

This work has been submitted to **NECTAR**, the **Northampton Electronic Collection of Theses and Research**.

Article

Title: A cross-cultural study of music in history

Creators: Cui, M. H., Opoku Agyeman, M. and Knox, D.

DOI: [10.18178/ijch.2016.2.2.039](https://doi.org/10.18178/ijch.2016.2.2.039)

Example citation: Cui, M. H., Opoku Agyeman, M. and Knox, D. (2016) A cross-cultural study of music in history. *International Journal of Culture and History*. **2**(2), pp. 65-69. 2382-6177.

It is advisable to refer to the [publisher's version](#) if you intend to cite from this work.

Version: Accepted version

Official URL: <http://www.ijch.net/list-39-1.html>

<http://nectar.northampton.ac.uk/8495/>



A Cross-Cultural Study of Music in History

Mary Haiping Cui, Michael Opoku Agyeman, and Don Knox

Abstract—Music lives in every culture, yet most investigations into music are based on Western music and Western listeners. This has not only ignored the cultural richness in music itself, but has also limited the impact of research on large varieties of societies. In reality, music is multi-cultural, multi-lingual and multi-facet. Evident in communication, education and healthcare systems, multi-cultural challenges have also merged into many aspects of our historical and contemporary societies. Moreover, rapid changes of the society and fast evolutionary development of media and technology have enriched world wealth of music. In this paper, we demonstrate that music has a rich but cross-cultural foundation in history with significance in linguistics, health and art. Consequently, we present a multi-disciplinary or multi-cultural study of music in history, revealing its significance in linguistics, health and wellbeing.

Index Terms—Cross-culture, music, history, health, art, exploration, language.

I. INTRODUCTION

Music, as old as history of human race itself [1], can be traced in every culture, region and throughout human history [2]. Evidences of music can be found as early as the start of human culture [3]. In the meantime, being considered as an important sub-cultural element [4], music reflects and registers aesthetics and characteristics of its time in history. Music, being an extraordinary expression of human cultures, links to every step of human civilization, deeply integrates into language formation, and is also reflected in historical literatures and art works.

Currently, recognition and acceptance of music therapy in health practices is still recent and under development. Strikingly, knowledge of health and wellbeing effects of music and its therapeutic applications are evidential throughout history and culture. Two broad terms ‘West’ and ‘East’ are adopted here to distinguish two major categories of culture and ethnical groups, which are geographically divided by the country of Israel. And both contain sub-culture and sub-groups with its own specific characteristics.

II. CROSS-CULTURAL PERCEPTION OF MUSIC IN WRITTEN LANGUAGE

Written languages, as footprints of human history, register ancient knowledge and concepts. English word ‘music’ is derived from ‘mousa’, which is Greek word ‘μουσική’ for

‘muse’. Muses were referring to inspirations of literature, science and arts. Hebrew is one of the ancient conceptual languages. ‘Music’ in Hebrew is ‘מוסיקה’. Based on conceptual meaning of each alphabet respectively, ‘for the purpose of God’, ‘use hand to strike (make) sound waves’, ‘move in a circle’, ‘to bring forth light and worship’, it indicates the belief of the ancient Hebrews that sound waves are in circles, musical sound can bring forth light, which may refer to enlightenment, wisdom and hope, besides, the root of music is worship.

In harmony with beliefs and practices of music in the West, strong evidences can be traced in the East. Strikingly, in Chinese language, a pictorial language that still remains in general use, the traditional character for ‘music’ is ‘樂’ which is an illustration of Chinese ancient drum sets with a wooden stand or a string instrument with wooden base (Fig. 1).



Fig. 1. 编钟 (Bian Zhong) Chinese ancient bell.

More interestingly, Chinese word for ‘medicine’ - 藥 (Yao) is derived from the character for music - 樂 (Yue), by adding the upper part 艹, which refers to ‘herbs’ (Fig. 2). Being a major part of medicine, the link between music and health wellbeing is clearly illustrated in Chinese language.



