Interdisciplinary Studies in Musicology 8, 2009

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Music between nature and culture

ABSTRACT[1]: In considering the titular opposition – music between nature and culture – we shall refer to such categories as time, with its levels and zones, and cultural communication.

Conceptions of time. In an archaic situation dating from the Palaeolithic era, people lived, and cultures functioned, in sacred time, with no notion of secular time. Another conception of time comes from the Bible, where we first encounter a 'straightening' of time, delineating its direction from the Creation to the Final Judgment (in opposition to ancient views on time, associating it with the wheel, with circular motion, dying and birth). Aristotle drew on Plato's concept of time. He reduced it to the dimension of the human world, thereby initiating reflection on the 'present', which would endure in European thought through Saint Augustine to Edmund Husserl and our contemporary times. From this perspective, music is a process: playing, listening or participating in a musical event.

Levels of time. These are as follows: atemporality (contains only simultaneity), prototemporality (contains temporal order, but also simultaneity), eotemporality (besides the features belonging to the aforementioned levels, also contains temporal intervals), biotemporality (as above, and also the present), and finally nootemporality (the human mind, awareness of time). The **zones of time**, meanwhile, comprise the zone of the psychological present (the motion of one's own body, the perception of the sensory organs, natural language, musical language), the zone of performances of works (the shaping of form, including musical form), the zone of the temporal environment (three cycles: the diurnal, lunar and annual), and the zone of individual and communal life (the time from birth to death, and also memory, which reveals the sense of music from many perspectives).

Cultural communication. In considering this phenomenon, we develop Roman Jakobson's popular model of communication, expanded to encompass Karl Popper's model of 'three worlds', through which we can propose a layered model of reality and, derived from that model, a concept of music as an efflorescence of nature in the culture of man. This is presented in detail in a series of figures (19–23 and especially 27).

KEYWORDS: music, culture, nature, conceptions of time, levels of time, zones of time, cultural communication

[1] Abstract prepared by the volume editors.

1.[2] 'Music between nature and culture' – that is how the organizers worded the title of the conference.[3] I assume it to be merely a suggestion for the participants, intended to orientate their thinking, since literally understood it would mean that music belonged to neither nature nor culture, but was something in between; and that would be an erroneous proposal. Music links these two notions in an obvious way, being rooted in both nature and culture.

2. Conceptions of time

3. In order to consider the titular opposition, let us turn to an archaic cultural situation connected with the Palaeolithic era. In the opinion of experts on the subject, primitive cultures live entirely in sacred time and have no notion of secular time.[4] Sacred time is the time of the myth that accounts for origins, but it contains no history. Everything that exists and is experienced through the senses has this sacred dimension, and the music occurring within this cultural situation must obviously be sacred as well.

4. The Bible documents various ways of understanding time. I refer here to a text from Ecclesiastes (see Figure 4), in which time is still barely distinguished from action and its attendant phenomena. Times are different, as they are appropriate to the situations by which they are characterized, and they are always dependent on the will of God. One of those enumerated is the time appropriate for dancing, and so appropriate also for the music that accompanies it. This does not preclude, of course, the existence of various kinds of music suited to various situations foreseen in the divine project.

5. The circling of time. In the ancient world, time was associated with the wheel and identified with the circling of the heavenly spheres, with the dying and rebirth of life, with faith in the reincarnation of the soul. The wheel of time appeared among the ancient Babylonians, Greeks, Indians, Buddhists and Jainists and among indigenous American tribes, Incas, Mayas, Hopi and others. This is usually regarded as a peculiarity of archaic and non-European cultures. It is a static understanding of time, contrary to its dynamic understanding in contemporary European culture. However, these generalisations

[2] The numbers (from 1 to 28) refer to Figures 1–28, which are given by the author at the end of the contribution.

[3] 'Muzyka między naturą a kulturą' [Music between nature and culture]. Musicological conference held in Poznań, 20–22 October 2008, organized by the Division of Musicologists of the Polish Composers' Union, in collaboration with the Musicology Department of Adam Mickiewicz University Poznań, the Ignacy Jan Paderewski Academy of Music in Poznań and the Poznań Society for the Advancement of the Arts and Sciences.

[4] Mircea Eliade, *Traite d'histoire des religions* (1949), trans. Rosemary Sheed as *Paterns in comparative religion* (New York, 1958), trans. Jan Wierusz–Kowalski as *Traktat o historii religii* (Łódź, 1999), 380. See Wiesław Juszczak, 'Przed historią: archaiczne formy czasu' [Before history: archaic forms of time], *Konteksty. Polska sztuka ludowa* 3 [286] (2009/3), 3–10.

are too far reaching. It is enough to realise that still today the heavenly spheres regulate our time on earth through the rhythm of days and nights, phases of the moon and seasons of the year; they synchronise clocks, which make use of the circular motion of their hands.

6. Straightening time. The Bible is the first instance where time is straightened, given a direction leading from the Creation of the World to the Final Judgment, making possible historical thinking, more clearly developed by Saint Augustine in *De civitate Dei*. Of course, this is only time in a general worldview. Manifestations of time on other levels are usually more complex, although they need not be conceptualised. In general terms, one might say that it is mainly conceptualisations of time in philosophy which change, and not our condition of living and acting in the world, which is common to humankind.

7. Time in the beginnings of Greek philosophy. Greek myths accounted for the origins of time. In Hesiod (seventh century BCE), the Titan Cronus was identified with time (*chronos*), a deity who swallowed his own children. Greek philosophers were preoccupied above all with the problem of change. The notion of time was not distinctly separated from the notions of change and of motion.[5] It can be seen from this that our present-day notion of time emerged historically and influenced man's general view of the world, which does not alter the fact that man has always existed and acted in time, although he has expressed this situation differently – in verbal terms adapted to his life needs.

8. Today, Plato is considered to have invented atemporality in philosophy. He distinguished the unchanging, eternal world of ideas: good, truth and beauty, a world illumined by the supreme Good. Such a world is atemporal. Plato contrasted it with a world of changeable temporal phenomena, a temporal world, a world illumined by the Sun in our earthly existence.[6] So where does music stand in this opposition? Today, we would say that all music aspires to an ideal, wishes to tear itself free of everyday life and reach a world of singularity, a world of beauty; it is an expression of ideals, regardless of how those ideals are formulated. In this sense, music anchored in ideals is atemporal. But music also belongs to the world of phenomena, the temporal world; it is played out in time and can be measured. Ideas are situated on the side of culture and phenomena on the side of nature, although this relationship is more complex, as we will see as the disquisition unfolds. Plato also linked time with the motion of the Cosmos. And for us it is obvious that the cyclicity of the motion of the heavenly spheres determines time for us here on earth, ordered by the times of day, quarters of the moon and seasons of the year. Man transforms the natural temporal environment into a cultural environ-

[5] Philipp Turetzky, *Time* (London and New York, 2000), 5.
[6] Ibid., 13.

ment and encloses it in a cultural, agricultural and religious calendar, within which music takes on a specific sense and meaning. According to Plato, time is the moving image of eternity. This statement highlights both of the characteristic temporalities in Plato's thinking: unchanging, atemporal eternity and the changing temporality of the motion of the heavenly spheres, which in its invariable repetition is indeed a moving image of eternity.

