

The Unresolved Maqam

An Electroacoustic Approach to Maqam Music

Master's Thesis

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To The Memory of Edward W. Said

“Liberation as an intellectual mission .. has now shifted from the ... domesticated dynamics of culture to its un-housed, decentred, and exilic energies, energies whose incarnation today is the migrant, and whose consciousness is that of the intellectual and artist in exile, the political figure between domains, between forms, between homes, and between languages. From this perspective then all things are indeed counter, original, spare, strange”

“There are then the alternatives either of silence, exile, cunning, withdrawal into self and solitude, or more to my liking, though deeply flawed and perhaps too marginalized that of the intellectual whose vocation is to speak the truth to power, to reject the official discourse of orthodoxy and authority, and to exist through irony and skepticism, mixed in with the languages of the media, government, and dissent, trying to articulate the silent testimony of lived suffering and stifled experience. There is no sound, no articulation that is adequate to what injustice and power inflict on the poor, the disadvantaged and the disinherited. But there are approximations to it, not representations of it, which have the effect of punctuating discourse with disenchantment and demystification”

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Introduction

Forgotten centuries-old music theory texts, non-written music, a repertoire that does not go before 1900, preserved in early recordings and slowly fading in practice, at the same time where new technologies emerge, popular and mass cultures take new shapes and forms: this is the musical and cultural landscape of the Arab world today, which in turn is undergoing extreme social and political never-ending changes. It is a musical world with a disrupted sound – not being able to sound what it *is*, but rather how it is seen or is presumed to be, whether through representations or approximations, which are imposed by a complexity of factors that stretch both in time and space: history and geography.

This dialectic between music and a histo-geographical complexity is the same one between sound and spatio-temporal complexity, which bears nonetheless endless conflicts which manifest in larger scales such as musical cultures, and in smaller scales such as in single piece of music, and in the case of the music of the Arab world and Maqam music, even in the micro-scale of a microtone : an E half-flat that sound differently in Iraq, Syria, Egypt and Morocco, and before and after 1920 .

This practice-based research is an approach to both Maqam and Electroacoustic music through the complexity of the spatio-temporal domain, where music is not separable from its history and geography, and sound is not separable from the space and time within which it occurs on all levels: composition, instruments, technique, technology and other production and process levels and layers.

The research is conducted on different theoretical levels where cultural, political, social, historical and geographical analyses are carried; however briefly due to scope limits, yet in accordance with the research objective, namely to approach Maqam music from within an Electroacoustic framework that takes into consideration the full –or most of the-- potential of Maqam music theory and practice. Following this objective, a musical work based on theories presented in early (re)sources is proposed, in accordance with the theoretical analyses proposed in the research.

The relationship between the theoretical and practical aspects of this research are carried through the dynamics within the spatio-temporal and histo-geographical complexities, thus they are complementing each other in the sense that what is thought is sounded, and what is sounded is thought, beyond compositional and musical thought, that is – aware of most of the extra-musical matters involved, at the same time as being aware of most of the musical and sonic possibilities. In this sense, music is proposed as a practical and theoretical organization of time, space and timbre through a loose or restricted manner, which is not only a symbolic or representational process, but first and foremost an actual one, materialized in a sound that fills an actual and a real time and place, in all terms of location, geography and history.

Context

Several unavoidable questions rise upon reading a sub-title that begins with “Electroacoustic” and ends with “Maqam-based music”, brought together through “approaches”, most of those questions could be reduced to a “is it possible?”, “how?” and even “*why?!*” type of questions, alongside some other preliminary suggestions and assumptions, which would most probably keep the debate revolving around well known binary oppositions such as new and old, invention and tradition, objective and subjective, local and global, and East and West: matters that the discussion of which goes beyond the scope of the present study, but are still, however, important to address in the context of the present study in order to define the matter at hand: the *unresolved* Maqam.

To begin with, “Unresolved Maqam” is an articulation that seeks to challenge the definitions and representations of Maqam as the musical system of cultures stretched across two interconnected planes: the geographical - from northwest China and north India on the east, to Morocco on the west, and the historical - from the 6th century up to this day.

Challenge in this case is initiated by setting a definite and clear context that must be distinguished from the process of inter-connecting observations and references on the subject of Maqam music. In contrast to the latter, the context proposed is set through approaching Maqam music as a musical problem, unfolding it as an *assemblage of musical theories and practices*, rather than focusing on representations and definitions dependent on what is referred to here as a histo-geographical complexity, which can be thought of as interconnecting layers of historical and geographical dynamics.

