

A SURVEY OF MUSIC THERAPY

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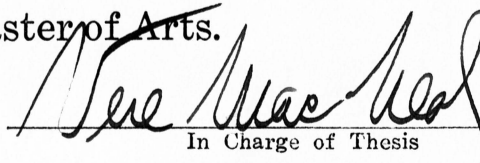
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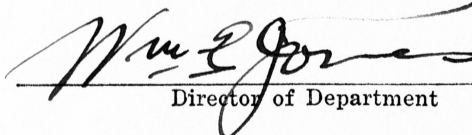
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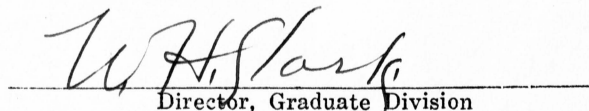
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PREFACE

At the present time, the use of music as a therapeutic agent is recognized by medical scientists and by musicians to be a positive factor in the treatment and cure of mental and nervous disorders. Since the dawn of history the association of music with medicine has appealed to the minds of men, superstitious and learned, and with the comparatively recent advent of applied psychology and the development of psychiatry, the consequent curative trends have assumed ever-widening proportions. Hospitals formerly regarded as punitive institutions now have well-balanced educational and recreational programs which function as a significant part in the patients' treatment. In this connection, occupational therapy has taken the lead, and the learning of crafts has become an active factor in the rehabilitation of the patient.

Although the interest in the potentialities of music as a therapy of scientific value has not been instantaneous, nevertheless, progress in this field has been slow and steady over the last forty years, and particularly in the last twenty. In many cases music has become a strong ally of occupational and recreational therapy. More infrequently, music therapy has been prescribed specifically by

the physician in charge.

Not all the benefits of music are limited to the psychic phenomena. In fact, an understanding of the physiological influence of music is more readily attained, since tests and measurements of somatic functions are simple processes when compared to tests and measurements of mental and nervous functions.

In spite of these great strides which music therapy has made in the last two or three decades, there is an apparent need for examination and organization of material pertinent to this field. The correlation of two phases of learning such as music and medical science has not been a simple or hasty operation, and the evident variances between the two thought trends are due to a large extent to both the lack of organization of past experiences and the failure to bring under one heading the experiments and progress being made today. This survey will attempt to minimize some of the differences between the two fields and to indicate possible channels of future development.

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CHAPTER I

THE INFLUENCE OF CERTAIN CULTURAL AND SOCIOLOGICAL CONCEPTS ON THE DEVELOPMENT OF MUSIC THERAPY

As was indicated in the preface, the development of music as a therapy has been a gradual process, and this fact has been due in part to certain cultural and sociological concepts which will be considered in this chapter before making a historical survey. To assure clarity, music as a therapy, music as a healing power applied by the ancients, and music as a phase of mental hygiene will first be defined. In the strict sense of the word, music therapy "is simply that musical influence which is prescribed for a given patient to obtain a medically desirable result."¹ It would appear from this definition that music therapy can trace its lineage directly to ancient and primitive civilizations, for the medicine man, hovering over the sick, sang a specifically ordained song "to obtain a medically desirable result."² However, the ritual chant of the medicine man falls more logically under the category of music as a healing power applied by the ancients, since there was no knowledge of the influence of music on metabolism, muscular energy, blood-pressure, sensory perception, and internal secretions.

¹ Willem Van De Wall, Music in Institutions (New York: Russell Sage Foundation, 1936), p. 340.

² Ibid., p. 340.

The third aspect, music as a phase of mental hygiene, refers to the capacity of music as an environmental influence and its by-product therapeutic value, when used with occupational and recreational therapy.¹

Because music therapy is related, in the sense mentioned above, to the healing arts developed by the ancients, the historical references made in this connection will receive more than a cursory glance in the second chapter. Music in the form of magic incantation persisted as one of the most highly favored devices for exorcising demons from earliest recorded time through the middle ages. Sir James Frazer has cited magicians or medicine men as "the oldest artificial or professional class in the evolution of society."² According to Webster, incantation is "the use of spells or charms, spoken or sung, as a part of the ritual of magic;" and if Combarieu's thesis as stated in La musique et la magic is accepted, then all modern music has developed from the magic incantation, a universal practice found in all primitive life:

"Although the magician chants without thought of aesthetic form of an artistically appreciative audience, yet his spell contains in embryo all that later constitutes the art of music."³

¹Van De Wall, Music in Institutions, p. 340.

²Sir James Frazer, The Golden Bough (New York: The Macmillan Company, 1925), p. 105.

³Lynn Thorndike, The History of Magic and Experimental Science (New York: The Macmillan Company, 1929), I, 6.

The fact that music as a healing power retained an aura of mystery and superstition through the middle ages and until the eighteenth century, when "serious efforts to evaluate the effects of music on the human body were initiated,"¹ in no way discredits its validity as a contribution to the healing arts of the present day. In the introduction to his scholarly work, The Healing Gods of Ancient Civilizations, Dr. Walter Addison Jayne, Emeritus Professor of Gynecology and Abdominal Surgery at the University of Colorado, outlines the slow progress of medical science:

It is a matter of common knowledge that from the dawn of history the healing art has been more or less intimately connected with religion. During antiquity the bonds uniting them were inseparable. . . . On the free soil of Hellas, however, restrained by no binding religious traditions and by no hierarchy, experience with remedies of folklore and critical observations of disease permitted by an unfettered personal judgment, backed by liberal, speculative, constructive thought, developed, under Hippocratic influence, a scientific spirit, ethical ideals, and a definite line of cleavage.²

On this same "free soil of Hellas" music was embraced not only as an essential element in the Greek drama and an accompaniment to the dance but also as a desirable accomplishment for the citizenry. To Plato music education was supremely important,

. . . . because rhythm and harmony sink most deeply into the recesses of the soul, and take most powerful

¹ Edward Podolsky, Medicine Marches On (New York and London: Harpers and Brothers Publishers, 1934), p. 157.

² Walter Addison Jayne, The Healing Gods of Ancient Civilizations (New Haven: Yale University Press, 1925), p. xxv.

hold of it, bring gracefulness in their train, and making a man graceful¹ if he be rightly nurtured, but if not, the reverse.¹

Aristotle in Politics echoed the same opinion:

Hence and with good reason it [music] is introduced into social gatherings and entertainments, because it makes the hearts of men glad: so that on this ground alone we may assume that the young ought to be trained for it.²

The growth of medical science, freed from the priesthood surveillance, was steady if not flourishing, inasmuch as religion continued to be a powerful and restricting influence:

Notwithstanding persistent struggles for intellectual freedom, it was not until the nineteenth century that medicine, with other sciences, gained sufficient headway to break loose from ancient authority and traditions and to find opportunities for unprejudiced investigation, experiment, and adoption of new principles. . . . it [medicine] has finally been accorded a high place among the sciences, although retaining many of its time-honored characteristics as an art.³

Although medical science had emerged from the shadows of the past, there were other factors which prevented the merging of music and medicine on a scientific basis at this particular time. Mentally diseased persons had been liberated from their shackles in 1792 when Dr. Philippe Pinel was authorized by the Revolution Commune to free these patients, some

¹Plato, The Republic from The Works of Plato, trans. J. L. Davies and D. J. Vaughan (New York: The Nottingham Society, n. d. g.), II, 105.

²Aristotle, Politica, from The Student's Oxford Aristotle, trans. W. D. Ross (New York: Oxford University Press, 1942), VI, 1339^b.

³Jayne, op. cit., pp. xxv-xxvi.

of whom had been in chains for thirty years;¹ and while modern "asylums" were established from 1800 on, no psychiatric research was accomplished until 1870.² Furthermore, for medical scientists of the nineteenth century, the point of view on the subject of mental illness was dominated to a large extent by the

empirical treatment of mental diseases pending the much-desired discovery of rational (i. e., somatic) explanations. . . . As humanitarianism checked the use of physical restraint it was replaced by considerable chemical restraint; that is, by constant doses of bromides. In due time these were found just as objectionable, and there was a resort to such more satisfactory procedures as occupational therapy.³

Music, on the other hand, riding on the wave of Romanticism, was reflecting a more intimate relationship with feelings and emotions. Perhaps a clearer idea of this period prior to the scientific union of music and medicine can be gained by quoting from Dr. Gregory Zilboorg's Mind, Medicine, and Man.

Throughout the history of our civilization the mind had remained a subject of preoccupation, but science had somehow always succeeded in side-stepping it or in pushing aside the true issues involved in the consideration of human psychology. Literature, art, philosophy, and religion never swerved from their intense interest in man, in his salvation, his pains, his sins, his accomplishments, his virtues, his failures, his frailty, and his strength. Official science, however--probably as a result of its painful struggle against official and

¹Podolsky, Medicine Marches On, p. 113.

²Richard Harrison Shryock, The Development of Modern Medicine (Philadelphia: University of Pennsylvania Press, 1936), p. 348.

³Ibid., p. 352.

popular superstitions and the many hard blows which it had repeatedly sustained since the breakdown of Greek civilization--concentrated on the study of what through the ages had become known under the name of "natural phenomena." That astronomy, physics, chemistry, anatomy, pathology, physiology, and technology had reached unprecedented heights, and that science had developed an immense creative impetus and opened ever newer vistas and newer fields to conquer--of this there is no doubt. But there is also no doubt that the method and the very genius of the scientific approach and the palpable, visible nature of scientific discoveries divorced it even further from the scientific investigation of man as he is. Psychology was not yet embraced by the scientific mind. In order to be considered a legitimate part of natural sciences, psychology had to deal not directly with human emotions and fantasies and impulses, but with the measurable equivalents of psychological reactions: muscular tensions, changes in the blood circulation, in vision, in the physiological senses in general. That is why it may be said. . . . that the close of the last century was an age of physiological psychology, a psychology seeking for the general laws of the physiological changes accompanying the various human reactions.¹

This physiological psychology was in juxtaposition to other forces which were deeply concerned with man, his struggles, and his yearnings:

In the meantime, as if from a profound need, there was felt a wave of renewed interest in man as a being who is subject to deep feeling and to great inner conflicts, to ebbs and flows of passions and the struggle which they generate. Art and literature and philosophy, the chief channels through which the subjective states of man have been revealed since time immemorial, began to be preoccupied more poignantly with the primitive and harsh realities of these subjective states. There is a tangible and unifying matrix which keeps together such divergent expressions of creative activity as the early paintings of Picasso, Derain, or Nolde, the philosophy of Nietzsche, the tragic, convulsive novels of Dostoevski, the short stories of Guy de Maupassant, the Pathetique of Tschaikovsky, and even the puzzled, taciturn tragedy of Soames Forsyte. They all

¹Gregory Zilboorg, M. D., Mind, Medicine, and Man (New York: Harcourt Brace, and Company, 1943), pp. 72-73.

delved into man with the same pained questions: What does he feel? How does he suffer? Why? Wherefrom this inexhaustible inner energy to struggle with and within one's self and with others? The only answers men could provide were excellent descriptions, vibrant renditions of man's inner life. They could posit the questions, but they were unable to answer them.¹

Several factors have entered into the twentieth century music-medicine relationship--some clearly defined, others obscure. Concurrent with the trend towards increasingly specialized fields are these more vitalizing realizations that (1) each field has much to offer the other; and (2) usually, a synthesis is both desirable and practical. These two points have a unique application in the case of medicine and psychiatry, both of which have extended their scope to include the so-called socialized sciences: psychology, anthropology, history, sociology, economics, political science, and ethics.² Occupational therapy is a concrete example of the advantages to be derived from such an approach. On the other hand, the recognition by psychiatry of music as a therapy has been slow probably due to its immutably intangible character. However, this is not to say that a stimulus to its progress has been lacking. Certainly World War I provided an impetus to the progress of music therapy. Tangible evidence bearing out

¹Ibid., p. 74.