9. For Aristotle, Plato's temporalities are self-evident. In his considerations of time, he brings the problem down, as it were, from the cosmos to earth, from cosmology to psychology. He concentrates on our everyday temporal experience, in which he distinguishes two orders: the order before–now–after and the order past–present–future.[7] Today, we know that such a human time centred around the now, the present, is characteristic of living organisms; it is termed biotemporality. As I see it, Aristotle may be regarded as the inventor of biotemporality. Thereafter, the problem of temporality as understood by Aristotle would course through the entire history of European philosophy in the most disparate interpretations. The temporal perspective in philosophy seems to have been discovered earlier (in antiquity) than the spatial perspective of painting (in the Renaissance). From this perspective, music is process, playing, listening, participation in a musical event. There are two possible interpretations here: our present is constant, unchanging, accompanying us for as long as we are aware of existence, in relation to which the musical work (structured time) flows from future to past; alternatively, the work (structured time) as in the score stands still and our present in its interpretation (time) flows from the beginning of the work to its end. In philosophy, these two directions to the flow of time were already highlighted by Pseudo-Archytas.[8]

10. Saint Augustine immobilised the present in the rule of three times now distinguishing past in now (recollection), now in now (current) and future in now (expectation) – in his words *praesentia de praeteritis, praesentia de praesentibus, expectatio*.[9] This accords with our impressions. We constantly exist in the now, in our human present, and we cannot get out of it as long as we are aware of existence. We may turn our thoughts to the past and the future, but that does not alter the fact that this thinking always takes place in our present. This is, of course, a manifestation of biotemporality, an important aspect of which was highlighted by Saint Augustine.

11. The issue which today we term biotemporality was analysed in detail in phenomenology by Edmund Husserl.[10] His schema of retention–now–

[7] Ibid., 18.

[8] Ibid., 53.

[9] Ibid., 75.

[10] Roman Ingarden, *Wstęp do fenomenologii Husserla* [An introduction to Husserl's phenomenology], trans. Andrzej Półtawski (Warszawa, 1974), 93.

protention may be interpreted as belonging to short-term memory, whereas the similar schema recollection–now–expectation belongs to long-term memory. The latter formulation resembles the rule of Saint Augustine.

12. In the zonality of time elaborated by myself, biotemporality presents the following schema. This shows that in the zone of the frequency of light waves and sound waves there is no now, no present. These notions are superfluous to the sciences. An awareness of now, of the present, only arises in the zone of the psychological present, but it is also possible in all further zones, in the zone of performances of works and in the zone of ecological time, with its three cycles: diurnal, lunar and annual. The present is also distinguished in the cycle of individual and communal human life. The present occurs in temporality extending beyond the zone of time experienced by living generations, in the form of mythical, religious or historical time. The present divides the past from the future on all those levels. Aristotle was already aware of the fact that the present is not a point and can take on various durations depending on the context. I realised this quite late. Only in my works on the zonality of human time is this problem set in order.[11] Each zone has physical foundations, and each culturally illuminates the sense of music in a different way.

13. The levels and zones of time

14. I shall begin with our general present knowledge of scales of measurement, since, as we shall see, we can also apply this to time, thereby discovering an important hierarchy of time, one which has rarely been realised before and which has enormous consequences, including in thought about music. The system of measurement scales can be presented most simply in the graphic form given below. An X marks a feature specific to a particular scale; an x denotes a feature available in that scale. The nominal scale contains only individual identity. The ordinal scale contains order as a specific feature, but individual identity is also available in it. The specific feature of the interval scale consists of intervals of a particular size, but also available in this scale are the features of the previous scales: order and individual identity. The ratio scale is distinguished by natural zero; also available are all the features of the previous scales: intervals, order and individual identity. And finally in the absolute scale the specific feature is the natural unit, and also available here are all the features of the previous scales: absolute zero, intervals, order and individual identity.

15. The American philosopher of nature Julius T. Fraser, founder of the International Society for the Study of Time, produced a theory of temporal levels. He distinguished these levels in the evolution of the cosmos and the structure of the human mind. It was the Dutch psychologist John A. Michon

[11] Ludwik Bielawski, *Strefowa teoria czasu i jej znaczenie dla antropologii muzycznej* [Zonal theory of time and its significance for musical anthropology] (Kraków, 1976).

who showed that these levels can be interpreted as the application to time of the canon of measurement scales.[12] Atemporality contains only simultaneity. Prototemporality is distinguished by temporal order, but simultaneity is also available in it. Eotemporality contains temporal intervals as its specific feature, but the features of the previous orders are also available: temporal order and simultaneity. Biotemporality is distinguished by the existence within it of the now, the present, and all the consequences of that fact. Now divides before and after; the present divides the past and the future. Of course, also available in biotemporality are all the features of the previous levels: temporal intervals, temporal order and simultaneity. And finally nootemporality is linked to the existence of the human mind, an indivisible human unit endowed with an awareness of time, of its beginning and its end, an awareness of death; also available are all the previously enumerated properties of time.

16. At the time when Fraser was elaborating his theory of temporal levels, I myself, not familiar with this theory, was developing my zonal theory of time. Today I can state that in some respect the zones of time form a similar hierarchy to the temporal levels. The zone of the psychological present is the zone of the setting in motion of one's own body and one's own thoughts, the perception of all one's sensory organs, the realisation of one's natural language, the language of music, of dance, of the performance of all the motions of work. It encompasses a range from around forty milliseconds to around fifteen seconds, at its centre (on the logarithmic scale) extends the compass of the tempo of the metronome, with musical moderato or the human second (approx. 2/3 seconds) at its centre. The specific feature of the next zone, the zone of performances of works, is the shaping of form in music, dance, theatre and film, and of every other form which extends over time. Available, and even essential, in this zone is also, of course, shaping in the zone of the psychological present.

The zone of the temporal environment is organised by three cosmic cycles: the diurnal, lunar and annual cycles, expressed in the cultural, agricultural and religious calendars. Also available in this zone are the shapings of the previous zones, the zones of performances of works and of the psychological present, such as playing and listening to music. The next zone, the zone of individual and communal life, encompasses temporal quantities from the birth of a person to death; it passes through different stages from infancy, through childhood and maturity, to old age. Of course, also available in this zone of time as experienced through the memory of living generations, revealing a different sense of music, are the properties and shapings of the previous

[12] Jon A. Michon, 'J. T. Fraser's "Levels of Temporality" as Cognitive Representations', in *Time, Science, and Society in China and the West. The Study of Time*, vol. 5, eds. Julius T. Fraser et al. (Amherst, 1983), 114-146.

zones, the zones of temporal environment, musical performances and musical language.