Fig. 2. Chinese character for ‘medicine’.

On the other hand, Chinese character for ‘illness’ is ‘病’, based on I-Ching, 易经 (Yi Jing): Book of Changes, the lower part ‘丙’ is closely linked to ‘心’, which in Chinese Medicine concept, refers to ‘emotion’. It is strongly believed in Traditional Chinese Medicine (TCM) that emotion is an important cause of imbalanced wellbeing, which leads to diseases. More specifically, negative emotions, such as anger, hatred, sorrow and fear can lead to dysfunctions of the physical body. This belief echoes in current medical research. It has been proved that negative emotions have destructive impact on our immune and endocrine system [5]-[7]. Long term anger, hostility, unforgiveness has negative impact upon

Manuscript received January 9, 2016; revised June 1, 2016.

Mary Haiping Cui and Don Knox is with the School of Engineering and Built Environment of Glasgow Caledonian University, UK (e-mail: Mary.HaipingCui@gcu.ac.uk, Don.Knox@gcu.ac.uk).

Michael O. Agyeman is with the Department of Computing and Immersive Technologies of the University of Northampton, UK (e-mail: Michael.OpokuAgyeman@northampton.ac.uk).

health wellbeing [6]. Chinese characters were created around 2650BC in the historical period of the Yellow Emperor or Huang Di (黄帝). Fascinating enough, compared to contemporary researcher findings, it appears as if the ancients already understood the health and wellbeing benefits of music. If so, to what extent did they understand the link between music and medicine and how did they use music to heal?

Exploring further into the underlying concept of Chinese language, Chinese word for 'health' - 健康 does not only refer to the absence of illness but means being in total harmony and well-balanced stage of body and mind [7]. This is in fact in line with the definition of 'health' by the World Health Organization (WHO) as 'a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity' [8]. Yet, with developments in sciences such as biology, chemistry, the concept of medicine has emphasized physical aspects health. Pharmaceutical drugs have become the primarily relied-on tool of achieving health.

III. ROLE OF MUSIC IN HEALTH AND WELLBEING

Music flourishes in Western history and the use of music in healing was highly valued among ancient Hebrews (2000BC – 200BC), Egyptians (2000BC – 300BC) and Babylonians (1000BC – 300BC). One well-known example is David playing harp to heal King Saul [9], [10] and specific songs were used to prevent spreading of epidemics [11]. Philosopher and musician Boethius (480AD – 524/525AD) believed through order and harmony, music could have therapeutic effects upon all aspects of an individual's functioning [11, 12]. It was believed by Egyptians that each tone had a specific effect upon individuals. A physician in Babylonian time often also had role in religion and education [13].

The Greek played an influential role in Western culture. During Greek civilization, music was clearly registered being used in therapeutic contexts [14]. The healing power of music was widely recognized among the classical Greek philosophers. Daily regime of singing and playing instrument were promoted by Pythagoras (circa 570 – 495BC) to help maintain healthy stage of mind. By using singing and playing instrument to change negative emotions such as worry, fear, sorrow and anger, Pythagoras promoted music to his students and public to aid healing [15]. Aristotle (384BC – 322BC) and Plato (424/423BC – 348/347BC) shared the opinion that pieces of music were the images of characters. Rhythm and melody were considered to be the imitations of anger and gentleness, courage and temperance [16]. The sound of a specific instrument could be assigned to aid the healing of a specific illness and enhance a certain aspect of physical and psychological function. For example, it was believed that the sound of flute could arouse strong emotions and lead to cathartic relief and the sound of harp could aid sleep, digestion and treat mental disorders [17]. Father of western medicine, Greek physician Hippocrates (460 – 370 BC), one of the most outstanding figures in medicine, introduced musical treatment to patients in 400BC.