²Harry Elmer Barnes, The History of Western Civilization (New York: Harcourt, Brace and Company, 1935) II, 1049.

this fact can be seen by a casual glance at the number of articles on music therapy published during the War and the period immediately following. Before the War, however, another movement was in the process of organization under the leadership of Clifford Beers, author of A Mind That Found Itself. In 1909 Mr. Beers founded the National Committee for Mental Hygiene, and one of its most important functions was the promoting of a saner attitude toward the so-called insane. Barnes writes the following concerning the relation of contemporary humanitarianism to mental disease:

In no phase of humanitarian effort in our generation have there been more satisfactory results than in the improved methods of dealing with the so-called insane. Success here is especially important because of the notable increase in mental and nervous diseases in the last fifty years. The strains and stresses of city life and worries connected with economic insecurity have contributed to a large increase in the number of persons who break down from nervous and mental disorders.¹

The contribution of the National Committee for Mental Hygiene to general mass education has brought about a revolution in the attitude toward such matters, and Barnes further states that

. . . there are many who believe that mental hygiene will supply the new scientific morality that is required to adjust man to our novel ways of life and the changing mental perspective.

In any event, the mental-hygiene movement has already helped to check the spread of mental and nervous diseases and may ultimately reduce them to a minimum.²

¹Barnes, op. cit., p. 968.

²Ibid., p. 969.

Thus, one sees the slow development of a relationship between music and medicine which has become dependent upon interaction as well as synthesis, and the aims have become both preventive and reconstructive.

CHAPTER II

THE ROLE OF MUSIC AND MEDICINE IN HISTORY

Before an evaluation of twentieth century developments in music therapy is made, the influence of the music-medicine relationship in the past will be considered.

Since the primitive races of today represent a degree of human progress anteceding the Egyptian civilization from which comes the earliest record of the association of music with the healing art, a few observations of the music-medicine practices of these primitives will receive attention.

The results of Frances Densmore's extensive research among the American Indian tribes have been published in bulletins by the Bureau of American Ethnology under the auspices of the Smithsonian Institution, and some of the facts pertaining to the healing rituals will be noted. A Chippewa medicine song contains these words of affirmation: "You will recover, you will walk again. It is I who say it. My power is great."¹ In order to accomplish a complete cure, the Yuma medicine man sings four songs,² while the Caddo

¹Frances Densmore, "Music in the Treatment of the Sick by American Indians," Hygeia, April, 1923, p. 29.

²F. Densmore, Yuman and Yaqui Music, Bureau of American Ethnology, Bulletin 110 (Washington: Government Printing Office, 1932), p. 29.

sings and dances as the patient lies on a bed which is resting on a grate of burning coals.¹ In all these bulletins on Indian music, particularly those related to the Nootka, Quileute, and Menominee tribes, the songs listed in the treatment of the sick compare favorably in number with songs used for other rituals. Recordings have been made of sixteen Menominee healing songs and seventeen Nootka and Quileute songs.²

On every continent there is evidence of primitive people ascribing a healing power to music. "To the African, music, one might say, is life rather than a part of life. . . .," writes Percival Kirby in The Musical Instruments of the Native Races of South Africa.³ It is not surprising, therefore, to find that the native doctor--whose interpretation of disease, its cause, and its cure, is of a wholly superstitious nature--uses a mantshomane (drum) in his healing ritual:

It [the drum] is of large size, the head being of buckskin. The doctor who formerly owned it used to employ it in his cures, especially when he desired to remove a headache from a patient! His method of doing this

¹John R. Swanton, Source Material on the History and Ethnology of the Caddo Indians, Bureau of American Ethnology, Bulletin 132 (Washington: Government Printing Office, 1942), p. 220.

²See F. Densmore, Menominee Music, Bulletin 102 (Washington: Government Printing Office, 1932), p. xii. See also F. Densmore, Nootka and Quileute Music, Bulletin 124 (Washington: Government Printing Office, 1939), p. xvii.

³Percival R. Kirby, The Musical Instruments of the Native Races of South Africa (London: Oxford University Press, 1934), p. viii.

was to dance up to the unfortunate and strike violent blows upon his mantshomane close to the patient's eardrums, when the headache was supposed to leave him!¹

The mantshomane of South Africa and the shaman drum of the Swedish Lapp territory are remote in a geographical sense only; basically, their function is the same. "In case of severe sickness, the cause. . . was sought in an unconscious condition, in the attaining of which the drum was used as an excitant."² Among the Arancanians of northern Argentina, music used in song and dance plays an important part in the magic-symbolic ceremonies. In Rutas De America, subtitled El Folklore, La Musica, La Historia, La Leyenda, Las Costumbres, there is a detailed description of the colorful and elaborate Machiluhun (initiation ceremonial of the Machi, the medicine man) and the Weigurehuen (the dance of the Machi).³ Richard Wallaschek, author of Primitive Music which was published in 1893, emphasized the widespread use of the healing power of music among primitive races:

In Australia the doctor shakes a bundle of reeds, an action otherwise used during a song to mark the time. At Port Jackson Mr. Hunter saw a physician who did not speak or sing to the spirit of the disease, but only put his mouth near the sick part of the body. In Borneo the natives perform recitatives, songs, dances and processions in order to catch the soul of the patient, which is supposed to have run away before

¹Ibid., p. 43.

²Uno Holmberg, The Mythology of All Races (Boston: Marshall Jones Company, 1927), IV, 291.

³Ana S. Cabrera, Rutas De America (Buenos Aires: Peuser, Ltda., 1941), p. 108.

the evil spirit. In Tanna (New Hebrides) the natives believe that the doctor sends the illness; consequently they are very much afraid of him, and quite overload him with presents when they think he ceased to send the illness. The obeah or medicine man of the negroes in Jamaica commences his cure with a dance, which he himself performs, not the patient, as in the case of the tarantella.¹

To summarize this discussion on the primitive music-medicine relationship, one can say that while the mode of treatment may vary, one fact remains constant: the medicine man and his music constitute one of the chief phases in the tribal organization, no matter how crude its structure may be.

For the earliest record of music applied as a healing art, the ancient papyri of Egypt must be consulted. The Edwin Smith Papyrus, which dates from about 1600 B. C., contains "the most important body of medical knowledge which has survived to us from ancient Egypt, or, for that matter, from the ancient Orient anywhere."² In addition to the passages of description and discussion pertaining to the examination and treatment of patients, there are five pages of magic incantations in this papyrus. According to the Ebers Papyrus (c. 1552 B. C.), drugs administered internally and externally were accompanied by prayers and incantations,³ which were also efficacious in driving away the cataract in

¹Richard Wallaschek, Primitive Music (Longmans, Green, and Co., 1893), pp. 167-168.

²Jayne, op. cit., p. 35.

³Ibid., p. 44.

the eyes.¹ The Hearst Medical Papyrus, ascribed to a period between the Twelfth and Eighteenth Dynasties, contains incantations for broken bones.² These sacerdotal methods of healing generally

. consisted of incantations, prayers, and sacrifice, and possibly the giving of some remedy, with the aid of all the devices and accessories of magic, oral and manual,--commands, conjurations, threatenings, coaxings, aspersions, spells, and fumigations,--the incantations and gestures being repeated four times.³

Curative remedies employed in ancient times by the Babylonians and Assyrians included entreaties to the divinities taking "the shape of hymns of praise and of prayers introductory to incantations."⁴ An elaborate series of incantation texts have been found in the library of Assurbanipal. For these people the art of exorcism and incantation was a highly specialized affair, and success depended upon the correct application of the formula as well as the power of the proper formula. "Error might be fatal; exactness in work and in intonation was essential--the ritual for the fever-demon would not be efficacious for the devil of headache."⁵

Vedic hymns, prayers, and sacrifices were the highly

¹Ibid., p. 45.

²Ibid., p. 47.

³Ibid., p. 43.

⁴Thorndike, op. cit., I, p. 18.

⁵Jayne, op. cit., p. 107.

avored devices employed as a remedial measure by the Aryans of Ancient India. In the Artharva-Veda, the earliest medical book of India, more than one hundred hymns and parts of hymns are addressed to the gods for the cure of illness.¹ The Artharvan treatment was characterized by a magico-religious approach in which each deity was praised in extravagant terms through the media of hymns and incantations.

Of this early Syrian-Egyptian-Byzantine music, Paul Henry Lang, Associate Professor of Musicology at Columbia University, writes:

We shall not attempt to examine the initial functions of this Syrian-Egyptian-Byzantine music, for they are lost in the contourless mystery of magic and incantation. Suffice it to say that the original role of music in pre-historic times--incantation, purification, conjuration, and exorcism--survived for a long time, and that certain aspects of it became, in a stylized form, standard elements of Christian liturgy.²

Possibly the most widely known example of the influence of music on the mind and spirit is the Biblical reference to David's playing on the harp to soothe Saul's troubled soul. "And it came to pass, when the evil spirit from God was upon Saul, that David took an harp, and played with his hand: so Saul was refreshed, and was well, and the evil spirit departed from him."³

The healing art of the early Greeks was intimately associated with their religion and mythology. Grecian

¹Ibid., p. 151.

²Paul Henry Lang, Music in Western Civilization (New York: W. W. Norton and Company, Inc., 1941), p. 21.

³I Samuel, 16:23.

youths sang sacred hymns and songs to Apollo, deity of light, music, healing, poetry, archery, and prophecy. Apollo held an oracular and honorary position as a healing god, while the divinity Paian, the Centaur Cheiron, and Asklepios, the Thessalian hero-physician, were more frequently invoked by the customary healing rituals, hymns of praise, prayers, and sacrifices.

As Apollo's son, Asklepios received divine approval, and he was instructed in the healing art by Cheiron, reputed master of the sciences of botany, prophecy, healing, and music. Although there were times when the introduction of foreign cults threatened serious rivalry, Asklepios retained first place in the pantheon as the active, representative god of healing. The Asklepeon cult developed from the memory of his deeds, and to him was attributed the cure of deafness by the sound of the trumpet.¹ Although the ancient shrines of the Asklepieia were scattered throughout Greece, at Epidauros the cult reached its highest development in the establishment of an elaborate Asklepeon which consisted of temples, colonnaded porticoes, buildings for sacrificial and other religious ceremonies, accommodations for visitors and officials, baths, gymnasiums, and a library. The stadium and theater were just outside this sacred enclosure.² The Asklepeon

¹Charles Burney, A General History of Music (New York: Harcourt, Brace and Company, 1935), I, 156.

²Jayne, op. cit., p. 261.

was established not later than the sixth century B. C., and the influence of this cult flourished for centuries, spreading from Epidauros all over the Greek world and reaching Rome in 291 B. C.

Orpheus, the celebrated soothsayer, exercised healing powers by appeasing the wrath of the gods through his incantations, conjurations, and magic formulae. While magic had dominated religion and the healing art in Mesopotamia and Egypt, and while it is true that belief in the reality and power of magic existed in Greece, the Greeks did not completely succumb to superstition, and their intellectual progress was not hampered. In the following quotation Jayne sums up this idea:

The hymns of the Orphic cult were full of magic incantations and formulas. Incantation and exorcism were a part of the hilastic rites for the cure of disease, but the aesthetic sense, serene temperament, and freedom of thought saved the Greeks from debasing and degrading their religious ideals with the darker, cramping superstitions and sorcery of their neighbors.¹

There are many references to the influence of music in the works of the classical writers. Music was instrumental in averting pestilence and war and achieving victory and tranquillity. In De Musica Plutarch praises the power and influence of music and indicates its role in education.