In every culture, there also exists a time zone that goes beyond the memory of the experiences of living generations: the zone of myth, faith, history and learning. In this zone, also available are all the previous zones: the zone of individual and communal life, the zone of the natural and cultural environment, the zone of works, and the zone of natural and musical language. This whole system illuminates the sense of music from many sides.

17. To my knowledge, no one else has yet undertaken a synthesis of temporal levels and time zones, particularly in relation to music. Such a synthesis may be produced in various ways. I outlined the first, very crucial, difference in the functions of the levels and zones of time in Austria, at a conference organised on the centenary of the publication of Guido Adler's article 'Umfang, Methode und Ziel der Musikwissenschaft'.[13] There, I showed that the zones of time form the foundation for the differentiation of musical knowledge, whilst the temporal levels differentiate the methodological foundations of musical research. The way of linking the three temporal levels and five time zones presented here has shown itself to be particularly fruitful. It has already proved itself in various situations. Here, I shall demonstrate its role in a model of cultural and musical communication. For this, it is worth returning to Roman Jakobson's simple and highly popular model of communication and to the ways in which it is modified by the distinguished categories of time.[14]

18. Cultural communication

19. Jakobson's model of communication also became popular in music theory, although it was variously interpreted.[15] Here, I shall present its original form. Jakobson distinguishes the emitter and receiver, message and code, contact and context. This model can be modified and developed, as is clearly shown on figures 20 and 21.

20. This is a reiteration of Jakobson's model of communication from the previous figure in a different arrangement: Code, Message and Contact have been grouped together in opposition to Context.

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[13] Ludwik Bielawski, 'Die Zeit als systematische Kategorie der Musikwissenschaft: Zeitbereiche und Zeitebenen', *Musicologia Austriaca* 6 (1986), 127–135.

[14] Roman Jakobson, 'Linguistics and Poetics' in *Style in Language*, ed. Thomas Sebeok (New York, 1960), 350–377, trans. Krystyna Pomorska as 'Poetyka w świetle językoznawstwa' in *Roman Jacobson. W poszukiwaniu istoty języka*, ed. Maria Renata Mayenowa, vol. 2 (Warszawa, 1989), 77–124.

[15] Ludwik Bielawski, 'Brummtopf und Brummbaß in deutscher und polnischer Volkstradition', *Studia instrumentorum musicae popularis* 8 (1985), 108; Ludwik Bielawski, *Tradycje ludowe w kulturze muzycznej* [Folk traditions in musical culture] (Warszawa, 1999); J. Katarzyna Dadak-Kozicka, *Folklor sztuką życia. U źródeł antropologii muzyki* [Folklore as an art of life. At the origins of musical anthropology] (Warszawa, 1996).

21. The expanded model of communication combines the categories distinguished by Jakobson with the five zones of time. The free space in Jakobson's model between the Emitter and the Performer is filled by two zones of time, defined here in short as the Action in the zone of the psychological present, and the Event, which in music is filled by the performance of works in a specific musical situation. All direct human communication – in music, language, dance or theatre – fills these two time zones. The place of Context in Jakobson's model is filled by the remaining three zones of time, defined here in short as the Environment of man, natural and culturally transformed (including the musical environment), individual and communal Life and the role played within it by manifestations of music, and a culturally shaped Worldview, also illuminating the sense of music.

22. The new model of communication clarifies the previous model. The atemporal Code, prototemporal Message and eotemporal Contact, or Identity, Order and Materiality, are the cornerstones of the cultural Text as broadly understood, of the artwork, musical work or any other work. The Emitter and the Receiver are concrete persons in the process of communication. They may be passed over, concentrating instead on the actual process of communication and the communicational event, and so the level of the realisation of (natural, artistic) language and the level of the performance or the reception of the work of music and art. This is because man penetrates all levels of communication; he can be inscribed in the text, e.g. as the composer of a work; he can be inscribed in the Context, e.g. as a participant in the cultural environment, as a unit formed in individual and communal life as a representative of a particular worldview.

23. There emerges from these considerations a universal model of knowledge about music and culture, presented here only in outline. I have attempted to realise it in a number of articles.[16]

24. Layers of reality and a model of communication

25. Highly popular in the sciences today, and even in the humanities, is Karl R. Popper's model of three worlds the world of physical objects, the world of subjective experiences and the world of the products of the human spirit.[17] This model may have a range of applications in musical knowledge. In

[16] Ludwik Bielawski, 'Musikalische Kommunikation in Zeitkategorien', *Beiträge zur Musikwissenschaft* 4 (1990), 253–261; Ludwik Bielawski, 'Dzieło sztuki – poziomy istnienia' [The work of art – levels of existence] in *Artes atque humaniora: studia Stanislao Mossakowski sexagenario dicata*, ed. Andrzej Rottermund at al. (Warszawa, 1998), 427–436; Ludwik Bielawski, 'Interpretacja dzieła muzycznego' [The Interpretation of musical work] in *Interpretacja muzyki* [The Interpretation of music], eds. Ludwik Bielawski and J. Katarzyna Dadak–Kozicka (Warszawa, 1998), 23–34.

[17] Karl R. Popper, *In Search of a Better World* (London and New York, 1992), trans. Antoni Malinowski as *W poszukiwaniu lepszego świata* (Warsaw, 1997), 20.

psychoacoustics, Ernst Terhardt's model of three representations of music – physical, acoustic representation, sensory representation and symbolic representation, e.g. in the form of the musical score – is based on Popper.[18]

26. The present example shows an expansion of Popper's model, in German.[19] In the world of physical objects, he distinguishes three levels: the levels of light elements, hydrogen and helium, of heavy elements and of living organisms. In the world of subjective experiences, he distinguishes only feeling, an animal awareness also available to man, and a specifically human awareness, namely the awareness of one's own identity and the awareness of death. The world of the products of the human spirit encompasses human languages, works of art and scientific discoveries. Seen literally, music as a work of art would have to be placed unequivocally in the world of the products of the human spirit. If, however, we consider music in the process of cultural communication (see Figures 18–24), then we see its anchoring in all three of Popper's worlds.

27. A differentiated, layered model of reality is a further development of the model of three worlds,[20] this time based on the results of research carried out by many authors.[21] I give this illustration in a somewhat simplified form in relation to that which appears on the Internet in German, concentrating on the area of anthropology, which is also the most important for music. The colours facilitate comparison with the previous illustrations. In this model, there are as many as eighteen layers. Anthropology encompasses eight layers, as in our model of musical knowledge (see Figures 21–23), but they are built on different principles. In general terms, one may say that the layered model of reality makes use mainly of the scale of spatial quantities, from the smallest to the largest, whereas the model of the levels of musical and humanistic knowledge employs mainly the scale of time quantities and temporal levels. Highly elaborate in the layered model of reality are social structures based on immediate behaviours. Distinguished from them is the community, integrated solely by symbolic behaviours.