In Greek philosophy, it is proposed that conflicts between the four elements (earth, water, air and fire) and the four

qualities (heat, cold, dry and moist) result in four humors (black bile, phlegm, blood and yellow bile) (Table I) [18], [19]. Supported by Galen (129–200/216AD), a prominent Roman physician, surgeon and philosopher, correct type of music could be prescribed to the suitable person to influence these humors and their respective temperaments of melancholic, phlegmatic, sanguine and choleric. Music written in Mixolydian, Dorian, Lydian and Phrygian modes were the most frequently prescribed music types [20].

TABLE I: FOUR ESSENTIALS IN GREEK PHILOSOPHY

4 Elements	Earth	Water	Air	Fire
4 Qualities	Heat	Cold	Dry	Moist
4 Humors	Black Bile	Phlegm	Blood	Yellow Bile
4 Temperaments of Humors	Melancholic	Phlegmatic	Sanguine	Choleric
4 Modes of Music	Mixolydian	Dorian	Lydian	Phrygian

TABLE III: THE FIVE ELEMENTS THEORY IN TCM

Chinese Notation	宫	商	角	征	羽
PinYin Pronunciation	Gong/Kung	Shang	Jue/Chueh	Zhi/Chih	Yu
Emotion	Worry	Sadness	Anger	Joy	Fear
Organ	Spleen	Lungs	Liver	Heart	Kidney
Tone Characteristics	Firm & Encouraging	Heavy & Unbending	Bright & Renewing	Energetic & Emotional	Melancholy & Placid
Effects	Tolerance	Encourage honesty and friendship	Kindness	Generosity	Contentment
Example Music	《月儿高》 《春江花月夜》 《平湖秋月》 《塞上曲》	《将军令》 《黄河》 《潇湘水云》 《金蛇狂舞》	《姑苏行》 《鹧鸪飞》 《春风得意》	《喜洋洋》 《步步高》 《喜相逢》 《各种吹打月》	《船歌》 《梁祝》 《二泉映月》 《汉宫秋月》 《平沙落雁》
Applications	Indigestion, worry, melancholy	Sadness, grief	Liver issue, breast cancer	Negativity, passiveness, depression	Anxiety Insomnia

More recently, music therapy flourished in and after World War I and II, beginning from musicians travelling to hospitals and playing music for soldiers suffering from war-related emotional and physical trauma [21]. It is now considered as

an allied health profession and is becoming more and more popular in the modern Western societies.

In the East, more fascinating beliefs and practises are recorded in ancient Chinese literature. The Inner Canon of Huang Di or the Yellow Emperor's Inner Canon - Huang Di Nei Jing (黄帝内经) (Fig. 3) is a prestigious Chinese medicine textbooks collected in the Warring States period (475-221BC) and early Han period (206BC-220AD), in which it was written clearly that before the use of herbs or acupuncture, people in China applied musical compositions to heal.

It also shows that, music has been considered a crucial way of achieving health and wellbeing in Traditional Chinese Medicine. This significant statement explained the formation of Chinese character for medicine 藥 (Yao) as a combination of music for 樂 (Yue) and herbs 草 (Cao).



Fig. 3. 黄帝内经 (Huang Di Nei Jing). (Right: Context; Left: Table of Content*).

Traditional Chinese Medicine (TCM) is one of the longest existing and effective healing systems from the East [22]. Comparing with Western medicine, which advances in outstanding expertise in intervening directly with large varieties of health issues with significant results, TCM highlights the link between body (身) and mind (心) and characterized by its holistic and indirect approach. TCM theory believes in every cell as a small unit of harmony and highlights the unity of body, mind and spirit as a whole. It is considered every part of human body is integrated and closely connected to each other [23]. The imbalance of the wellbeing of one part has manifestations from the associated parts of the body. These manifestations encourage earlier diagnosis and predictions of the diseases and make prevention possible. Hence, increasing the chances of healing. It is also believed that one is one's own best doctor. Moreover, health and wellbeing comes from everyday life. Living healthily physically, psychologically, emotionally leads to balanced energy holistically and results in better quality of life. Healing of any part of the body should not be treated isolated from consideration of the wellbeing of the mind.