So that whoever he be that shall give his mind to the study of music in his youth, if he meet with a musical

¹Jayne, op. cit., p. 228.

education, proper for the forming and regulating his inclinations, he will be sure to applaud and embrace that which is noble and generous, and to rebuke and blame the contrary, as well in other things as in what belongs to music.¹

Furthermore, those cities which were cognizant of the importance of music were benefited thereby. Terpander, "the earliest definite figure to emerge from the dim musical past personified by the mythical Olympos,"² and Thaletas, the Cretan poet, were cited as having exercised musical powers.

Now that those cities which were governed by the best laws took care always of a generous education in music, many testimonies may be produced. But for us it shall suffice to have instanced Terpander, who appeased a sedition among the Lacedaemonians, and Thaletas, the Cretan, of whom Pratinas writes that, being sent for by the Lacedaemonians by advice of the oracle, he freed the city from a raging pestilence.³

In another passage Plutarch commends Thaletas for the ennobling influence of his odes:

Now Thales [Thaletas] passed as lyric poet, and screened himself behind this art, but in reality he did the work of one of the mightiest lawgivers. For his odes were so many exhortations to obedience and harmony, and their measured rhythms were permeated with ordered tranquillity, so that those who listened to them were insensibly softened in their dispositions, inso-much that they renounced the mutual hatreds which were so rife at that time, and dwelt together in a common

¹Plutarch's Morals, trans. W. W. Goodwin (Boston: Little, Brown and Company, 1871), I. 132.

²Gustave Reese, Music in the Middle Ages (New York: W. W. Norton and Company, 1940), p. 11.

³Plutarch's Morales, p. 133.

pursuit of what was high and noble.¹

Pythagoras, one of the earliest investigators and philosophers of nature, extended his study to the problems of health and disease. As a result of certain political conditions, he emigrated from Samos to southern Italy, and in Croton he was soon surrounded by disciples. The members of the school practiced a strict mental and physical diet which was designed to make them resistant to all kinds of disturbances. However, in the event that disorder developed, they tried to restore the lost balance physically with medicine, mentally with music.²

During the fifth and sixth centuries B. C., schools of physicians, who were eager to find rational methods of healing, had developed in the Greek colonies, in southern Italy, and in Asia Minor, particularly Cos and Cnidos. The significance of this trend toward a rational basis for treating disease is admirably stated by Edith Hamilton in The Greek Way:

In the world of antiquity those who practiced the healing art were magicians, priests versed in special magic rites. The Greeks called their healers physicians, which means those versed in the ways of nature. Here in brief is an exemplification of the whole trend of the Greek mind, its swing away from antiquity and toward modernity.³

¹Plutarch's Lives, trans. Bernadotte Perrin (New York: G. P. Putnam's Sons, 1928), I, 213.

²Sigerist, op. cit., p. 149.

³Edith Hamilton, The Greek Way (New York: W. W. Norton and Company, Inc., 1930), p. 32.

This new status of the healing science coincided with the development of the political state in Greece; and since music was recognized to have the power of exciting the passions and softening the manner, and since its influence on the mood and spirit was undeniable, music was regarded as a matter of public importance in the welfare of the state.

The correspondence which was believed to exist between sounds--tone combinations--and cosmic phenomena--seasons of the year and parts of the day, sun and moon cycles, growth and weather, man and woman, birth and death, healing, reincarnation, etc.--is brought into relationship with human temperament. This conversion of magic into music, which started in the Orient, reached its culmination in the Greek conception of the "doctrine of ethos," which brings order into the domain of music, segregates its components, and poses the important question: What influence has music on character? This conception explains the extraordinary interest manifested by the Greeks in their music; it explains the dominant role they assigned to it in their education and in their political system. It is doubtful whether the art of music shall ever again occupy such a high position in the mental and spiritual life of a nation.¹

Ethos assigned to music the capacity for imitating mood, and the mood of each mode was measured according to its moral value.² Plato rejected the plaintive harmonies of the Mixolydian and Hyperlydian, "for they are useless even to women that are virtuously given, not to say to men."³ The Ionian and Lydian harmonies were discarded

¹Lang, op. cit., pp. 13-14.

²Mode is used here in the musical sense as applicable to the Greek tetrachordal patterns which were the bases for their musical system.

³Plato, op. cit., p. 101.

because of their "effeminate and convivial qualities."¹ This left only the Dorian and Phrygian, "the one violent, the other tranquil, such as shall best imitate the tones of men in adversity and in prosperity in a temperate and courageous mood."² According to Aristoxenus, Sophocles, the tragic poet of the fifth century B. C., was the first to use Phrygian melodies. Aristotle commended the Lydian mode to the very young and old because of its gentle quality.

Among authorities there is some controversy as to whether pitch determined the ethos of a mode. According to Finney, transposition of the modal scale from one pitch to another did not alter the internal relationship of the scale.

In a different pitch the scales having the mese near the top were still the high scales, and the scales having the mese near the bottom were still the low scales, and their modality was still clearly recognizable. Transposition was of no more importance than our modern practice of moving from one pitch to another to suit the range of the singer's voice.³

In Sachs' discussion of ethos, he maintains that the absolute pitches rather than the modal arrangement should be considered the determining factor.

¹Ibid., p. 101.

²Plato, op. cit., p. 102.

³Theodore M. Finney, A History of Music, (New York: Harcourt, Brace and Company, 1935), p. 18.

Pitch was doubtless indispensable in creating an ethos. The pseudo-Aristotelian Problem 19:49 expressly calls a low note "soft and calm, and a high note, exciting." The most direct evidence of the emotional power of pitch is Ptolemy's statement that "the same melody has an activating effect in the higher keys, and a depressing one in lower keys, because a high pitch stretches the soul, while a low pitch slackens it. Therefore the keys in the middle near the Dorian can be compared with well-ordered and stable states of the soul, the higher keys near the Mixolydian with the stirred and stimulated states, and lower keys near the Hypodorian with the slack and feeble moods."¹

In addition to the influence of ethos on the emotions, there were certain instruments which were preferred for their healing and soothing qualities. The following passage from Charles Burney's General History of Music gives an interesting summary of the use of musical instruments to accomplish specific cures:

Xenocrates, as Martianus Capella further informs us, employed the sound of instruments in the cure of maniacs; and Apollonius Dyscolus, in his fabulous history, Historia Commentitia, tells us, from Theophrastus's Treatise upon Enthusiasm, that music is a sovereign remedy for a dejection of spirits, and a disordered mind; and that the sound of the Flute will cure an epilepsy, and a sciatic gout. Athenaeus quotes the same passage from Theophrastus, with this additional circumstance, that as to the second of these disorders, to render the cure more certain, the Flute should play in the Phrygian mode. But Aulus Gellius, who mentions this remedy, seems to administer it in a very different manner, by prescribing to the Flute-player a soft and gentle strain; si modulis lenibus, says he, tibicen incinat: for the Phrygian mode was remarkably vehement and furious. This is what Coelius Aurelianus calls loca dolentia decantare, enchaining the disordered places. He even tells us how this

¹Curt Sachs, The Rise of Music in the Ancient World (New York: W. W. Norton and Company, 1943), p. 248.

enchantment is brought about upon these occasions, in saying that the pain is relieved by causing a vibration in the fibres of the afflicted part: Quae cum saltum sumerent palpitando, discusso dolore mitescerent.¹ Galen speaks seriously of playing the Flute on the suffering part, upon the principle, I suppose, of medicated vapour bath. The sound of the flute was likewise a specific for the bite of a viper, according to Theophrastus and Democritus, whose authority Aulus Gellius gives for his belief of the fact.²

Concerning the belief of Aulus Gellius, whom Burney cited above, the following will be quoted from The Attic Nights:

I ran across the statement very recently in the book of Theophrastus On Inspiration that many men have believed and put their belief on record, that when gouty pains in the hips are most severe, they are relieved if a flute-player plays soothing measures. That snake bites are cured by the music of the flute, when played skillfully and melodiously, is also stated in a book of Democritus, entitled On Deadly Infections, in which he shows that the music of the flute is medicine for many ills that flesh is heir to. So very close is the connection between the bodies and the minds of men, and therefore between physical and mental ailments and their remedies.³

However, the flute was not held in such high esteem by Plato and Aristotle, and the latter rejected the professional instruments, i. e., those instruments requiring great skill and practice, as well as the professional mode of education.

¹This passage is quoted in Sigerist, op. cit., p. 213: "Others have approved of the use of songs (cantilenae), as the brother of Philistion also remarks in book XXII On Remedies, where he writes that a certain piper had played melodies over aching parts of the body which, quivering and throbbing, were relaxed after the pain had been destroyed."

²Burney, op. cit., pp. 156-157.

³Aulus Gellius, The Attic Nights, trans. John Rolfe (New York: G. P. Putnam's Sons, 1927), I, 353.

in music, i. e., music contests or any musical activity in which giving pleasure was the sole aim. The latter was thought of as an occupation unworthy of a freeman's station.

The flute, or any other instrument which requires great skill, as for example, the harp, ought not to be admitted into education, but only such as will make intelligent students of music or of the other parts of education. Besides, the flute is not an instrument which is expressive of moral character; it is too exciting.¹

The identity as well as the use of these instruments is somewhat obscure and confusing, but this fact does not lessen the significance of the idea that certain instruments possessed curative powers.

In this discussion of the music-medicine relationship, the Greek concept of katharsis or purification should be mentioned. Sachs gives attention to this topic and quotes from Aristotle's Politics:

"Some persons fall into a religious frenzy, whom we see disenthralled by the use of mystic melodies, which bring healing and purification to the soul."

Here, we are right in the middle of what the Greeks called katharsis or healing through purification. Aristotle states in Politics 8:1340 b 8 that if insanelly overwrought ("enthusiastic") persons "listen to enthusiastic melodies that intoxicate their souls, they are brought back to themselves again, so that their katharsis takes place exactly like a medical treatment." Werner and Sonne are right in calling this a "treatment basically homeopathic."

Allopathic treatment, on the other hand, sought to soothe maniacs by impressing "upon their disorganized

¹Aristotle, op. cit., VI, 1341^b.

souls the magically numerical and cosmic order, attuning them, as it were, to the proportions of the universe."¹

Philo Judaeus, of whom Thorndike states that "there probably is no other man who marks so well the fusion of Hellenic and Hebrew ideas and the transition from them to Christian thought,"² writes of an ascetic community of Therapeutae at the Mareotic Lake near Alexandria:

The vocation of these philosophers is at once made clear from their title of Therapeutae and Therapeutrides, a name derived from θεραπεύω, either in the sense of "cure" because they profess an art of healing better than that current in the cities which cures only the bodies, while theirs treats also souls oppressed with grievous and well-nigh incurable diseases, inflicted by pleasures and desires and griefs and fears, by acts of covetousness, folly and injustice and the countless host of the other passions and vices: or else in the sense of "worship," because nature and the sacred laws have schooled them to worship the Self-existent who is better than the good, purer than the One and more primordial than the Monad.³

Every seven weeks the Therapeutae assembled, and as a prelude to their greatest feast, they sang hymns and psalms "in all sorts of metres and melodies which they write down with the rhythms necessarily made more solemn."⁴

¹Sachs, op. cit., p. 253.

