guidelines for possible changes to my own future practice. The research process has also encouraged me to view my own treatment of patients within the wider educational field and has provided a wealth of resources from which we can learn in order to improve the quality of the osteopathic profession.

And it is my deep consent and intent to spread this great significance of the sacred heart to my colleagues, my patients and all people who want to find their true essence of life, to live in joy, to receive and give in love, to connect in gratitude and to be inspired by nature and its spiritual forces.

The uniqueness of this study, which sets it apart from Maier's thesis (2016), is the perception of **the heart in its wholeness and transcendental qualities**, which **connects the Peruvian healing tradition with the essence of osteopathy**. It also reflects the pureness of healing from a true heart and engages the intent to a higher consciousness. This enables the practitioner to step back from his own expectations, be open to the patient and work with an unconditional loving heart and a clear mind.