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[18] Ernst Terhardt, 'Methodische Grundlagen der Musiktheorie', *Musicologia Austriaca* 6 (1986), 107–126.

[19] Sven F. Sager, 'Kommunikationsanalyse und Verhaltensforschung', *Grundlagen einer Gesprachsethologie* 10 (2004).

[20] Ibid.

[21] Sven F. Sager, 'Die Einordnung der Gesprächsethologie', http//www.slm.uni-hamburg.de/ifg1/Personal/Sager/Seminarunterlagen/EinordnungR.pdf (accessed 12 August 2008). See Karl R. Popper and John C. Eccles, *The Self and its Brain: An Argument for Interactionism* (Heidelberg, London and New York, 1977); Gerhard Medicus, 'Evolutionäre Psychologie', in *Evolution, Ordnung und Erkenntnis*, eds. Jörg A. Ott, Günter P. Wagner et al. (Berlin and Hamburg, 1985), 126–150; Erhard Oeser, *Psychozoikum. Evolution und Mechanismus der menschlichen Erkenntnisfähigkeit* (Berlin and Hamburg, 1987); Jürgen Habermas, *Theorie des kommunikativen Handelns* (Frankfurt am Main, 1987).

28. Synthesising these two orders is not a straightforward task. This last schema represents an attempt. Shown on the vertical in condensed form is the layered model of reality; in the middle, on the horizontal, it is interrupted by the model of cultural communication. This diagram is the quintessence of the present paper and may be encapsulated in the statement that music is an efflorescence of nature in the culture of man.

Figures 1-28 (see footnote 2).

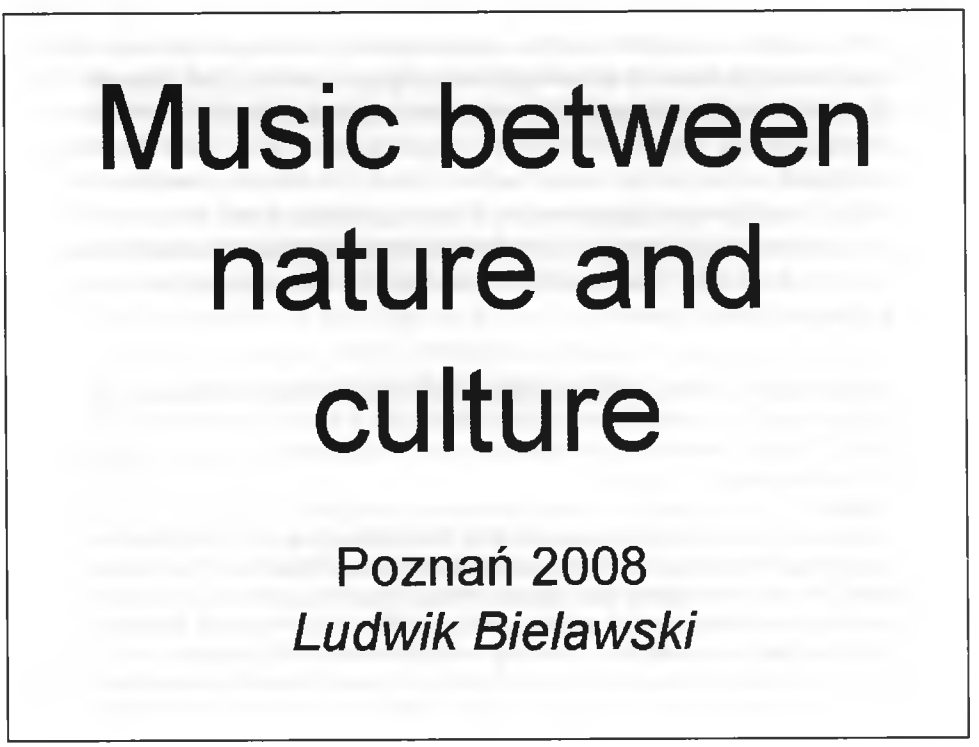

Figure 1

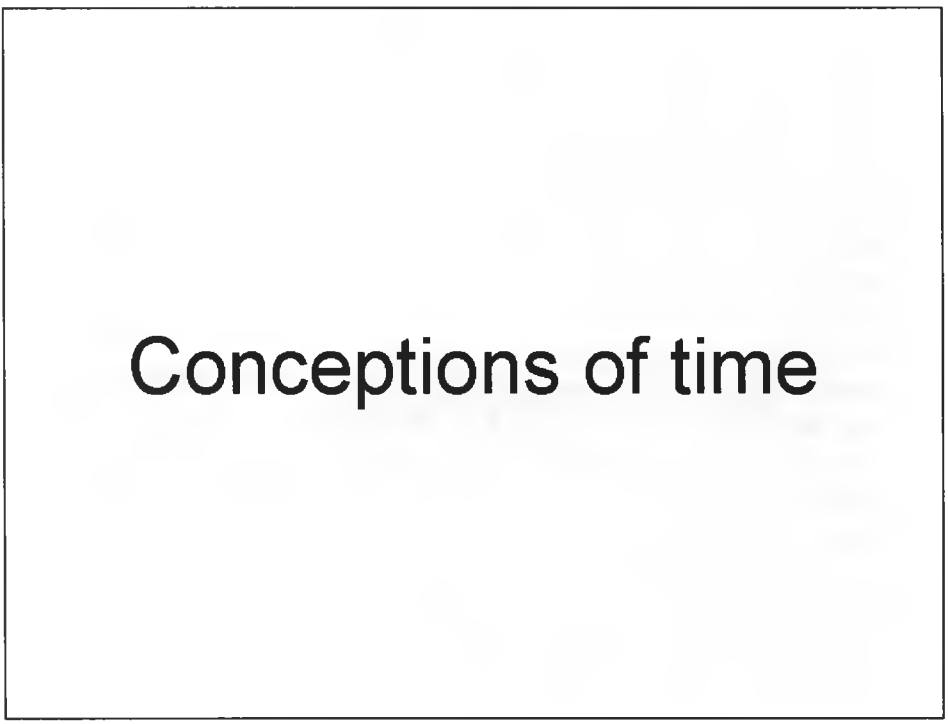

Figure 2

Sacred without profane
myth without history

Primitive cultures live entirely in sacred time and have no notion of secular time.

Sacred time is the time of the myth that accounts for origins without the notion of history.