²Thorndike, op. cit., p. 248.

³Philo, On the Contemplative Life or Suppliants, trans. F. H. Colson (Cambridge: Harvard University Press, 1941), IX, 113-114.

⁴Ibid., p. 131.

While Philo flourished in Alexandria during the first century of this era, Pliny the Elder was recording the use of incantation in treating disease. In the Natural History, the incantation, as well as other favored methods of cure, is listed as a successful curative agent.¹ Lucretius in his long philosophical poem, De Rerum Natura, describes the role of the physician during the plague at Athens:

With silent lips of fear
Would Medicine mumble low, the while she saw
So many a time men roll their eyeballs round,
Staring wide-open, unvisited of sleep,
The heralds of old death.²

Later physicians were inclined to be more skeptical, and Soranus in the second century thought that "those people were stupid who believed that the violence of the disease could be driven out by melodies and a song (modulis et cantilena)."³ Lang states, however, that in the fourth century all classes of society were profoundly superstitious, and he quotes St. Augustine as saying ironically: "If we have a headache. . . . we run to the singer of incantations; I see this occur everyday."⁴

From the above it will be noted that the belief in the healing power of music was prevalent among the Romans

¹Thorndike, op. cit., I, 72.

²Lucretius, Of the Nature of Things, trans. W. E. Leonard (New York: E. P. Dutton and Co. Inc., 1938), p. 297.

³Sigerist, op. cit., p. 213.

⁴Lang, op. cit., p. 213.

in somewhat the same manner as has already been observed earlier among the Greeks. The Romans, however, at no time advocated music in their training for citizenship, and whatever music they adopted was largely imitative of the Greeks. Concerning the Roman attitude towards music and citizenship, Wilkins in Roman Education quotes Nepos:

" . . . for we know that according to our views of life music is not consistent with the character of a leading citizen, while dancing is actually regarded as a failing, all which with the Greeks is thought attractive and praiseworthy."¹

As for the influence of Greek music, Hermann Smith in The World's Earliest Music quotes Lacroix's description of this period:

"Ancient Rome, which had no natural music, readily adapted Greek music, in the time of the emperors, to all the usages of public and private, as of civil and religious, life. Art remained Grecian, and most of the singers and players came from Greece to take service under the wealthy patricians. The various forms of Latin prosody were but thinly disguised beneath a veil of Ionic, Doric, and Lydian melodies. . . ."²

In The Deipnosophistae, Athenaeus, the Roman grammarian and rhetorician, mentions the presence of both Galen of Pergamum, "who has published more works on philosophy and medicine than all his predecessors, and in the exposition of his art as capable as any of the ancients," and a musician,

¹A. S. Wilkins, Roman Education (London: Cambridge University Press, 1914), p. 34.

²Hermann Smith, The World's Earliest Music (London: William Reeves, n. d. g.), p. 4.

Alceides of Alexandria.¹ Vitruvius, the Roman architect and engineer during the reign of Augustus, prescribed for the study of architecture a course which included literature, drawing, geometry, optics, arithmetic, history, philosophy, music, medicine, law, and astronomy.² In his celebrated work, De Architectura Libri Decem, Vitruvius indicates the degree of proficiency desirable:

For an architect ought to be and can be no critic like Aristarchus, yet not without culture; no musician like Aristoxenus, yet not without knowledge of music, no painter like Apelles, yet not unskilled with his pencil; no sculptor like Myron or Polyclitus, yet not ignorant of the plastic art; nor in fine a physician like Hippocrates, yet not unskilled in medicine; nor in other sciences excelling in a singular manner, yet in these not unskilled.³

The dual aspect of the music-medicine relationship, dominated on one hand by the concept of music as a matter for scientific speculation, and circumscribed on the other by popular superstition as evidenced by the incantation in all its forms, has been substantiated. Pythagoras and his discoveries, which were concerned with the relation of the mathematical theory of harmony to the general theory of the cosmos, served as a mainspring from which proceeded the

¹Athenaeus, The Deipnosophists, trans. C. B. Gulick (New York: B. P. Putnam's Sons, 1928), I, 7.

²Vitruvius, De Architectura, trans. Frank Granger (New York: G. P. Putnam's Sons, 1931), I, 9.

³Ibid., p. 19.

works of music scholars throughout the Middle Ages. Boethius (480-524) divided music into three genera: Musica mundana, musica humana, and quae in quibusdam constituta est in instrumentis. Such a division, with its attendant ramifications of sonorous phenomena, numerical correspondence, and scientific observation, placed music in the quadrivium, the four branches of mathematical learning--arithmetic, geometry, astronomy, and music.¹

There can be no doubt that some form of the music-medicine relationship continued throughout the Middle Ages. Medical records of the thirteenth century describe the establishment of music rooms in the great hospitals which the Arabs founded when they dominated portions of Europe.² At this same time there was speculation on the relationship between the harmony of the movements of the celestial spheres and influence of harmony upon the inferior worlds. Robert Grossetests (1175-1253), a theologian whose scientific writings were little affected by his ecclesiastical position, concluded that anyone who could ascertain the proportion of the elements in the human body and the concord of the soul with the body can not only cure diseases, wounds, and deafness, but also control the emotions by the use of music

¹See Lang, op. cit., pp. 60-61, for a discussion of Boethius's De Institutione Musica.

²Daniel Starch et al., Controlling Human Behavior (New York: The Macmillan Company, 1936), p. 542.

based upon a knowledge of astrology and mathematics.¹ This idea reached its fruition in the works of the prolific fourteenth century writer, Nicolas Oresme, who explained the power of music to affect both mind and body in terms of the "intension and remission of forms," the favorite theme of the scholars of his time.² Oresme believed that because it would be impossible to assemble by natural or artificial means all the conditions essential for beautiful sound, "the blest and damned after the last judgment will respectively hear better and worse sounds than they ever heard here on earth."³ Another fourteenth century writer, William de Marra, declared that the tarantula bite was relieved by music, because "the joy derived from the music may attract the spirits from within the body to the periphery and so prevent the poison from penetrating to the vitals."⁴ In the fifteenth century Pedro Garcia, bishop of Barcelona, rejected all magic as evil and diabolical. While he denied the power of words and voices, he contended that the musical harmony of sounds influenced human passions and cured diseases of the body because music was classified under

¹Thorndike, op. cit., II, 445.

²For an explanation of this concept, see Thorndike, ibid., III, 426.

³Ibid., III, 427.

⁴Ibid., III, 534.

numbers, not words and voices.¹ At this same time but in contrast to Garcia's intellectual approach to the curative power of music, the dancing mania was sweeping over Europe after an epidemic of the Black Death. The dancing mania, characterized by wild, uncontrolled movements and accompanied by equally tempestuous music, reached its climax in Strasbourg. Priests tried to comfort and soothe the victims of this mental contagion, and St. Vitus, who was invoked as the patron saint, still survives as a term applied to a certain nervous disease called chorea in which there is twitching of the face and arms.²

During the sixteenth century the status of music in England was so decadent that John Case, a Fellow of St. John's, Oxford, felt called upon to rise to its defense. In 1586 he wrote The Praise of Musicke, which, says Boyd in Elizabethan Music and Musical Criticism, was "intended as a trumpet call to wake England from its Philistine indifference to good music. . . ."³ In order to strengthen his defense, Case devoted one of the twelve chapters in this important work to The Effects and Operations of Musicke,

¹Ibid., IV, 505.

²Howard W. Haggard, The Doctor in History (New York: Yale University Press, 1934), p. 187.

³Morrison Comegys Boyd, Elizabethan Music and Musical Criticism (Philadelphia: University of Pennsylvania Press, 1940), p. 21.

which contains classical references to the medicinal effects of music:

Thales a musician of Creet, with the sweetness of his harmonie, banished the plague from his citie. I durst in no wise affirme the last effect & operation of this worthie arte, were it not Plato with his credite and authoritie did embolden me: "The chaunging of Musically notes, hath caused an alteration of the common state." Likewise in Apulia when anie man is bitten of the Tarantula, which is a certain kind of flie, verie venomous and full of daunger. They finde out the nature and sympathie of the sicknesse or humor, with playing on instruments, and with diversitie of Musicke, neither doe they cease from playing, untill the often motion and agitation, have driven the disease away.¹

Robert Burton, author of The Anatomy of Melancholy which was first published in 1621, recommended music as an effective specific for many ills, particularly those of the spirit. Melancholy, as used by Burton and his contemporaries, was a general term which included all the neuroses and most of the psychoses treated by modern abnormal psychology:²

Many and sundry are the means which philosophers and physicians have prescribed to exhilarate a sorrowful heart, to divert those fixed and intent cares and meditations, which in this malady so much offend; but in my judgment none so present, none so powerful, none so apposite as a cup of strong drink, mirth, music, and merry company. . . . Many properties Cassidorus, epist. . . . reckons up of this our divine music, not only to expel the greatest griefs, but "it doth extenuate fears and furies, appeaseth cruelty, abateth heaviness, and to such as are watchful it causeth

¹Ibid., p. 296.

²S. Blaine Ewing, Burtonian Melancholy in the Plays of John Ford (Princeton: Princeton University Press, 1940), p. 3.

quiet rest; it takes away spleen and hatred," be it instrumental, vocal, with strings, wind, quae a spiritu, sine manuum dexteritate gubernetur, etc., it cures all irksomeness and heaviness of the soul. Labouring men that sing to their work, can tell as much, and so can soldiers when they go to fight, whom terror of death cannot so much affright as the sounds of trumpet, drum, fife, and such like music animates. . . . In a work, it is so powerful a thing that it ravisheth the soul, regina sensuum, the queen of the senses, by sweet pleasure (which is a happy cure), and corporal tunes pacify our incorporeal soul; sine ore loquens, dominatum in animum exercet, and carries it beyond itself, helps, elevates, extends it. Sealiger. . . . gives a reason of these effects, "because the spirits about the heart take in that trembling and dancing air into the body, are moved together, and stirred up with it," or else the mind, as some suppose harmonically composed, is roused up at the tunes of music.¹

In 1621 Henry Beacham, the noted Elizabethan writing-master and author, gave his opinions on music in The Compleat Gentleman, and from this work the following passage to be quoted is cited by Max Schoen in The Psychology of Music:

. . . . the exercise of Musicke is a great lengthner of the life, by stirring and reviving the Spirits, holding a secret sympathy with them; besides the exercise of singing openeth the breast and pipes: it is an enemy to melancholy and dejection of the mind, which St. Chryostome truly calleth, The Divels Bath. Yea, a curer of some diseases: In Apuglia, in Italy, and thereabouts, it is most certaine, that those who are stung with the Tarantula, are cured onely by Musicke. Beside the aforesaid benefit of singing, it is a most ready helpe for a bad pronounciation, and distinct speaking, which I have heard confirmed by many great Divines: yea, in my selfe have knowne many Children to have bin holpen of their stammering speech, onely by it.²

Both doctors and musicians of the seventeenth and eighteenth centuries turned their attention to this disease

¹Robert Burton, The Anatomy of Melancholy (London: Chatto and Windus, 1924), pp. 367-368.