Emotion is an invisible key and a double-sided sword that can affect one's health both ways in TCM theories. As for its effects upon body and mind, it was stated in Huang Di Nei Jing (475-221 BC, 206BC-220AD) that music could help people to become a balanced being, physically, emotionally and spiritually. Unsolved negative emotions may cause the imbalance of the physical body. It is well recognized in TCM that musical notes to be an essence of life, which could bring harmony and revival in to one's holistic being. The book of 禮記 (Li Ji) 樂禮 (Yue Ji) stated that the sound of music can agitate and stir arteries and veins, which could increase or smooth the blood circulation. The link between music and

health is also shown in the pentatonic musical scale in traditional Chinese music. Specifically, the five notes in a pentatonic scale correspond to the five main emotions, which also represent five main inner organs (Table II).

For example, a person who is always in the mood of sadness may often develop weakened lungs. A male who easily gets angry may find problem with his liver; a female who is always angry often develops issues with her breasts. Yet, positive emotion can lead to well-balanced energy, which would increase the strength of your immune system. Also in rehabilitation processes, positive and balanced emotion could promote and speed up the recovery of the body. Based on the assessment of individual patient, a TCM practitioner may recommend music that would be able to help to restore the patient to a more balanced and healthy state. On the other hand, sounds or tones that might aggravate the individual's condition are avoided during healing process. Moreover after balance is restored, the TCM practitioner would advise the use of music for maintaining health based on the individual's underlying constitution (Huang Di Nei Jing, 475-221 BC, 206BC-220AD).

Both similarities and differences exist in Western and Eastern medicine. To some extent, approaches of Western and Eastern medicine are compromising to each other. Taking advantages of both, contemporarily, health practices in China are often a combination of Western medicine and Traditional Chinese Medicine. The combination is also being gradually accepted in modern Western society healthcare [23]. Particularly, Westerners also started to seek alternative medicine to enhance health and wellbeing.

Above all, it is well recognized in both Western healthcare and Traditional Chinese Medicine that music is closely linked to health wellbeing. These historical beliefs and theories are in line with contemporary research into and application of music. A cross-cultural comparison of music and its applications for health wellbeing purposes (especially examination of the underlying mechanics) can assist us to improve the application of music on an international level.



Fig. 4. Music lesson by Phintias.

IV. MUSIC IN ANCIENT ART

Understanding and beliefs of music can also be discovered in art forms, which can also provide us with evidences of historical appreciations of music in personal development, family and social interactions, as well as spiritual life. In Western arts, music is involved in numerous forms of masterpieces. Music is a common theme in the works of Phintias, one of the well-known ancient Greek vase painters during Greek civilization period. Fig. 4 illustrates a scene of 'music lesson', with the teacher on the right (ΣΜΙΚΥΔΟΣ) and his student on the left (ΕΥΔΥΜΙΔΕΣ) with a narrator in-between. Again this work confirms the important role that

music played in ancient Greek.

Examples can also be found in more recent art works. ‘The Music Lesson’ by Sir Frederic Leighton (1830-1896), an English Classicist Painter and Sculptor, beautifully portrayed the warmth of sitting in mother’s blossom and enjoying her learning (Fig. 5).



Fig. 5. The music lesson by lord Frederic leighton.

Besides, angels are often painted or sculptured with music instrument (Fig. 6 and Fig. 7). ‘Angels Playing Music’ by Marcantonio Franceschini and ‘An Angel Playing a Flageolet’ by Edward Burne-Jones (1833 – 1898) both illustrated the association of music with higher level of peace and joy.



Fig. 6. Angels playing music by Marcantonio Franceschini.



Fig. 7. An angel playing a flageolet by Edward Burne-Jones.



Fig. 8. Eighteen scholars.

From left to right: Qin (Music); Qi (Chess); Shu (Calligraphy) and Hua (Drawing).