This approach is taken in order to challenge several contradictions between the theory and practice of Maqam music, contradictions which emerge almost exclusively because of this histo-geographical complexity, forming a relationship that can be reflected, through Edward Said's words, in "the historical conditions that make the relationship between sounds and silences possible".

Since the objective of this research is concerned rather with the establishing of a musical framework based on the logics and aesthetics of both Maqam music and Electroacoustic music, and since we are dealing with a wide historical and geographical span, this histo-geographical complexity is reduced to several fundamental *musical* problems, relevant to the objectives of this research; problems which are to be treated *musically*, that is: through dealing with their direct musical implications from within a musical framework.

Those problems can be seen as a tension between theory and practice, which is reflected through an interchange between different factors, each of which will be explained separately:

- An unrealized theoretical potential found in texts written between the 7th to the 14th century
- The representations of Maqam music by orientalists, conservatives and traditionalists
- The various social functions of musical practices and their spatio-temporal aspects

An Unrealized Theoretical Potential

Research in musical theories and practices, among other disciplines, had flourished during the Abbasid period – often referred to as the Golden Age of Islam – which lasted from around the 7th to the 13th centuries. During that period, many ancient Greek texts were translated into Arabic, that in addition to what may be thought of as a cultural expansion that brought several cultures together, emphasizing a socio-cultural dynamics that was a vehicle for the evolution of the sciences and arts.

Among the many musical texts which were written during that period – the majority of which is long since lost -, several major works by polymaths Al-Kindi, Al-Farabi, Al-Urmawi and Ibn-Sina are considered to be keystones in music theory, around which the whole musical discourse revolved for the centuries to come, even up to this day – especially in the subject of interval cycles, which will be discussed later.

What those texts have in common is the empirical approach to music, and the distinction between music as a theoretical science (classified under Mathematical sciences for Ibn-Sina) and the practice of music, most commonly as the art of singing. Their writings on music are centered around two main topics, namely the composition of tunes and rhythms, but they also have discussed other subjects like the mental and physical effects of music (Al-Kindi and Ibn-Sina discuss therapeutic aspects of music), sound as a natural phenomena, the construction of musical instruments (it is said that Al-Farabi and Al-Urmawi had invented several instruments themselves), musical texture, consonance and dissonance, and other music and sound related topics.

Since then, theoretical interest in music declined with the fall of the Abassid rule, and even though not fully disappeared, but was almost with no significant contributions except of few, like Khalil Mashaqa's "Al risala al Shihabyiea", a treatise on music written in 1899, in which he proposes a 24 quarter-tone division of the octave – a theoretical and practical problem still persistent until this day.

Those theoretical developments had a strong impact on the musical practices of those days, mostly in the introduction of new instruments, the modifications of existing ones, the introduction of new playing techniques, and new interval and rhythmic cycles, which as mentioned above, is due to the socio-cultural dynamics that emerged on a such a broad geography.

Now, what is of concern here, rather than the historical significance of the theoretical interest and writings mentioned above, is the mere fact of establishing an open-end theoretical framework which is capable of acting as a catalyst in musical practices, a relationship that has no history of-and-by itself, but is carried through history, not repeated or returning, but rather embedded in the essence of human action and thought. Taking this into consideration, we still can notice many problems in both theory and practice of Maqam music today, too many to list in fact, some of them will be discussed below in dealing with the representations of Maqam music, and with its social function. However, what is important for now is to present the problem between theory and practice, paraphrasing Al-Kindi, as a problem between “well-order” and “habit”, in which he refers to ancient Greek theories as proposing a well-ordered musical relationships, and the musical practice habits of his contemporaries as merely *habits*, by which they dismissed and overlooked well-order.

Ironically enough, this statement is still true up to this day, even though we have a greater accumulation of “well-ordered” theories, we are rather stuck in a habitual practice under the disguise of necessity, possibility and usability, for example, many interval or rhythmic cycles are not used or dismissed because they are unusable, “impossible” or simply impractical, as claimed by many contemporary practitioners and even theories . Not to mention other aspects of musical practice which are not about rhythms or intervals, such as textural playing for instance, nowadays is often under-developed considering the writings of Ibn-Sina for example.

In short, if we consider Al-Kindi was talking about the need to refine practice by theory, theory today and for long enough, has been “refined” by practice, and to be more precise, through the problems in the representations of Maqam music and its social functions. With this in mind, we need to re-think the

notion of theory itself, and view it as at least drawing the lines for practice, for without theory, we can not have knowledge not of the possible, nor of the impossible, not to mention the other limits of having habitual practices without theories, and in the case of Arab culture, not knowing and owing our theory –since theory is owned through knowledge-- is on the same level as not owning land and natural resources.