Figure 3

There is a time for everything, and a season for every activity under heaven.
A time to be born and a time to die, a time to plant and a time to uproot,
A time to kill and a time to heal, a time to tear down and a time to build,
A time to weep and a time to laugh, a time to mourn and a time to dance,
A time to scatter stones and a time to gather them, a time to embrace and a time to refrain,
A time to search and a time to give up, a time to keep and a time to throw away,
A time to tear and a time to mend, a time to be silent and a time to speak,
A time to love and a time to hate, a time for war and a time for peace.

Everything depends on time, and ultimately on God
(Ecclesiastes 3:1-8)

Figure 4

'The circling of time'

In the ancient world, time was associated with the wheel and identified with the circling of the heavenly spheres, with the dying and rebirth of life, with faith in the reincarnation of the soul. The wheel of time appeared among the ancient Babylonians, Greeks, Indians, Buddhists and Jainists and among indigenous American tribes, Incas, Mayas, Hopi and others.

Still today, the heavenly spheres regulate our time on earth through the rhythm of days and nights, phases of the moon and seasons of the year; they syncronise clocks, which make use of the circular motion of their hands.

Figure 5

'Straightening time'
The Bible and historical time

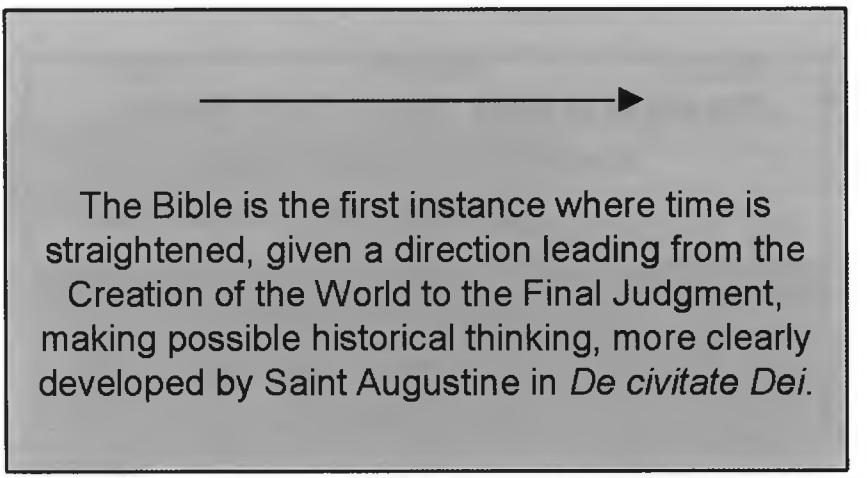

Figure 6

Time in the beginnings of Greek philosophy

Greek myths accounted for the origins of time.

In Hesiod (seventh century BCE), the Titan Cronus was identified with time (*chronos*), a deity who swallowed his own children.

Greek philosophers were preoccupied above all with the problem of change. The notion of time was not distinctly separated from the notions of change and of motion.

