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Science and Music: A Unifying Concept

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The Sociology of Music: From Max Weber to Theodor Adorno

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Abstract**The sociology of music from Max Weber to Theodor Adorno**

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The first systematic sociological study of music was offered by Max Weber in 1911. He attempted to identify the social forces at work in the elaboration of music, studied in a historical and comparative perspective. His thesis is that Occidental music has acquired rational properties which allowed it to progressively dominate the musical field over less rationalized types of musical composition found outside of the Occidental culture. These rational properties are the offspring of a scientific effort to reduce the multiplicity of musical sounds to formulae subject to mathematical manipulations. Behind the successful efforts of mathematical rationality, Weber explored the peculiar religious and ethical influences affecting the mathematization of music as well as the limits of rationality in musical development.

Weber's sociology of music is considered within the framework of his comparative studies of other institutions such as religions, economics, political power and bureaucracies. In the development of Occidental christianity, capitalism, democratic parties and Western bureaucracies, Weber identifies a common movement toward rationalization and a progressive "disenchantment of the world".

One generation after Max Weber, another German scholar, Theodor Adorno, a witness to the rise and the madness of fascism, offered a new approach to the sociology of music. Elaborating on the limits of Occidental musical rationality, he explored the ways new styles of music challenge the established conventions, break the barriers of musical rationality and formulate a new type of rational music. The achievements of the new music provide Adorno with a yardstick to assess the various forms of contemporary musical production as well as the social developments which sustain these musical productions in present day societies.

The founding fathers of sociology inherited from philosophy an interest in music as a specific manifestation of purposive human action. However, the sociologists approached music as essentially a social activity. They wanted to go beyond the philosophical approach by using the resources of social sciences to study the social dimension of music and the relationship between music and society.

Although anticipated much earlier, a formal sociology of music appears only at the beginning of the twentieth century. Written in 1911, Max Weber's essay Die rationale und soziologische Grundlagen der Musik (first published in 1921) is generally considered as the first systematic study of the relations between the technical foundations of music and social structures.

We would like to review this work of Max Weber and to situate it within the framework of his theory of history: the rationalization of the world. We will then compare Weber's sociological study of music with that of another German scholar: Theodor Adorno.

I. Max Weber: rationality and the social foundations of music

The concept of music implies the idea of organization of sounds. Both the idea and the process of organization already presuppose some form of social selection or non-randomness or structure. The purpose of Max Weber was to trace the foundations of particular organizations of sounds to social structural elements, to the norms and values that govern that organization, to their social implantation through such processes as socialization and technological elaboration. (see Etzkorn, 47-48).

Weber opens his unfinished essay "The rational and social foundations of music" with a chapter on harmony and melody as factors in the rationalization process of Western music. The first words of this chapter are: "All rationalized harmonic music rests upon the octave....". We have to look into previous works of Weber to understand what he meant by the terms "rational" and "rationalization".

In his famous essay The Protestant Ethic and the Spirit of Capitalism (1904-05), Weber argues that various forms of rationalization may be found in various "departments of life" and areas of culture. For him, an action is rational when it is determined by the choice of means in terms of their efficiency to achieve ends. The term "rational" does not apply to the ends of action or to the values to which action is addressed. The judgement concerning the efficiency or appropriateness of means is guided by established logical or scientific standards. Modern science has vastly expanded the sphere of man's rationality.

Weber introduces his study on the spirit of capitalism with considerations on the specific and peculiar rationalism of the culture and institutions of the Western world. The sciences and arts of Occident have been guided in their development by a rationalism which is not found with the same force nor the same consistency in other cultures. Concerning the development of music, he states:

"The musical ear of other peoples has probably been even more sensitively developed than our own, certainly not less so. Polyphonic music of various kinds has been widely distributed over the earth. The cooperation of a number of instruments and also the singing of parts have existed elsewhere. All our rational tone intervals have been known and calculated. But rational harmonic music, both counterpoint and harmony, formation of the tone material on the basis of three triads with the harmonic third; our chromatics and enharmonics, not interpreted in terms of space, but, since the Renaissance, of

harmony; our orchestra, with its string quartet as a nucleus, and the organization of ensembles of wind instruments; our bass accompaniment; our system of notation, which has made possible the composition and production of modern musical works, and thus their very survival; our sonatas, symphonies, operas; and finally, as means to all these, our fundamental instruments, the organ, piano, violin, etc; all these things are known only in the Occident, although programme music, tone poetry, alteration of tones and chromatics, have existed in various musical traditions as means of expression (Weber, 1958 a, 14-15)