Similarly, the important role of music is evidential in ancient Eastern art on personal, interpersonal and spiritual levels. In ancient China, important role of music is also shown in the requirements of becoming a scholar, which were known as Si Yi (四艺). Figure 8, a silk painting in Ming Dynasty (1368-1644), refers to four artistic skills, including musical skill - Qin (琴); playing chess - Qi (棋); calligraphy - Shu (书) and painting or drawing - Hua (画). Musical skill was ranked primarily, as it was believed that musical training was also considered to be therapeutic and morally transforming. Also, a scholar’s love of music can be found in the ancient literature. It was written: 『士無故不撤琴瑟。』, which means, "A gentleman-scholar does not part from his

Qin or Se without a good cause." (禮記Li Ji, 曲禮下Qu Li Xia, 202BC – 220AD).

These beliefs of music are also registered in social interactions. One famous Chinese painting Ting Qin Tu (聽琴圖) (Figure 9) from the Song Dynasty (960-1279AD) shows the scene of three close friends gathering in the garden enjoying the pleasure of music playing. The evergreen pine tree, the player is sitting by is a symbol of long and healthy life in oriental arts. It also illustrates the understanding of the link between music and health in the Chinese history.



Fig. 9. Listening to Qin.

A historical stone statue, sculpted in Northern Wei Dynasty (386 - 534AD) of a Buda playing Gu Qin (Chinese Harp) is shown in Figure 10. The facial expression of the Buda was especially emphasized to be calm and placid. It concurs with the belief and/or understanding that music has healing power and hence, brings peace to one’s body, mind and soul.



Fig. 10. Buddha playing Gu Qin.

V. CONCLUSION AND FUTURE WORK

In summary, throughout history and cultures, music itself is considered as a factor of higher quality of life. Particularly, the historical and culture influences of music can be seen in the aspects of language formation, intellect, medicine, social interactions and art. Being seen as a complicated art form of healing, significance of musical effects on health and wellbeing is reflected cross-culturally through language, literature, medicine, practices and beliefs in everyday life. Although in both Western and Eastern history, there are traceable records of health and wellbeing application of music, it seems using music to heal in ancient times was mixed with philosophy, mythology and religion. There is a lack of rigorous, scientific research aimed at proving the existence of ‘believed’ effects of music and explanations of the underlying mechanism of how music affects health wellbeing are imperatively needed.

Future work includes designing and conducting

cross-cultural clinical research to analyze the application and effects of music in contemporary lives of modern societies.

REFERENCES

[1] R. Kamien, *Music: An Appreciation*, 7th ed. Boston: MA: McGraw-Hill, 2000.

[2] L. B. Meyer, *Style and Music: Theory, History, and Ideology*, The University of Chicago Press, 1989.

[3] I. Peretz, "The nature of music from a biological perspective," *Cognition*, pp. 1-32, 2006.

[4] J. Shepherd and P. Wicke, *Music and Cultural Theory*, Cambridge: Polity Press, 1997.

[5] J. P. Keith, J. B. Roger, J. W. Pennebaker, K. P. Davison, and M. G.T homas, "Disclosure of trauma and immune response to a hepatitis b Vaccination program," *Journal of Consulting and Clinical Psychology*, vol. 63, no. 5, pp. 787-792, 1995.

[6] J. K. K. Glaser, L. McGuire, T. F. Robles, and R. Glaser, "Psychoneuroimmunology: Psychological influences on immune function and health," *Journal of Consulting and Clinical Psychology*, vol. 70, no. 3, pp. 537-547, 2002.

[7] J. K. K. Glaser and R. Glaser, "Depression and immune function central pathways to morbidity and mortality," *Journal of Psychosomatic Research*, vol. 53, pp. 873-876, 2002.

[8] L. Brannon and J. Feist, *Health Psychology*, Wadsworth Publishing, 2009.

[9] D. T. Atkinson, *Magic, Myth and Medicine*, New York: World Publishing Company, 1956.