Figure 7

Plato is regarded as the inventor of atemporality in philosophy

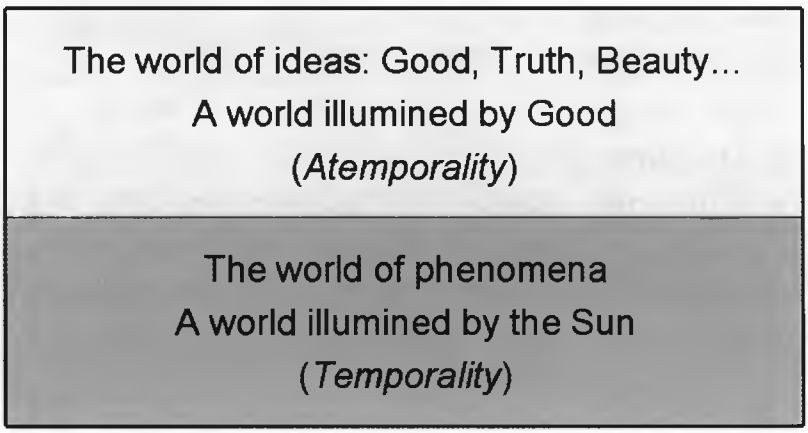

Figure 8

Aristotle enhanced Plato's temporalities with biotemporality

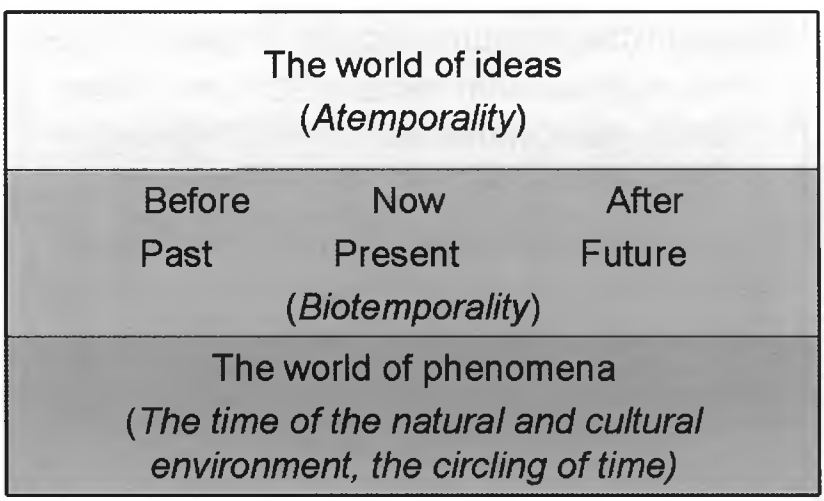

Figure 9

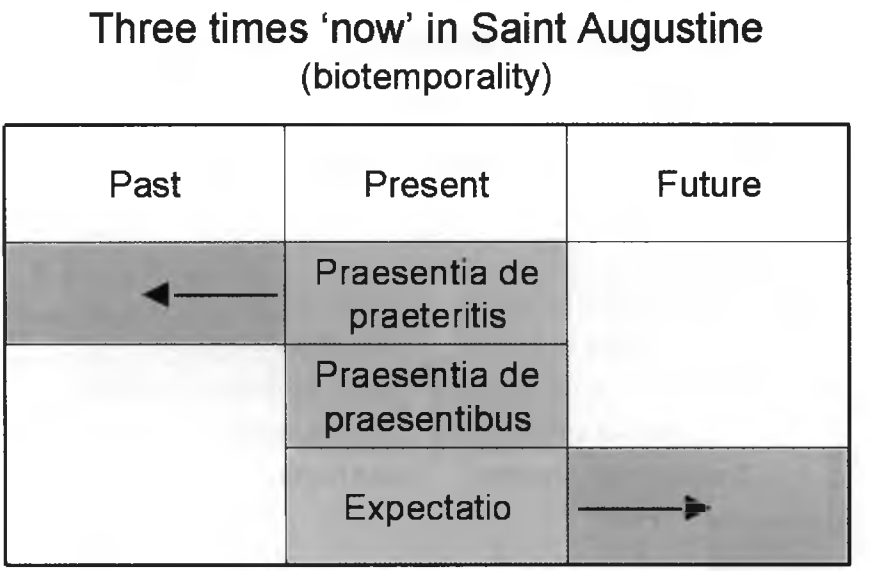

Figure 10

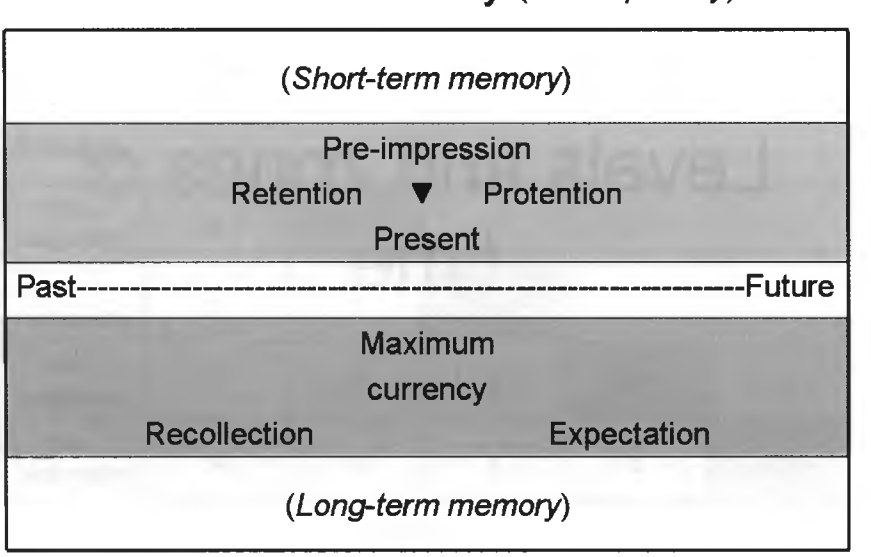

Figure 11

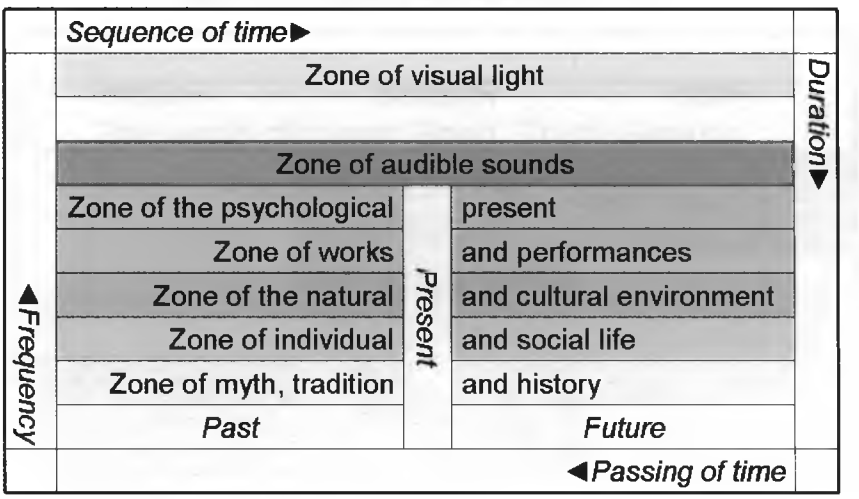

Figure 12

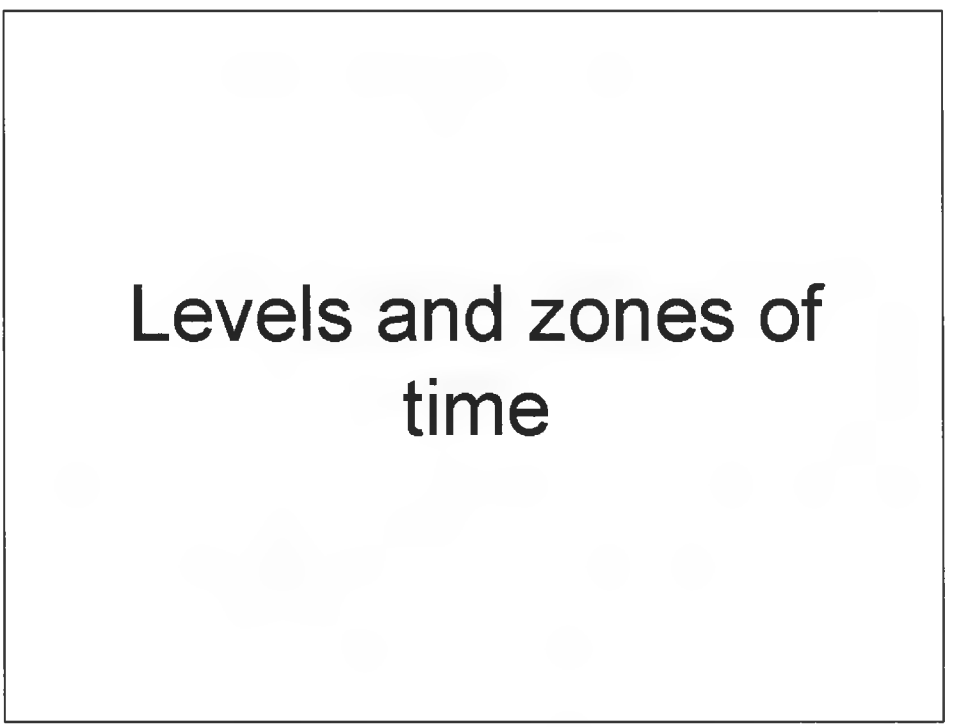

Figure 13

Measurement scales

	Individual identity	Order	Intervals	Natural zero	Natural unit
Nominal scale	X				
Ordinal scale	X	X			
Interval scale	X	X	X		
Ratio scale	X	X	X	X	
Absolute scale	X	X	X	X	X

Figure 14

Temporal levels

	Simultaneity	Order	Duration	Now before after	Awareness of time
Atemporality	X				
Proto-temporality	X	X			
Eo-temporality	X	X	X		
Bio-temporality	X	X	X	X	
Noo-temporality	X	X	X	X	X

Figure 15

Zones of time

	40ms – 10.5s	10.5s – 6h	6h – 1 year	1 – 90 years	90 years and more
Zone of present, of action	X				
Zone of events, performances	X	X			
Zone of the natural and cultural environment	X	X	X		
Zone of individual and social life	X	X	X	X	
Zone of history, tradition, worldview	X	X	X	X	X