Thus already in 1905, Weber had formulated his program for the exploration of rationalization in Western music. In his 1911 essay, he systematically compares the major areas of musical achievements in the Occidental culture with those of the rest of the world. He reviews a vast amount of historical and ethnographic documentation on music.

Let us briefly consider two major issues in his argumentation: 1) Harmony and melody, and 2) Instruments.

II. Weber's argumentation

a) Harmony and melody

Weber believed that harmonic chord music is a unique achievement of Western man. It depends upon the exploration of changing patterns of simultaneous sounded tone combinations. Weber thought that

the diatonic scale resting upon the sound interval of the octave (1:2) represented the scale of maximum effectiveness for this purpose,

because this scale permits a maximum of ordered relations of sounds. However in the diatonic scale, harmonic chord music does not have a closed logical system, because the sounds are divided in a nonsymmetric way. Thus a logical looseness affects har-

monic chord music. Furthermore the seventh chord "emerges not as a product of arithmetic division but as an extension of the diatonic scale progression... It cannot be included in triadic calculation." (Martindale, 1958, xxvi)

The seventh cannot be established on purely harmonic grounds but as a "melodic device of tone proximity". The chord alien tones are considered by Weber as the most effective means of the dynamics of choral progression. Their irrational tensions underscore modern music. The relations between harmonic and melodic elements of nineteenth century music inspires the tension between rational and expressive requirements, between the desire for logical order and the need for lyric, free expression of affectivity.

b) Instruments and their tuning

Weber observes that "one of the unique features of Western music is its unprecedented development of instrumental music." Only in the Occident has it been possible to apply the techniques of science to the problem of construction of instruments. Furthermore, the problem of tuning and temperament called for new rational solutions.

The two types of instruments which have played a central role in the development of Western music are the stringed and the keyboard instruments.

The technical traditions available in specific West European countries for instrument construction in association with the role of particular social classes, which provided a market for the use of these instruments had a powerful influence upon the development of a rational musical culture.

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The building of stringed instruments had been since the Middle Ages regulated by guild organizations; this helped to provide an established market for manufactured instruments and a progressive standardization of instruments. The design of the stringed instruments was subjected to uninterrupted experimentation in order to improve the expressive sonority and the elegance of these instruments. Italian cities such as Cremona and Brescia acquired a great reputation for their violin builders.

The keyboard instruments experienced similar developments. Technical skills were used for constant improvements of the harpsichords in response to the demands of amateurs and orchestras, especially patronized by the patrician classes. The harpsichord's successor, the piano, soon became the favourite instrument of middle class households during the nineteenth century, particularly in the Nordic countries, because of its indoor character. The technical improvements made possible by industrial technology contributed to the change of the center of gravity of the piano production: from Germany to England and then to America "where first-rate iron could be pressed into construction of the frame.... By the beginning of the nineteenth century, the piano had become a standard commercial object produced for stock " (Weber, 1958 b, 122).

The call for a rational approach concerned in particular the problems of tuning and temperament of musical instrument.

There are two basic types of instrumental tuning: the one according to heard tones, fixed tones, and fixed intervals; the other, which establishes tones and

intervals according to purely visual, symmetrical and ornamental requirements of instrumental construction. The second type of tuning is frequent, if not predominant in many non-Western cultures (Central American, Chinese, Javanese, Siamese): one effect of such tuning is to influence the development of musical systems which do not allow harmonic elaboration. The Western musical tradition has favoured tuning from within the tone system in accordance to the requirements of chordal and harmonic music.

The early keyboard instruments with limited range, were essentially used to accompany the human voice. "Under such circumstances, tempering depended upon the balance with the four middle fifths of our present piano (C-e') and the purity of the interval of the third. With the extension in range of the piano and organ and the rise of an independent instrumental music, the division of the octave into twelve equal distances of twelve equivalent semi-tones became necessary... Besides the distance-wise measurement of the intervals is found chordal and harmonic interpretation of the intervals." (Martindale, 1958,xlviii).