[10] M. Cooke, W. Chaboyer, P. Schluter, and M. Hiratos, "The effect of music on preoperative anxiety in day surgery," *Journal of Advanced Nursing*, vol. 52, no. 1, pp. 47-55, 2005.

[11] P. H. Lang, *Music in Western Civilization*, W. W. Norton & Company, 1941.

[12] B. Meinecke, "Music and medicine," *Music and Medicine*, New York: Henry Schuman, 1948.

[13] R. Boxberger, "A historical study of the national association for music therapy," *Music Therapy*, Lawrence, KS: The Allen Press, 1962.

[14] K. Goodman, "Music therapy," *The American Handbook of Psychiatry — New Advances and New Directions*, New York: Basic Books, 1981, pp. 564-585.

[15] R. R. Johnes and R. W. Pratt, *Music and Medicine: A Partnership in History*, Springer Berlin Heidelberg, 1987.

[16] G. Sörbom, "Aristotle on music as representation," *Journal of Aesthetics and Art Criticism*, vol. 52, no. 1, pp. 37-46, 1994.

[17] G. C. Mornhinweg, "Effects of music preference and selection on stress reduction," *Journal of Holistic Nursin*, vol. 10, no. 2, pp. 101-109, 1992.

[18] G. M. Foster and B. G. Anderson, *Medical Anthropology*, New York: Wiley, 1978.

[19] C. Weldin and C. T. Eagle, "An historical overview of music medicine," *Application of Music in Medicine*. Washington, DC: National Association of Music Therapy, 1991, pp. 7-23.

[20] D. J. Grout and C. V. Palisca, *A History of Western Music*, Norton, 1988.

[21] D. Dunja, I. Požgain, and P. Filaković, "Music as therapy," *International Review of the Aesthetics and Sociology of Music*, vol. 36, no. 2, p. 290, 2005.

[22] J. L. Tang, B. Y. Liu, and K. W. Ma, "Traditional chinese medicine," *Lancet*, vol. 372, pp. 1938 – 1940, December 2008.

[23] J. Xu and Y. Yang, "Traditional chinese medicine in the chinese Health care system," *Health Policy*, pp. 133–139, 2009.

[24] B. M. Berman, B. B. Singh, S. M. Hartnoll, B. K. Singh, and D. Reilly, "Primary care physicians and complementary — Alternative medicine: Training, attitudes, and practice patterns," *Journal of the American Board of Family Medicine*, pp. 272-281, July 1998.



Mary Haiping Cui is a PhD researcher at Glasgow Caledonian University. Her work focuses on the cross-cultural aspects of music, health and wellbeing. She received her MSc in psycholinguistics at Glasgow University in 2009 and a BSc in psychology from the University of Nottingham in 2007.



Michael Opoku Agyeman is a lecturer at the Department of Computing and Immersive Technologies. Previously, he was with the Intel Embedded System Research Group of the Chinese University of Hong Kong as a research associate. He received the PhD. from the Department of Computing at Glasgow Caledonian University, Glasgow, in 2014 and the MSc. degree in embedded and distributed systems from London South Bank University, London, in 2009. He received the BSc. (Hons.) in electrical and electronics engineering from Kwame Nkrumah University of Science and Technology (KNUST), Ghana, in 2008.



Don Knox is a senior lecturer in Audio Technology at Glasgow Caledonian University. He completed his PhD in audio signal processing in 2004 in collaboration with the centre for music technology at Glasgow University. His main research interests include audio and music analysis and classification, music emotion, and music psychology, with a focus on developing multidisciplinary research into music technology for health and wellbeing. He has led EPSRC funded research into music emotion classification, published articles in the Journal of the Acoustical Society of America and the Annals of the New York Academy of Sciences. He has delivered invited talks for the Royal Conservatoire of Scotland, the Open University and the Audio Engineering Society. He is director of the GCU audio research group, founding member of the Scottish Music Health Network, member of the AES, IEEE and SEMPRES, a fellow of the Higher Education Academy, and associate editor for Psychology of Music.