Figure 16

Synthesis of temporal levels and zones of time

	Atempor-ality	Proto-tempor-ality	Eo-tempor-ality	Biotemporality and Nootemporality				
				40 ms – 10.6 s	10.5 s – 6 h	6 h – 1 year	1 year – 90 years	90 years and more
	Text			Communication		Context		
Integrality	X							
Order	X	X						
Materiality	X	X	X					
Action	X	X	X	X				
Event	X	X	X	X	X			
Environment	X	X	X	X	X	X		
Life	X	X	X	X	X	X	X	
Worldview	X	X	X	X	X	X	X	X

Figure 17

Figure 18

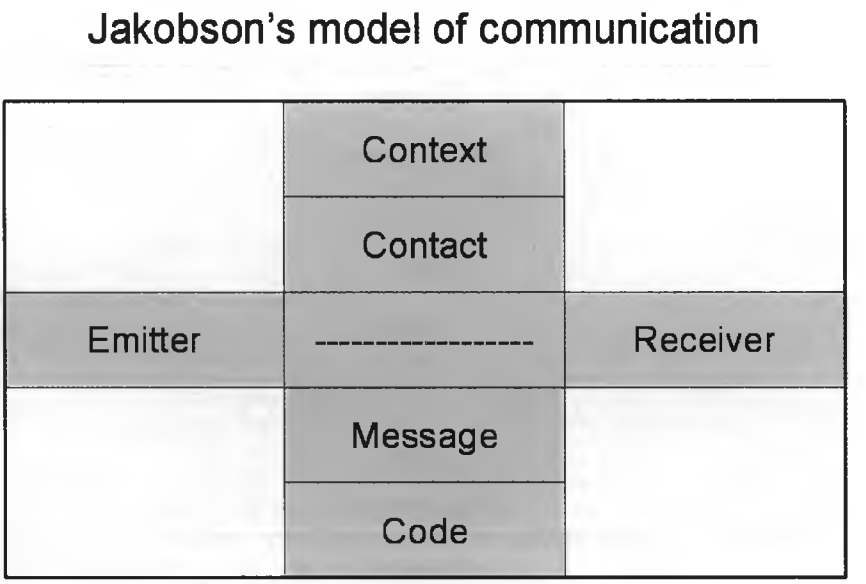

Figure 19

Jakobson's model of communication, rearranged

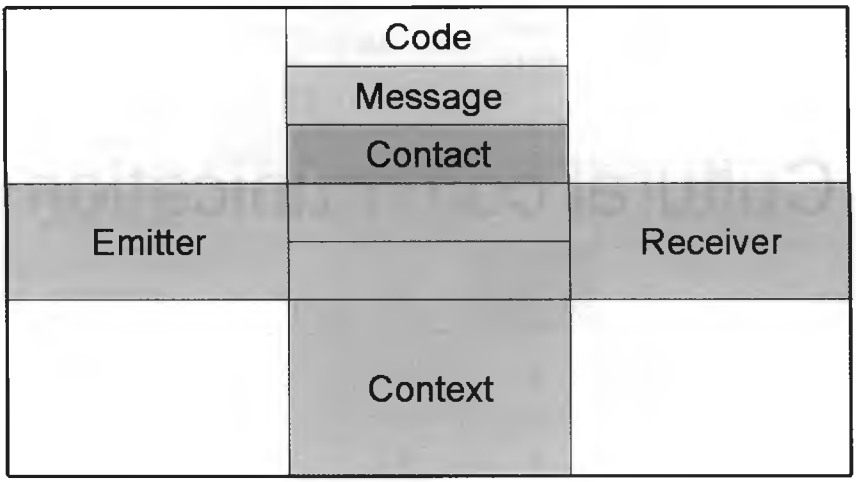

Figure 20

Expanded model of communication

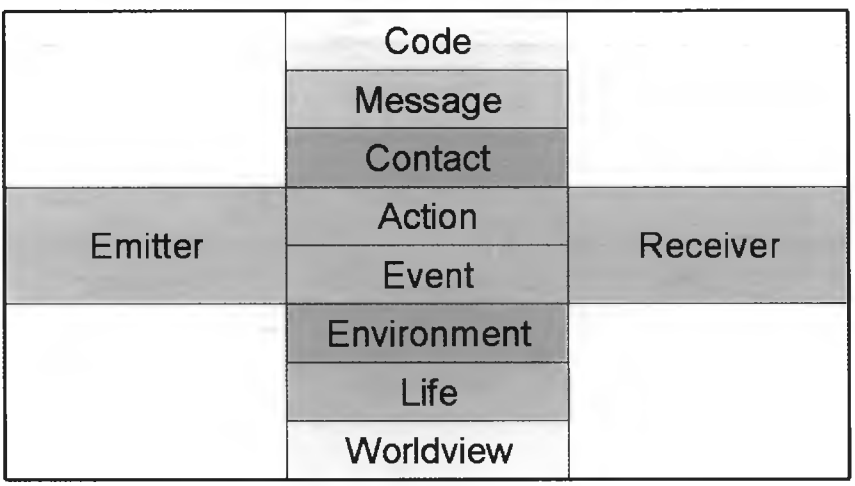

Figure 21

New model of communication

Text, work of art	1. Integrality
	2. Order
	3. Materiality
Communication, co-participation	4. Action
	5. Event
Cultural context	6. Environment
	7. Life
	8. Worldview

Figure 22

Universal model of knowledge about music and culture

Text	**1. Identity** integrality atemporality, simultaneity, nominal, potential level, identity of work, of property, of value, of meaning, code
	2. **Order** of time and space, composition, construction, intentional level, message, theatrical roles, poetic voices, musical persona
	3. **Materiality** dimensions of time and space, physical level, existential foundation, contact, channel, material record, material object, recording
Communi-cation	4. **Action** centralisation of time and space, here and now, milliseconds, seconds, short-term memory, sensory reactions, motion of mind and body
	5. **Event** time and space of activeness, co-participation, episodes, minutes, hours, utterances, experiences, moods
Context	6. **Environment** natural and cultural, cyclicity of times of day, lunar phases, seasons of year, time and space of work, rest, celebration, soundscape
	7. **Life** of the individual and society, passing, awareness of death, experienced history, personal identity, life space
	8. **Worldview** time and space beyond life experience, myth, tradition, faith, history, science, world of values