III. Religious, ethical and aesthetic influences

a) Magicians and priests

So far the movement toward increasing rationalization of music seems to have been driven by some internal logical force. Weber however points out that , in the same way that the capitalist economy had received a crucial impulse from the rationalization of conduct cultivated by the members of some protestant sects, he now points out that changes in religious, ethical and aesthetic orientations manifes-

ted within some significant groups of people influenced the rational development of Western music.

In considering premodern musical developments, Weber observed the predominant role of magicians and priests. For them, music fulfilled some practical and socially important functions, such as cultic or medicinal purposes. Weber maintained that whenever music is used for magical practices, it tends to assume the form of stereotyped formulas. This stereotyping affects not only scale formations but also the fixing of instrumental use. There is a positive result from the role of magic in musical development: by fixing the intervallic pattern (such as the Dorian, Phrygian and Lydian scale formations) and the use of musical instruments, the magicians and priests introduced a first rationalization of musical practice and thus established the basis for a uniform musical culture. Weber recognized them as the first professional musicians. However, the imposition by magic of fixed means and ends to musical practice limited the promotion of rationalization. Deviations from magical formulas in sacred music is punished and any experimentation is discouraged or even forbidden.

b) Virtuosi

Musical tones can be performed outside the sacred context and explored for aesthetic purpose. This is where the "musical virtuoso" appears and fulfills a role opposed and complementary to that of the priests and magicians. The virtuoso is essentially a man of experimentation in the use of instruments and in the exploration of tonality. For the purpose of greater expressiveness, he will try to modify sonic intervals. His influence on fixed musical structures is dissolving. This experimental

orientation is a fundamental contribution of the virtusi to musical rationalization.

Weber observed that most religions did not fight against magic. Only Judaism was from the beginnings hostile to magic and it transmitted its hostility to christianity. Thus, domination of magic in all areas outside of Christian influence has constituted one of the strongest obstacles to rationalization of social and artistic life. The practice of professional music by the clergy has liberated music from its purely practical use and from the traditional stereotyping . This in turn has allowed the musicians to pursue essentially aesthetic purposes.

c) Medieval monasticism

In medieval Western Europe, the monastic communities have contributed to promote rationalization in social, economic and cultural life.

“The monk is the first person of that time who leads a rational existence: he pursues a goal, the other world, in a methodical fashion and with rational means...The economy of the monastic communities was a rational economy. The monks provided medieval society with civil servants and clerks.”
(Weber, 1990,110-111)

The monks'contribution to musical rationalization has also been of essential importance. The missionary monks who penetrated the regions of Western Europe in the High Middle Ages used, for their apostolate, popular polyphony instead of the classical Greek chant used by the Byzantine monks. The Greek chant followed the pythagorician scale (of fourth), whereas the Western monks adopted a scale based on the fifth as first consonant interval after the octave. This decision had far reaching consequences for the rational development of Western music.

IV. The disenchantment of the world

In the section headed "Irrational Properties of the Dominant Seventh Chord", Weber analyses the limits of the mathematical rationalization of music:

"Any dominant seventh chord contains the dissonant diminished triad, starting from the third and forming the major seventh. Both of these kinds of triads are real revolutionaries when compared with the harmonically divided fifth. Not since J.S. Bach could chordal harmony legitimate them with respect to the facts of music... The seventh is also the stumbling block in the attempt to harmonize the simple major scale by a series of common triads. The connecting tone from the sixth to the seventh step demanded by stepwise progression is missing." (Weber, 1958 b, 7-8).

We have already taken into account Weber's analysis of the ambiguous position of the seventh and its role between melody and harmony. The views of Max Weber on the merits of such a disruption of the rigid rational rules seems to find its echo in his conclusions to his various studies of the rationalization process.

Rationalization pushes back the mythical but also the poetical and the affective. Capitalism is an efficient economic system but the laws of the market are pitiless; bureaucracies deliver their services to the people but they operate in an impersonal and sometimes inhumane way. Democratic parties try to channel the will of the people but tend also to pursue their own interests. Weber saw the two faces of modern society in which our lives are "haunted by the ghosts of dead religious beliefs."