²Max Schoen, The Psychology of Music (New York: The Ronald Press Company, 1940), p. 103.

of Apulia mentioned by Beacham in the passage just quoted, and their speculations and controversies are worthy of note. Henry E. Sigerist, Professor of the History of Medicine at Johns Hopkins University, has made a comprehensive study of the medical records which contain information on case histories and collections of the music played in the treatment of tarantism. According to Sigerist, the three sources that have come down to us are: (1) Centum Historiae seu Observationes et Casus Medici, written in 1621 by Epiphanius Ferdinandus, who practiced medicine in Apulia for over twenty years before he published a collection of medical observations; (2) Dissertatio de Anatome, Morsu, et Effectibus Tarantulae, written in 1695 by Giorgia Baglivi, an Apulian physician and the leading iatromechanist of the seventeenth century; (3) Magnes sine de Arte Magnetica Opus Tripartitum, written by Athanasius Kircher, a Jesuit father, and first published in Rome in 1641.¹ This third source, which deals with all forms of magnetism, contains one section devoted to The Powerful Magnetism of Music in which the longest chapter is On Tarantism or the Apulian Spider Tarantula, its Magnetism and Strange Sympathy with Music.²

¹Sigerist, op. cit., p. 216.

²Ibid., p. 216.

Sigerist says:

The coast line was colonized by the Greeks and was part of Magna Graecia. Inland the population developed very slowly and remained primitive to this very day; Apulian peasants can still be found living in round huts of the pre-Roman type. The chief city was Taranto, the Greek Taras, the Roman Tarentum. The folk dance that developed in Taranto was the tarantella and the spider found in that region the tarantula. The disease was attributed to the sting of the spider and was therefore called tarantismo. The people suffering from it were taranti, or they were called in a more general way spezzati, schantati, minuzzati, rotti, or tramzzati.

The disease occurred at the height of the summer heat, in July and August, and particularly during the dog days. People, asleep or awake, would suddenly jump up, feeling an acute pain like the sting of a bee. Some saw the spider, others did not, but they knew that it must be the tarantula. They ran out of the house into the street, to the market place dancing in great excitement. Soon they were joined by others who like them had just been bitten, or by people who had been stung in previous years, for the disease was never quite cured.

Music and dancing were the only effective remedies, and people were known to have died within an hour or in a few days because music was not available. . . . It seems. . . . that the spiders were particularly aggressive when the musicians were around, and that music more than the summer heat was responsible for reviving the old poison in the system of former patients. Bands of musicians roamed the country during the summer months with violins, various kinds of pipes, citherns, harps, timbrels, small drums. They played the tarantella, repeating a melody endless times, playing fast.¹

Baglivi's dissertation on tarantism drew the attention of the whole medical world, and he explained the effect of the music in this way:

"It being manifest. . . . that music ravished healthy persons into such actions as imitate the harmony they

¹Ibid., pp. 217-219.

hear, we easily adjust our opinion of the effects of music in the cure of persons stung by a tarantula. It is probable, that the very swift motion impressed upon the air by musical instruments, and communicated by the air to the skin, and so to the spirits and blood, does, in some measure, dissolve and dispel their growing coagulation; and that the effects of the dissolution increase as the sound itself increases, till, at last, the humors retrieve their primitive fluid state, by virtue of these repeated shakings and vibrations; upon which the patient revives gradually, moves his limbs, gets upon his legs, groans, jumps about with violence, till the sweat breaks and carries off the seeds of the poison."¹

Sigerist offers an explanation based on the fact that since Christianity came late to Apulia, the Church, in competition with paganism, found it necessary to incorporate certain elements of ancient cults. Sigerist says:

There were limits, however, that the Church could not well overstep. It could not assimilate the orgiastic rites of the cult of Dionysos but had to fight them. And yet these very rites that appealed to the most elementary instincts were the most deeply rooted. They persisted and we can well imagine that people gathered secretly to perform the old dances and all that went with them. In doing so they sinned, until one day--we do not know when but it must have been during the Middle Ages--the meaning of the dances had changed. The old rites appeared as symptoms of a disease. The music, the dances, all that wild orgiastic behavior were legitimized. The people who indulged in these exercises were no longer sinners but the poor victims of the tarantula.

According to all medical testimonies, Apulia with its inbred population had a high incidence of mental diseases, and there can be no doubt that the great majority of all tarantati were neurotics. Tarantism was a neurosis peculiar to that region. It is at the same time one more example of the survival of pagan institutions in the Christian world and particularly interesting one on account of its medical and musical implications.²

¹Ibid., pp. 223-224.

²Ibid., p. 226.

Musicians, as well as doctors, focused their attention on this subject. A century later and during the time of Sir John Hawkins and Dr. Charles Burney, tarantism had become a widely-known if not a universally accepted fact. These two erudite musical experts, who were engaged in defending the music of their time against the extraordinary claims of ancient music, were apparently on guard lest the "Apulian incident" add fuel to the fire of their credulous contemporaries. Sir John Hawkins writes:

What an implicit assent has been given to the reports of the sovereign efficacy of music in the cure of the frenzy occasioned by the bite of the Tarantula!. Baglivi, an eminent physician, a native of Apulia, the country where the Tarantula, a kind of spider, is produced, has given the natural history of this supposed noxious insect, and a variety of cases of persons rendered frantic by its bite, and restored to sanity and the use of their reason; and in Kircher's *Musurgia* we have the very air or tune by which the cure is said to be effected. Sir Thomas Brown, that industrious exploder of vulgar errors, has let this, perhaps the most egregious of any that he has animadverted on, pass as a fact not to be controverted; and Dr. Mead has strengthened the belief of it by his reasoning on the nature of poisons. After all the whole comes out to be a fable, an imposture calculated to deceive the credulous, and serve the ends of designing people inhabiting the country.

The natural tendency of these reflections is to draw on a comparison of the ancient with modern music; which latter, as it pretends to no such miraculous powers, has been thought by the ignorant to be so greatly inferior to the former, as scarce to deserve the name.¹

Dr. Burney was similarly affected by what Hawkins termed

¹Sir John Hawkins, A General History of the Science and Practice of Music (London: T. Payne and Son, 1776), I xxx-xxxi.

"a general prejudice in behalf of antiquity,"¹ but he was more inclined to accept the judgment of Jean-Pierre Burette, a member of the Academy of Inscriptions and an authority on ancient music. In concluding his discussion on ancient music, which has already been quoted rather extensively,² Burney says:

These are the principal passages which antiquity furnished, relative to the medicinal effects; in considering which, I shall rely on the judgment of M. Burette, whose opinions will come with the more weight, as he had not only long made the music of the ancients his particular study, but was a physician by profession. . . . He allows it to be possible, and even probable, that music, by reiterated strokes and vibrations given to the nerves, fibres, and animal spirits, may be of use in the cure of certain disease; yet he by no means supposes that the music of the ancients possessed this in a greater degree than the modern, but rather, that a very coarse and vulgar music is as likely to operate effectually on such occasions as the most refined and perfect. The savages of America pretend to perform these cures by the noise and jargon of their imperfect instruments; and in Apulia, where the bite of the tarantula is pretended to be cured by music, which excites a desire to dance, it is by an ordinary tune, coarsely performed.³

It will be recalled that two centuries earlier, John Case, in his zeal to extol music and restore its dignity, had revived the classical references to its medicinal effects. While Burney and Hawkins were probably indirectly indebted to the results of Case's efforts, nevertheless, they were

¹Ibid., p. xxxv.

²Supra, pp. 22-23.

³Burney, op. cit., p. 157.

actively participating in what amounted to a rebuttal, the focal point being a custom which had been practiced for several hundred years in some remote town in Italy.

Nineteenth century trends were characterized by an increasing number of physiological explanations of the effect of music on the body. According to Dr. Edward Podolsky, a contemporary New York physician and author of Medicine Marches On, the first scientific observations of the physiological effects of music on the circulation of the blood were recorded by Gretry (1741-1813), the Belgian operatic composer. In his Essai sur la Musique Gretry describes his experience:

"I placed three fingers of my right hand on the artery of my left arm or any other artery in my whole body, and sang to myself an air, the tempo of which was in accord with the action of my pulse; some little time afterward I sang with great ardor in a different tempo, when I distinctly felt my pulse quickening or slackening its action to accomodate itself by degrees to the tempo of the new air."¹

Other speculations on the nature of the music-stimulus were less tangible. In 1803 Dr. Jean L. Dessessarts offered his explanation of this phenomenon in a paper which was read before the National Institute of France:

"As a nervous system governs the motions of solids, and controls the action of these motions on fluids, it ought to be understood that the nerves when moved, disturbed or agitated, communicate their state to the parts which penetrate; they thereby set them to work which belongs

¹Podolsky, Medicine Marches On, p. 162.

to their organization, and give them the power of producing in the various humours that fluidity, that course, which brings on and accomplishes a favorable crisis. Music, by imparting to the nerves their life, which in certain maladies is suspended or choked, restores the functions of vitality to vessels and tissues. It can, therefore, have a powerful influence on the secretions and excretions, and become a constant means of healing maladies that are called humoral, gastric, putrid, or malignant,"¹

Hector Chomet, a French investigator of the effects of musical stimuli, advanced an interesting mechanical theory based on the supposition that space is charged with an imponderable and omnipresent fluid called sound or tone ether. Under certain circumstances this fluid, which has a capacity for affecting living beings and inanimate objects, becomes music and exerts a vast influence over the body.²

Toward the latter part of the nineteenth century, observations and experiments pertaining to the physiological aspect of music became more systematized, and this data will be discussed in the next chapter because it is closely related to twentieth century developments in music therapy.

¹Ibid., pp. 160-161.

²Ibid., p. 161.

CHAPTER III

TWENTIETH CENTURY DEVELOPMENTS IN MUSIC THERAPY

Toward the end of the last century, an effort was made to determine the effect of music on certain physiological functions. According to Schoen, the pioneer investigator in this field was Dogiel, whose conclusions were published in a German tract in 1880. Dogiel found that music influences blood circulation, blood pressure, increases the heart beat, and accelerates respiration.¹ At this same time, experiments to determine the influence of different kinds of music on the circulation of the blood in the brain were conducted by Dr. Patrici, an Italian physiologist. Podolsky describes this experiment:

An apparatus was devised which consisted of a closed cylinder of glass for holding the arm in water and a registering apparatus connected with the needle of a galvanometer. For registering the pulse in the brain a cap of gutta-percha was made, with an electrical connection capable of showing the slightest modification in blood volume as well as in pulsation.

It had already been claimed by former observers that any excitement of the brain by musical sounds increases the flow of blood in other parts of the body. Accordingly two tracings were made simultaneously, the one of the pulsation of the blood in the brain and the other of the pulse of the arm.²

During the course of these experiments three phenomena were observed:

¹Schoen, op. cit., p. 105.

²Edward Podolsky, The Doctor Prescribes Music (New York: Stokes Publishing Co., 1939), p. 40.

1. The volume of the pulse in the arm was elevated in the same proportion as that of the brain.

2. At times it was found that the circulation of the blood in the brain was increased while that of the arm slowed down.

3. There were instances in which the amount of blood in the arm was not in the least influenced while the circulation of blood in the brain was increased.¹

Binet and Courtier conducted the first really scientific experiment on the influence of music on the heart and blood vessels in 1895. The pulse rate was the only means of circulatory activity they were able to study at that time, but they found that lively music acted as a stimulant to the heart and circulation, while soft, sad music acted as a depressant.² Binet and Courtier also found that the rate of respiration varied "with the increase or decrease of the time, and was higher for passages containing minor phrases and discords."³

Charles M. Diserens in The Influence of Music on Behavior summarizes the effects of music on the cardiovascular system, on respiration, and on the metabolic processes:

The fact is, of course, evident that music profoundly influences physiological reactions. But the direction and reciprocal correlation of these reactions are still matters of dispute in many cases. The following points seem generally agreed upon:

1. Increases bodily metabolism (Tarchanoff, Dutton).
2. Increases or decreases muscular energy (Tere, Tarchanoff, Scripture).