Figure 23

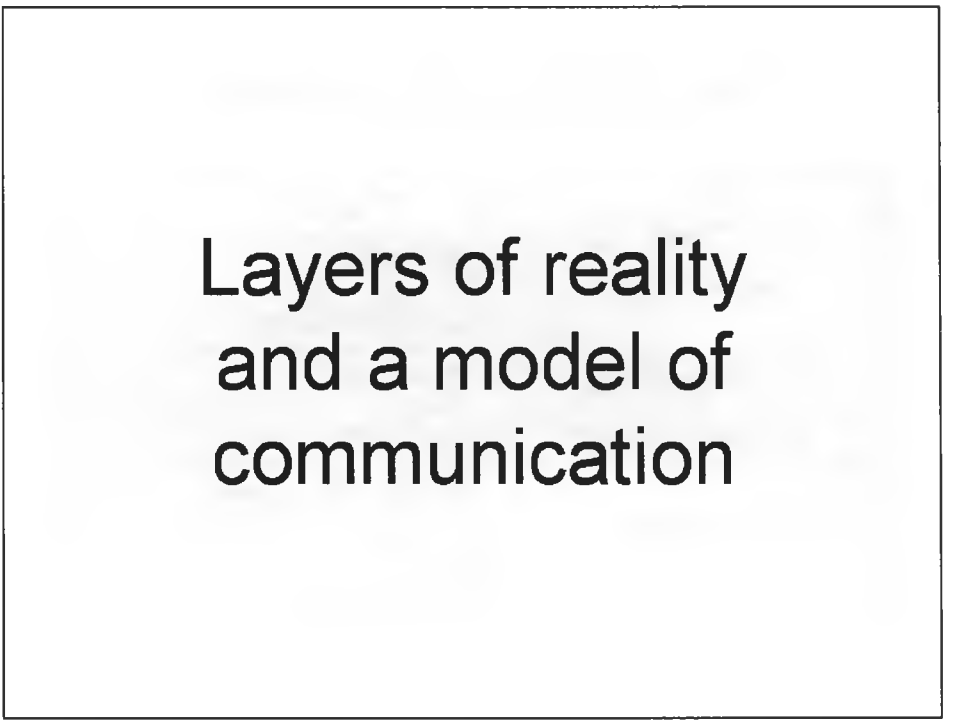

Figure 24

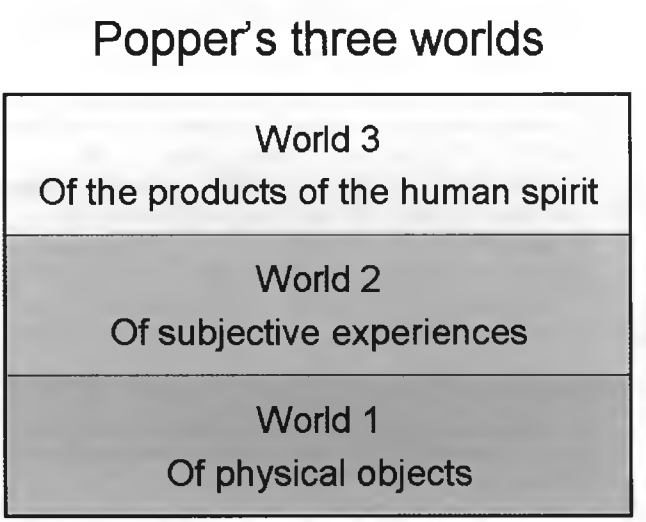

Figure 25

Popper's three worlds expanded model

World 3 The world of the products of the human spirit	6 Works of art, scientific discoveries
	5 Human languages
World 2 The world of subjective experiences	4 Self-awareness and awareness of death
	3 Feelings (animal awareness)
World 1 The world of physical objects	2 Living organisms
	1 Heavy elements
	0 Hydrogen and helium

Figure 26

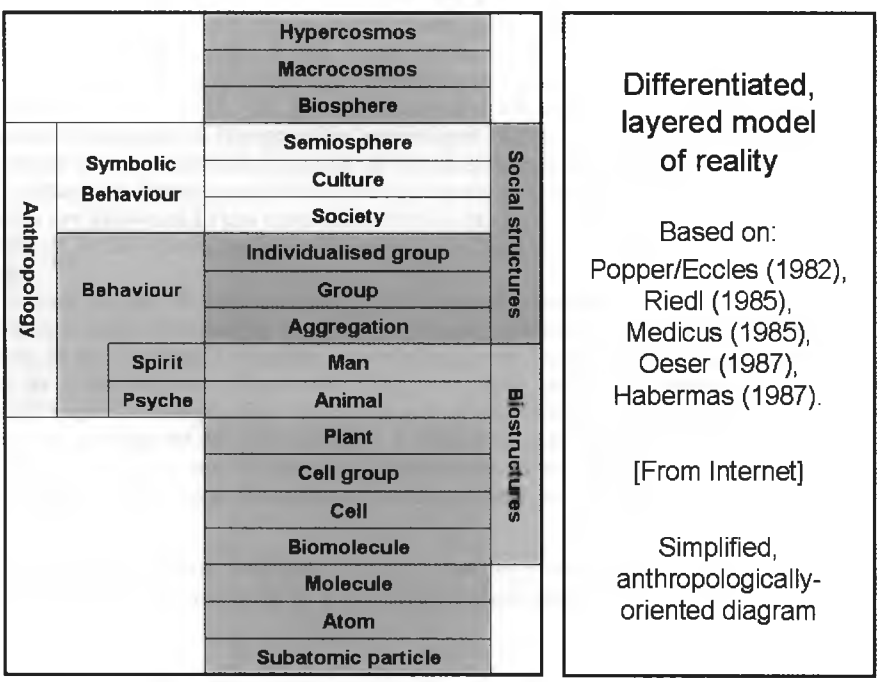

Figure 27

Music is an efflorescence of nature in the culture of man

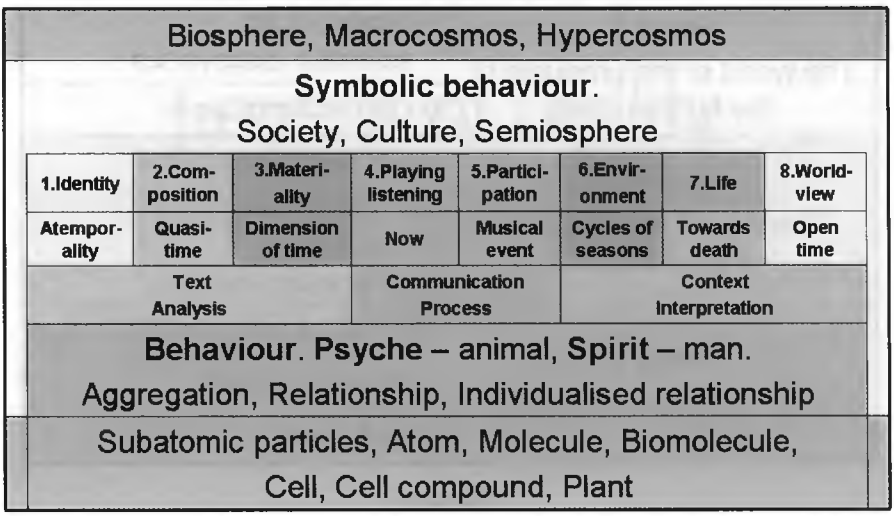

Figure 28