Borrowing a phrase from Friedrich Schiller, Weber called the result of radical rationalization "the disenchantment of the world".

His life was interrupted before he had time to return to his essay on the social foundations of music and to achieve it.

II. Theodor Adorno

Theodor Wiesengrund Adorno (1903-1969) was one of the leading members of

the Frankfurt Institute for Social Research established in Germany in 1923. The members of that "Frankfurt School" were deeply influenced by the pessimist cultural sociology of Max Weber as well as by neo-Marxism. From Marx, they accepted the critique of capitalist society but they remained aloof from politics because they believed that the proletariat had become integrated into the "totally administered society", and thereby had lost its revolutionary historical role.

Adorno shared with the other members of the Frankfurt School the concept of "critical theory": knowledge as well as any cultural activity has an active role to perform i.e. the transformation of society and culture. However capitalism penetrates knowledge and culture into commodities to be manipulated in the interest of social order. Consequently two forms of culture coexist in modern society: mass culture and "affirmative culture". The latter affirms itself through cultural forms which are active agents of society's transformation. Mass culture is the ultimate denial of affirmative culture: it is the instrument of incorporation of people into the alienated structure of capitalist society.

1. Limits of musical rationality

Within this theoretical framework, Adorno starts with the conviction that music is fundamentally social. One cannot account for music apart from its socio-cultural situatedness. Consequently one must challenge the conception of an independent existence of music, "the belief that there exist a level in which music is inherently and exclusively musical, wholly wholly uninvolved with anything outside itself." (Bowman, 1998,304).

Music is cultural and culture is subject to constant modifications, to negotiation, to creation and recreation. Musical values and functions are not absolute but relative,

culturally specific, fluid and unstable as culture itself.

For Adorno, music shares the character of society in all its complexity and with all its complexity and with all its contradictions. Music interacts with and shapes social consciousness. In bourgeois society, most musical production perpetuates and reinforces the commercial values which guide the culture industry.

Popular music shapes mindless perception and the lack of social awareness cultivated by the economic and political forces of capitalist society. Conversely, serious music has the fundamental obligation of awakening human consciousness and of challenging people's habitual mode of musical perception. In operating within its area of operation which is the "musical area", serious music will be able to foster resistance to society's drift toward passivity and submission to capitalist domination and dehumanization.

How can music fulfill its social critical function?

2. The task of the new music

The new music will transform the current social consciousness by demanding critical perception. In order to do this, it must challenge familiarity, comfort and easy communication. It must present challenges to the mind. The true power of music, its ability to rekindle the sense of experiential immediacy "survives only where the forces of denial are strongest: in the dissonance which rejects belief in the illusion of the existing harmony... Dissonant music records negatively just that possibility of happiness which the only partially positive anticipation of happiness ruinously confronts today. All "light" and pleasant art has become illusory and mendacious". (Adorno, 1967, 274).

The "abrasiveness of dissonance" forces us to confront the fragmentation of

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modern social life and to debunk the falsely reassuring images of a happy society. "Music fulfills its redemptive function, then, in a primarily adversarial manner, by refusing to cater to effortless consumption or to capitulate to the ideological machinery of capitalism." (Bowman,1998,328)

Adorno believes that Arnold Schoenberg's atonal music fulfills such mission. It demands "active and concentrate participation... the renunciation of the customary crutches of a listening which always knows what to expect, the intensive perception of the unique and specific....It requires the listener spontaneously to compose its inner movement and demands of him not mere contemplation but praxis. In this.... Schoenberg blasphemes against the expectation that music will present the comfortable listener with a series of pleasurable sensations". (Adorno,1967 b;149-150)

Schoenberg does not seek the reassurance of pre-existing style or formulas. He takes his lead from the internal demands of the musical material, following its inner logic. "The truth of his work is thus in no way dependent upon audience reception: it is musically objective." (Bowman,329)

Because his music achieves such immanently musical quality, it presents such a perfected and rational total organisation that it cannot possibly be compatible with the present social constitution." (Adorno,1978,134).

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