¹Ibid., p. 41.

²Ibid., p. 47.

³Ibid., p. 56.

3. Accelerates respiration and decreases its regularity (Binet, Guibaud, Weld).
4. Produces marked but variable effect on volume, pulse, and blood pressure.
5. Lowers the threshold for sensory stimuli or different modes.
6. It thus affords the physiological bases for the genesis of emotions according to the James-Lange theory, and consequently influences the internal secretions according to the researches of Cannon and others.¹

Podolsky gives complete tabulations of some of the experiments which preceded the conclusions cited above, and it is interesting to note that the musical selections used are characterized by marked contrasts in rhythmic and dynamic scope. In two experiments, lyric and dramatic music from French and German operatic repertory was chosen, while in a third experiment, "the pieces selected were the poignant and tragic slow movement of Tschaikovsky's 6th Symphony, the Toreador's Song from Carmen, and the National Emblem March."²

Another group tested during the course of an experiment listened to tones, scales, arpeggios as well as piano, vocal, and orchestral works. In the latter cases, "vocal music was judged to be less effective, and an orchestral work had the same effect as a piano piece."³ In an experiment supervised by Dr. Swale Vincent and Dr. J. H. Thompson in 1929,

¹Charles M. Diserens, The Influence of Music on Behavior (Princeton: Princeton University Press, 1926), p. 157.

²Podolsky, The Doctor Prescribes Music, pp. 47-56.

³Ibid., p. 53.

the conclusions showed that the musical patients gave most conspicuous responses to chamber music and the least to dance music.¹

Dr. Ira M. Altschuler and his musicians at Eloise Hospital, Detroit, Michigan, have recently developed the idea of arranging special music based on a study of the rhythms and harmonies that are most effective in aiding mental patients. Such a composition is the so-called Therapeutic Suite No. I which combines musical moods ranging from a fast "Tonic in Scherzo Form" to a slower "Romance in Relaxation."² Dr. Altschuler also states that mental patients are more susceptible to the tone color of a string ensemble than to a combination of brass instruments.³ In regard to selecting music for mental patients, he writes:

The "iso"-principle, or the principle of using music identical to the mood or mental tempo of the patient, has been useful. It was found that depressed patients, for instance, can be aroused more readily with sad than with gay music. Maniacal patients, whose mental tempo is faster, can be aroused more quickly with "allegro" than with "andante."⁴

¹Ibid., p. 53.

²Anonymous, "Canned Therapy," Newsweek, December 30, 1940, p. 40.

³Ira M. Altschuler, "Four Years' Experience with Music as a Therapeutic Agent at Eloise Hospital," The American Journal of Psychiatry, May, 1944, p. 794.

⁴Ibid., p. 793.

All the known factors should be taken into consideration in order that the patient can experience maximum benefit from the music:

Thus, the mean age, percentage of nationalities, type of psychosis, and residence of the patients in the hospital are noted. If there are 60 percent Americans, 15 percent Polish, and 5 percent Italian patients, the music is allotted accordingly.¹

Dr. Altschuler and Dr. Shebasta have found that music used with hydrotherapy is another mode of music therapy which is effective in quieting the patient.²

In 1932 Dr. Walter Kluge, a Berlin psychoanalyst, reported the use of music as an agent in psychoanalysis. Hearing repeated melodies, the patient abandoned all resistance, and pleasant or unpleasant experiences were abreacted.³

According to Dr. John A. McGlinn of Philadelphia, soft, soothing music has been used in the operating room with success. He states that three benefits are derived from this procedure:

A. Creating a better atmosphere for all patients coming to the operating suite.

B. Diverting the attention of operator and operating room personnel during operations.

¹Ibid., p. 794.

²I. M. Altschuler and B. H. Shebasta, "Music Alone or with Hydrotherapy," The Journal of Nervous and Mental Disorders, August, 1941, p. 181.

³Anonymous, "Music in Psychoanalysis," Literary Digest, October 1, 1932, p. 25.

C. Entertaining the operating suite force during the arduous tasks of cleaning up, and preparations, after the work of the day is finished.¹

While this type of musical activity can hardly be termed music therapy, it is worth noting that the use of music in hospitals can serve a wide range of functions.

In an article entitled "Music as a Modality of Occupational Therapy," A. Flagler Fultz discusses the dual role of music in the occupational therapy program.² Music is included with dramatics, social activities, and physical recreation, and it is also considered a part of the category of "Therapeutic Arts and Crafts." Since most instruments require finger movements of some kind, the orthopedic patient is taught to play the instrument which will require the type of movement necessary for his rehabilitation.³ The instrument chosen for the cardiac patient must be easily accessible to the bed, and music acts as a practical, worth-while educational and recreational project as well as a favorable environmental influence.⁴ Music is used for the psychiatric patient

¹John A. McGlinn, "Music in the Operating Room," The American Journal of Obstetrics and Gynecology, November, 1930, p. 681.

²A. Flagler Fultz, "Music as a Modality of Occupational Therapy," War Medicine, March, 1944, p. 139.

³Ibid., p. 139.

⁴Ibid., p. 140.

to produce a sphere of normalcy and to improve rapport with a patient.¹

The so-called vibratory level of music has received considerable attention in the last three decades. Dr. Altschuler, whose research in the field of music therapy has already been mentioned, advances a theory of vibrations or "rhythms:"

Professor Berger of Jena was first to demonstrate the presence of waves in the cerebral cortex, now commonly known as "Berger rhythms." These brain waves are constant in frequency and are influenced by various physical and mental states. They vary during states of sleep, wakefulness, under the influence of emotion, fever, intoxication, infections and conditions like epilepsy. The Davises in this country have observed "instances in which musical tones initiated special waves ("Beta" rhythms) and also abolish them. . . ."²

There is a bright outlook regarding research on music therapy. The electroencephalograph promises wide possibilities. . . . it will be possible, in the future, not only to register the effect of structural elements and compounds of music upon Berger rhythms, but even of symphonies.³

Leopold Stokowski writes concerning the possibility of a scientific relationship between music and disease:

Science is on the threshold of discoveries of utmost importance regarding the healing possibilities of music. All living organisms are composed of cells. Each cell has its individual vibration frequency. If that vibration stops, the cell dies. The Hindu scientist, Bose, has created an instrument [the crescograph] which

¹Ibid., p. 140.

²Ira M. Altschuler, "The Part of Music in Resocialization of Mental Patients," Occupational Therapy and Rehabilitation, April, 1941.

³Altschuler, "Four Years' Experience, etc.," p. 794.

measures the power and analyzes the character of these vibrations in human beings, animals, and plant life. The Russian scientist has created a multiple wave-length oscillator with the aim of restoring balance of cell vibrations which have become weak due to pathological conditions. It is possible we shall find a way, through vibrations of music, to restore the vibrational frequency natural to any particular human organism. Music may stimulate the vibration of cells, and increase their vitality.¹

The late Harriet Ayer Seymour, head of the National Foundation of Music Therapy, discusses the "vibratory level" in An Instruction Course in the Use and Practice of Musical Therapy:

The vibratory level has often been called the "molecular message," and rightly, for music is highly effective in reaching many parts of the body; the nerves, the glands, the muscles, the organs, and even the bones respond to this vibratory treatment. It is not necessary that the person under treatment be aware of this power of music, for it is effective regardless of musical appreciation. The history of musical therapy has many instances in which nervous and glandular disorders were greatly helped by music, and in some instances cures were effected. This treatment brings about the desired relaxation, and in a patient this is usually necessary to enable the doctor to work more effectively with the case. The power of vibratory sound is not to be underestimated; it is a force to be reckoned with for it has been proven that vibration can destroy the strongest bridge, and yet in therapy it is so modulated that in pouring through the body its effect is curative rather than destructive.²

For many years Willem Van De Wall, Doctor of Music, Director of the Committee for the Study of Music in Institutions, and lecturer at Columbia University, has forwarded

¹Leopold Stokowski, Music for All of Us (New York: Simon Schuster, 1943), pp. 306-307.

²Harriet Ayer Seymour, An Instruction Course in the Use and Practice of Musical Therapy, 1944, Lesson VI, p. 2.

the progress of music in institutions. His experience and observations in many types of hospitals, including institutions for normal children and for normal adults, institutions for the physically infirm and the mentally deficient, hospitals for the mentally ill, and correctional institutions and hospitals for the criminal insane, have been published by the Russell Sage Foundation in one volume, Music in Institutions. Doctor Samuel W. Hamilton, Assistant Medical Director, Bloomingdale Hospital, White Plains, New York, has expressed the aims of this book:

Music educators in the institutional fields are as yet not numerous, and it will probably be some years before their ranks will be filled by persons who are as able as those employed in teaching music in public schools. Thus far no book has been written which one might consult for a systematic presentation of the aims, methods, and cautions to be observed in this field of music in welfare work. This handbook seeks to present its material in such a way that the student's understanding of the subject will develop point by point in simple and logical fashion. Here both the theoretical and practical sides of the subject are discussed; techniques far beyond mere music-making are offered. The volume should help administrators to distinguish the music director who is competent to unite musical instruction with emotional education from the sentimentalist and pretender. It holds information for persons engaged in social activities, be they music educators, recreation leaders, or workers in adult education, and it points the way toward the co-ordination of several isolated movements in the welfare field.¹

Dr. Hamilton and Dr. Van De Wall collaborated on a survey on the use of music in hospitals for nervous and

¹Van De Wall, Music in Institutions, pp. 13-14.

mental diseases which was published in September, 1944, by the National Music Council. One of the ten questions asked in this survey was, "Do you consider that your use of music is recreational or genuinely therapeutic?" Dr. Hamilton's comments on the answers to this question are:

Many answers develop this subject in a thoughtful way. A conservative statement in an institution that has no director is that the therapeutic effect there is doubtful, but that music is important as a recreational outlet. The situation was well summed up by another who said that the more the patients participate¹ in making the music, the more therapeutic it becomes.

According to Dr. Van De Wall,

The two outstanding practical needs shown by this survey seem to be the medical testing of music as to its therapeutic qualities, and the development of standards and curricula for training of qualified personnel by educational institutions on the basis of careful planning and cooperation with hospitals.²

¹Willem Van De Wall and Samuel W. Hamilton, The Use of Music in Hospitals for Mental and Nervous Diseases (New York: The National Music Council, 1944), p. 3.

²Ibid., p. 8.

CHAPTER IV

QUESTIONNAIRE: THE USE OF MUSIC THERAPY IN MENTAL AND NERVOUS HOSPITALS

This questionnaire was designed to determine the extent of the use of music therapy in hospitals for mental and nervous diseases throughout the country. In addition to securing information pertaining to the general methods employed in musical therapeutics, a second aim was to ascertain the extent of the development of certain trends, such as music as an adjunct in hydrotherapy, music as a means for establishing rapport in psychoanalysis, and the therapeutic value of music at the "vibratory level." Of almost equal importance to the facts drawn from the questionnaire were the opinions expressed by the therapist or medical director in charge, and their ideas and suggestions will be quoted rather extensively, but will remain anonymous.¹ Because the nature of the questions is such that the answers cannot be restricted to a simple affirmative or negative, the report and analysis will be summarized in the form of a discussion rather than a tabulation. Another reason for this procedure is that in this field great numbers of detailed items have not yet reached the point at which a standardization of facts is possible or a statistical analysis is

¹From documents in possession of the writer.

practical.¹

The following questionnaire was sent to three hundred and twenty-six hospitals for mental and nervous disorders as listed by the Hospital Number of the American Medical Association, March, 1940:

1. How many years have you used music as a therapeutic agent?
2. What is the training and background of the person directing music therapy in your hospital? Does he hold a degree in music, or has he received specialized training in music therapy, or does his training consist chiefly of experience gained in hospitals?
3. Does the psychiatrist prescribe music therapy for the patients?
4. How is music therapy presented? (Please check the following items and make additions to indicate other uses.)
 - a. Appreciation
 - (1) Recordings (2) Radio programs (3) Other ways
 - b. Active participation by patients
 - (1) Choral groups (Please mention types of organizations and their activities as well as frequency and length of rehearsals.)
 - (2) Instrumental groups
 - (3) Do you offer instrumental and vocal instruction to the patients? Private or class lesson?
 - (4) Music theory (Do you have instruction in harmony, key-board harmony, or counterpoint?)
 - (5) Do you encourage the patients to do creative work in music?

¹National Music Council, The Use of Music in Hospitals for Mental and Nervous Diseases, A Report on a Survey Made by the National Music Council (New York: 338 West 89th Street, 1944), p. 2.

- (6) Have you presented any cantatas, operettas, etc.?
5. In view of your past experience, have you found (a) or (b) of question 4 to be more important?
6. Have you used music in connection with hydrotherapy?
7. Have you used music as an agent in psychoanalysis?
8. What is the minimum length of time in which the patient shows perceptible gain? (Mention conditions governing the case.)
9. Are any patients wholly impervious to treatment? If so, what type of patient usually reacts in this manner?
- *10. In general, do you regard music as entertainment and recreation for the patient, as an agent for soothing and stimulating--depending upon the requirements of the patient, as a contributing factor in the mental and physical improvement of the patient, or as an active force for the rehabilitation of the patient?
- *11. In your opinion, what aspect of music has therapeutic value? Its quality as an outlet for emotions? Its vibratory level? Its power of association? Other aspects, or combinations?
- *12. Do you intend to extend the use of music therapy in the future? If so, in what phases?
- *Please use reverse side for further discussion of these questions, or any additional information you can supply on procedure and results.

One hundred and sixty replies were received, and of this number there are fifty-five hospitals which report the use of music as a therapy. While the degree of the development of music therapy programs varies widely, these fifty-five hospitals, which will hereafter be referred to as Group I,

have one procedure in common: music is either prescribed by the physician in charge or is directed by the therapist as a specific measure in the treatment. The remaining one hundred and five hospitals (Group II) do not profess to use music as a therapeutic measure, although in many cases some sort of music program is indicated.

Group I will be considered first.

1. How many years have you used music as a therapeutic agent?

In most cases the answers to this question indicate the use of music rather than music therapy, and the length of time ranged from one to fifty years.

2. What is the training and background of the person directing music in your hospital? Does he hold a degree in music, or has he received specialized training in music therapy, or does his training consist chiefly of experience gained in hospitals?

Twelve of the musical directors hold a degree, three of these having received added training in psychiatry, psychology, and sociology. Six hospitals have musical directors who have received specialized training in music therapy. Thirteen hospitals employ musical directors whose training is based chiefly on experience and observation. In seven hospitals the music therapy program is assigned to recreational

and occupational therapy directors who also have training in music. The remaining group is composed of six music teachers, five musicians with specialized training in band and orchestra, three volunteers, and one music major in college.

According to the reports of eight of these hospitals, the direction of the music therapy program is being carried out by substitutes until post-war conditions will permit a resumption of the program as planned and executed in the past.

3. Does the psychiatrist prescribe music therapy for the patients?

Of the forty-three hospitals who replied in the affirmative, fifteen qualify their answers. Some indicate that the physician prescribes music therapy only "in a general way," "on a small scale," "to certain patients, but no attempt is made to reach all," and "to some patients while others take part in groups as they choose." When the physician does not actually prescribe music therapy, usually the musical director knows the patient's needs, and he acts accordingly.

4. How is music therapy presented?

a. Appreciation

(1) Recordings: Thirty-nine hospitals use phonographs in various ways; over the public address system, for selected groups in music appreciation sessions, at parties

and dances, and in the psycho-drama theater.

(2) Radio programs: Forty-eight hospitals report that radio programs are available in the wards and in special rooms.

(3) Other ways: In forty-two hospitals the listening phase of music therapy is made possible by many types of programs performed by the patients as well as outsiders. Choral groups, bands, orchestras, and organ recitals are among those mentioned in this category. Music is also used as a part of the physical training program.

b. Active participation by the patients

(1) Choral groups: Fifty-three hospitals report the existence of choral groups which vary widely in size and function. Choirs, community singing, and verse-speaking choirs are presented on informal and formal programs.

(2) Instrumental groups: In forty-eight hospitals there are instrumental groups ranging from trios and quartets to orchestras and bands. Rhythm bands, drum and bugle corps, toy bands, and harmonica ensembles are also mentioned. In some hospitals the instruments are repaired by the patients.

(3) Instruction: Thirty-nine hospitals report that private and class lessons are offered in piano, voice, organ, and the instruments of the band and orchestra.

Amateurs and professional musicians are given the opportunity or are advised to study an instrument, and the results of improved concentration and coordination and sense of accomplishment are highly commended by the physicians and musical directors.

(4) Music theory: Fourteen hospitals have special instruction in harmony, key-board harmony, and counterpoint. The patient who already has a background in this field is given an opportunity to advance, while in some cases beginning courses in music theory are offered.

(5) Creative work in music: Thirty-five hospitals report that some creative work is done by the patients and is always encouraged when a patient registers interest. The patients are also taught to copy music and to make their own arrangements for choral and instrumental groups. One hospital reports that the patients frequently collaborate on the words and music in song-writing.

(6) Cantatas, operettas, etc.: Thirty-five hospitals report that many of the more elaborate types of musical entertainment are presented by the patients. In addition to cantatas and operettas, the patients participate in minstrel shows, variety shows, exhibition programs, and many types of seasonal entertainments.

5. In view of your past experience, have you found
(a) or (b) of question 4 to be more important?

Forty-two answered emphatically in the affirmative for active participation by the patient, and six stated that the appreciation or listening phase was more valuable. Some commented that the type of patient and his illness would govern the choice of treatment, and therefore both listening and active participation have a place in the music therapy program. Other opinions were expressed:

Minstrel shows proved too stimulating for some patients, while for others they were a fine outlet and socializing influence.

Although active participation by guests [patients] is most desirable, yet there will always be a few who still will be somewhat reluctant to participate in a group program, and therefore we feel that the most effective way to reach all patients is by playing recorded music and radio programs.

We have found active participation to be more important. It is believed that listening to music is of great benefit, particularly if it is "living" and not "canned" music.

6. Have you used music in connection with hydro-therapy?

Hydrotherapy is used at four hospitals that answered this questionnaire. One states that "the results were poor."

7. Have you used music as an agent in psychoanalysis?

One hospital reports that music is used as a means for establishing rapport in psychoanalysis.

8. What is the minimum length of time in which the patient shows perceptible gain?

Those who answered this question state that because no records have been kept which would supply this information, it is impossible to give an accurate reply. One hospital reports that most patients show active and continued interest from the first lesson. One reply gives this explanation:

Music is used throughout the period of convalescence, and it is difficult to measure just how great a part this medium plays in the perceptible gains shown by the patient. It is difficult to separate the medium of music from various other agents we employ. We feel that they are all interactive and possibly, in a sense, interdependent.

9. Are any patients wholly impervious to treatment?

If so, what type of patient usually reacts in this manner?

Of the thirty-two hospitals that answered this question, twelve report that no patients have failed to respond to music therapy. In the remaining group of twenty, five types are cited as not being amenable to treatment: twelve report schizophrenics, particularly the catatonic types; five, markedly deteriorated types; one, mental deficiency parietic; one, extremely agitated type; and one, organic defect. Several hospitals expressed the opinion that "the proportion of non-response to music seems similar to normal life, except in extreme depression." Other ideas stated were:

There are many types of chronic mental illnesses that do not respond much to treatment.

Too psychotic cases will not respond.

Those who were never interested in music when well.

We do not feel that there are any patients who cannot be reached by music in its various forms, eventually. Even those guests who are most ill react quickly to the influences of musical therapy.

10. In general, do you regard music as entertainment and recreation for the patient, as an agent for soothing and stimulating--depending upon the requirements of the patient, as a contributing factor in the mental and physical improvement of the patient, or as an active force for the rehabilitation of the patient?

Few hospitals regard any one of these factors as being of paramount importance, but rather they report the use of one or more as being beneficial. Thirty-nine mention entertainment and recreation; thirty-one, an agent for soothing and stimulating; thirty-one, a contributing factor in the mental and physical improvement; and thirty-three, an active force for the rehabilitation of the patient.

Some of the views expressed pertaining to this question were:

All statements are true, depending on points of regression.

Music therapy, properly administered, may be all of these things.

First two statements proven, last two statements might be true of isolated cases.

Music has proved a valuable contributing factor in many cases.

Music seems to be a means of contact between the patient and the outer world of reality when other means seem to fail.

To learn an instrument here, while in the hospital, not only stimulates the patient to greater cooperative functions while here, but gives him an everlasting outlet when he is paroled or discharged.

11. In your opinion, what aspect of music has therapeutic value? Its quality as an outlet for emotions? Its vibratory level? Its power of association? Other aspects, or combinations?

Thirty-two hospitals report that music as an outlet for emotions has therapeutic value, eleven regard the vibratory level of music as having therapeutic value, and twenty-six indicate that the therapeutic value of music lies in its power of association. Most of these hospitals state that combinations of these aspects are inevitable, and seven hospitals stress the socializing influence of music.

Many opinions expressed concerning the therapeutic value of music are worthy of consideration:

Music has its value from the standpoint of introducing the patient to new cultural levels and may re-arouse his contact with reality, from which he has retreated, with music which has particular and personal association for that special individual.

The power of association of music is a liability as well as an asset, depending upon the association; but if the association with familiar music is detrimental, unfamiliar selections can be used until the patient's emotions are stabilized enough to take the old in his stride. What therapists need to learn in connection with music is to start with selections in tune with their mood and not try to start with gay music when they are depressed.

In the treatment of mental cases musically, the therapeutic value lies in active participation. Participation retards the deterioration, mentally and physically, which is the aim of the institution with a chronic mental case. It socializes the patient, giving him a more normal reaction to the opposite sex. It makes him more extro-vertive, giving him a chance to do something for others rather than thinking of himself.

Each aspect has therapeutic value. Socializing value of music is indisputable. Of great importance is the fact that it can be extended to practically all patients in that it may be applied in two ways, passively for the listener and actively for the performer.

We find that certain vibratory levels achieved have a distinctly unsatisfactory influence on certain types of illnesses, and therefore we try to choose all selections very carefully with this effect in mind.

Music helps boost a patient's morale by giving him a means of stabilizing his moods and emotions; by fulfilling a deep-seated desire for "making" music on the part of non-performers; it often brings out latent abilities that add a new interest in life.

12. Do you intend to extend the use of music therapy in the future? If so, in what phases?

Thirty-four hospitals report that they hope to increase the use of music therapy. Some indicate that their enlarged program will include more patient participation and appreciation, and others are planning to conduct more research and clinical studies. Seven hospitals state that their present musical therapy program will not be augmented, and three have no definite plans.

Some of the observations concerning future developments were:

It is the dream of every superintendent that he could be able to increase the use of music therapy in his hospital to such an extent that every patient at least could be exposed to its effects. I personally feel that every patient would be benefitted thereby.

In my opinion music therapy will be extended in institutions and will be improved on from time to time.

Some of the more general viewpoints on music therapy held by physicians and musical directors are:

. . . . we have utilized music in various ways, largely as recreation but in part hopefully as a therapeutic agent. I think that the term "music therapy" is very much abused, and that probably a good deal of the use of the term constitutes wishful thinking rather than scientific work.

There is no doubt that music has its place in the treatment and rehabilitation of mentally ill patients; however, it is no panacea. We believe that the benefits derived from music by our patients are very similar to the general population of the nation. There are music lovers among our patients, and there are others that care little or nothing for music. To those enjoying it, it is a very good thing.

Many of the hospitals in Group II state that a music program is provided for the patients, and twenty-four of these hospitals plan to organize a music therapy department after the war. In Groups I and II, insufficient funds have hindered progress, and future development of a music therapy program will be dependent upon the size of the allotment. Hospitals in Group II also state that their present musical activities will remain static until a properly qualified musical director is available.

Several physicians in Group II expressed interesting ideas as to what phase of music constitutes a therapeutic value:

Music can be highly specific in its soothing or stimulating effect. Most important, perhaps, is its capacity for catching and fixing the attention as a step toward better contact with the patient.

I do not know what "vibratory level" means; it sounds arty or mystical, at any rate not accurate. Rhythm, tempo, melody, and harmony all have separate effects on attention and mood and must be used knowingly for therapeutic purposes.

There are many patients who make little response to any form of stimulant except music. In our very limited experience we have often seen it as an initial force to establish rapport with the patient and thereby be a means of acting as an entering wedge into a personality that is otherwise inaccessible.

We use music as a supportive therapy, and not in connection with hydrotherapy or psychoanalysis. Since the mainstay of our hospital is psychotherapy--which all patients receive--and since patients receive insulin or electric shock therapy whenever indicated, and since all patients receive hydrotherapy, attend classes in creative therapy (painting, sculpture, etc.) and occupational therapy, it is impossible for us to say precisely what role music plays in the recovery of a patient. Undoubtedly it is a contributing factor.

Concerning the difficulties of carrying out a successful "appreciation" or "listening" program, another doctor writes:

In passive participation. . . . certain patients may be reached through music when they have shown little other disposition to respond to other contacts. On the other hand, this activity has some limitation and must be regarded as potentially harmful in certain circumstances. For example, there are individuals, and their number is comparatively large, who have no musical interest and who are even irritated by music. Even those who do enjoy music have not such catholic musical feelings that all

music appeals equally to them. Many genuine music lovers of one type of music seem to have a corresponding contempt and dislike for other types. Religious music inspires some, irritates others. Classical music lovers frequently feel actual animosity to lighter and more popular music. The popular music advocates often seem to feel that there is something abnormal in those who find delight in symphonic, operatic, and other serious musical forms. Add to this disparity of musical interest in almost any single unselected group of persons of similar social, economic, and intellectual levels there is a threat of over-doing any kind of music by continuous exposure to an uninterrupted series of musical programs as on the radio. Irritations and actual antagonisms between the various people in any assembly, resulting from differences of interest among these individuals as to the particular program presented, whether the music should be loud or soft, and for other reasons, tends to defeat the therapeutic benefits that might be intended.

There is a difference of opinion regarding the value of so-called classical and popular music.

Swing and jazz seem to appeal to the patients more than classical music.

It has been my experience that classical music has a more satisfactory effect on mental disorders than the present-day jazz, boogie-woogie, etc., although that form of music has been used with some success in the stimulation of markedly depressed cases.

The conductor states that the more serious the music, the better it is for the patients. It sets them to thinking. They talk about it later, though they do not react to it by applause at the time of rendition.

Concerning the future development of a musical therapy program some of the replies are:

We do intend to extend the use of musical therapy. At the present time musical therapy at this hospital is terra incognita. We hope that it will not always be so.

Another psychiatrist favors music as a "psycho-therapeutic"

measure:

. . . . I would be entirely in favor of using this modality since I have seen some very remarkable measures in those clinics where it has been used. I can recall one particular instance in a Viennese clinic where the depressed Catatonic state was reduced from a matter of the usual months to some time as little as a week's time. It certainly has its place in psychiatry.

A superintendent who has "a personal interest in music as a former professional musician" writes:

I would like to believe that music has some specific therapeutic use, but I have not found this to be the case. It is an important item in our civilization and culture and is capable of somewhat more general application to the entire hospital population than other activities usually described as arts, and its use should be expanded mainly with the idea that it affords general rather than specific benefit.

Our great trouble has been that when the Fine Arts have tried to approach Science, there has been so much mysticism, obscurantism, and turbid terminology that nothing intelligible has resulted.

According to the views expressed by Groups I and II, much serious and critical thought is being given to music therapy. This questionnaire gives a cross-section of opinions and evaluations of the work being done toward the realization of the therapeutic value of music. Co-existent with the knowledge that music in many hospitals has become an integral part in the therapy program, is an awareness of the necessity for more research and clinical study.

CHAPTER V

CONCLUSIONS

The history of the development of music therapy from earliest times to the present having been surveyed, a correlation between this field and the factors which have been and are contributory to its growth is in order. In the first chapter the influence of certain cultural and sociological concepts on the development of music therapy was emphasized, and an interpretation of certain cultural and sociological forces in action at the present time obviously has a significant bearing on the future development of music therapy. More than half of the hospital population in the United States, 606,284 of the total 1,195,026, is composed of mental and nervous patients, and hospital facilities are inadequate to accomodate the total number who seek admission.¹ Nearly half the 67,000 beds in Veterans Administration hospitals are occupied by neuropsychiatric casualties of World War I, and while it is not known how high the psychiatric casualties of this war will mount, yet approximately 10,000 men a month are now being discharged from the army for psychiatric reasons:²

¹Hospital Number of the American Medical Association, March, 1940, pp. 1157-1256.

²Anonymous, "Psychiatric Toll of Warfare," Fortune, December, 1943, p. 141.

The neuroses of war are, with minor exceptions, the same as the neuroses of peace. The form a war neurosis takes depends primarily on the individual's personality and usual pattern of behavior. Thus, despite the fact that in this war anxiety states far outnumber the hysterical reactions of 1917-18, there is no single diagnostic term that covers all war neuroses. In the psychiatrically adolescent days of World War I, "shell shock," prevalent and misnamed, was used to describe a multiplicity of symptoms ranging from uncontrollable tremors and tics through hysteria and functional paralyses. In the beginning, shell shock was thought to be caused by organic damage to the nervous system. By the middle of World War I, however, doctors realized that the condition was psychoneurotic.¹

Music in industry has been successfully utilized as a combatant of fatigue and as a factor for the promotion of efficiency. Certain companies are fully aware of the benefits to be derived from a musical program, and in Music in Industry, sub-titled A Manual on Music for Work and for Recreation in Business and Industry, the statement is made that "there is little doubt that, after the war, teachers' colleges will include courses in industrial music in their curricula."² In regard to the use of music in industry, research and scientific tests are difficult to obtain:

Scientific tests of the effects of music on work and workers are hard to make. For instance, if production figures are used as a basis for measurement, they must be calculated to a common base of man-hours--something not many plants do, apparently. Then, too, other factors must be taken into consideration. Plants which blithely report greater production, less absenteeism, etc., since the introduction of music might have found,

¹Ibid., p. 143.

²Anonymous, Music in Industry (Chicago: Industrial Recreation Association, 1944), p. 53.

upon scientific investigation, that the number of employees had increased, lighting had been improved, machines had been moved to better locations, the building had been repainted, the weather had been more pleasant, or that any of number of other significant changes had taken place.¹

The impetus that music therapy received during the last war was not sustained but rather dwindled during the next twenty-five years, and there are several possible explanations for the apparent lack of activity:

There remains the stubborn fact that, down to the present time, over 50 per cent of the usually more serious cases--the so-called psychoses--have no known somatic pathology or cause. This is the other side of the story of successful search for physical bases--the persistent failure to discover origins for such subtle phenomena as "delusions" or a "sense of unreality."²

Although no known somatic pathology has been found for many mental diseases, to a large extent the treatments have been based on physical and chemical therapies:

In our day we witness the golden age of chemical and physical assaults on mental disease, in the form of what has been become known as shock therapy. Insulin, metrazol, electricity, are used in order to induce convulsions in patients, and extraordinary claims are made. . . . The readiness with which the public, the responsiveness which is shown to any explanation of their alleged physiological cerebral value, bear testimony to our inherent willingness to accept anything which originates in the old prejudice of violently inducing the mentally ill to abandon their mental illness--as if being mentally ill is a matter of will or of general character weakness.³

Concerning the validity of the therapeutics employed in treating mental diseases, Shyrock states:

¹Ibid., p. 43.

²Shyrock, op. cit., p. 352.

³Zilboorg, op. cit., pp. 14-15.

Pending the possible formulation of experimental tests of psychoanalysis (which are now being attempted) something may be done to investigate the validity of its therapeutics. This, after all, is what most concerns the general public. What is evidently needed is a definite diagnosis of the particular diseases involved, and a subsequent check of treatments in terms of these diagnoses and with the use of controls.¹

With most of the scientific thought on mental diseases having been directed toward physiological explanations and cures, it is not surprising, therefore, that music as a therapy has not yet received any large amount of clinical research and study. One medical authority expressed this idea thus:

Medicine, music, engineering--indeed every body of knowledge or practice--lives through a long period of empiricism before it can be formulated and passed along by any method except the most intimate apprenticeship.²

From the statements made by medical authorities who answered the writer's questionnaire, it is apparent that the present empirical state of music therapy in hospitals will be given an opportunity to become an approved and legitimate therapeutic measure.

The general consensus of opinion as expressed by medical authorities is that the therapeutic value of music is interdependent with other musical values, and its cultural, recreational, and socially beneficial properties establish its validity as an effectual mental-hygiene measure. There can be no doubt that the goals of music education have been extended in scope to embrace far more than the learning of

¹Shyrock, op. cit., p. 365.

²Van De Wall, Music in Institutions, p. 13.

materials and mastering of techniques. Carl E. Seashore summarizes this idea in Why We Love Music:

Music has come to function in the school not only as something to be learned but primarily as something to be lived. . . . The approach to music is following new avenues involving diversified action, creative imagination and thinking in music, recognition of individual differences, freedom for individual expression of musical feeling, opportunity for sampling various avenues of choice in expression, the association of music with play, dance, and dramatic action, opportunity for hearing music at the child's level, avoidance of the fostering of a narrow precocity, and recognition that there is music everywhere--in speech, in play, in nature.¹

Such an approach to music in the field of education is clearly in apposition to the general aims of music therapy as conceived by medical authorities, and for this reason, the field of music education, whose leaders have already demonstrated their ability to approach music on a scientific basis, is the logical source for the training of therapists. An added factor in this consideration is that while clinical research and study will of necessity remain in the hospital laboratory, a synthesis of the findings of both medical and musical authorities is inevitable.

Music as a therapy, music as a favorable environmental influence, and music as an integral part of the art of living--all these phases of music have one common purpose which has been stated by Zilboorg: "Whatever interests we

¹Carl E. Seashore, Why We Love Music (Philadelphia: Oliver Ditson Company, 1941), p. 21.

may take up, we convert them sooner or later into activities in the service of a better future, our own or that of humanity in general."¹

¹Zilboorg, op. cit., p. 205.

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