The (mis)Representations of Maqam Music

Maqam music has been subject to many mis-representations in respect to both its developments (or what may be termed its history) and its potential, those mis-representations emerged from different directions, in different periods, and with different intents and objectives. While those (mis)representations vary a lot, they can be seen as ranging between different poles, and while we can not cover all of those (mis)representations here, we can take a look at the most prominent ones relevant to this discussion.

There is a strong and very common opinion among both scholars and traditionalist practitioners, for example Habib Hasan Touma (1991), and before him, many others who took part in The Cairo Congress of Arabic Music in 1932 which reduces the Maqam music practices to their Arabic variant, thus referring to Maqam music and defining it exclusively as *Arabic* music, this kind of definition has both practical and historical flaws: from the historical aspect, the term “Arabic Music” was mostly used by orientalist during the Napoleon conquer of Egypt, and later with Baron Rodolph d’Erlanger and Henry George Farmer, and was quickly adapted by scholars and practitioners alike since the beginnings of the 20th century, mostly due to the rise of the Arab nation states and the British and French colonial division of the region referred to as the Middle and Near

East and North Africa.

From the practical aspect, what actually enriched Maqam music was its own variants, ever since the first writings on Maqam theory, by Al-Kindi for example, the different variants of intervals used by different cultures was seen as inclusive and expansive, rather than exclusive or reductive, thus those many variants – including Persian, Central Asian and Greek – were incorporated in their systems in order to achieve a more complete and comprehensive theory of intervals as well as rhythms, not to mention that in fact, most of the medieval scholars who wrote on Maqam theory were not Arab at all, except for Al-Kindi, and that the note names still used up to this day, even by Arabs, still carry their Persian names. That in addition to the development and incorporation of many instruments from non-Arab origin, like the u'd – the most central and prominent instrument in the practice of Maqam music, is actually of a Persian origin.

Those kind of opinions and approaches mentioned above have a very limiting consequences on both the practices and theories of Maqam music: for Touma (1991) for example “Arabic music” has a very unique identity and a characteristics of its own, which are based on an authenticity that must be preserved as it is through oral tradition, and it can only be developed from one aspect – through an extended instrumental improvisation that does not affect the authenticity of this music. This kind of opinion is in accordance with the view of Maqam music as ethnic music by orientalists, which often reduces the sense of musicality in any non-Western music to their ethnicity, that means a music that has no other logic in it other than its own authentic ethnic practice, thus many still have the opinion that this kind of music can not and should not be notated and should be preserved as an oral tradition.

Another mis-representation of Maqam music is the approach to it as a scale system, while the structure of Maqam music will be presented later, it is important to note that one of the most limiting definitions of Maqam music is its view as a scale or modal system, thus subjecting it to the staff logic of European music, whether being notated or practiced orally. This has begun since the late 18th century and the beginning of the 19th century, mostly in Egypt during the rule of Mohammad Ali Pasha, who ruled Egypt from 1804 and 1848, a period during which many European influences found their way into Egypt, among which, the establishment of five music schools which were responsible for a music staff based European-influenced method, in addition to having a focus on European instruments rather than eastern ones, this constituted a music education system that later on spread to other Arab countries as well, and even when “Oriental / Arabic” music schools were opened, they still adopted the same European-influenced methods.

Among the many consequences of those facts, a clear divide came apparent between literate (rich) and illiterate (poor) musicians, a higher (classical, not strictly European) and lower (folk) musical worlds.

As for the concept of Maqam itself, it got caught inside a limiting and limited sense of music education: the notion of a musical education bound to a “Western” sense of theory, namely the musical staff logic, and a practice that has no theory, and which is only to be learned orally.

In the beginning of the 20th century, those facts had led to an artificial settlement which was rather bureaucratic: the bringing together of those two supposedly poles into a theory of Maqam music based on the scale logic, even if not explicitly. This became apparent for example in the creation of a specific repertoire, or in the teaching of Maqam music through European solfege and arpeggios methods.

The aforementioned “bureaucratic settlement” is apparent not only through the constitution of a certain musical logic reflected in a musical education system, but it is also important to note that it functions on other levels as well, since the divides mentioned above relate to class divisions as well, hence the “illiterate folk musicians” who could teach or learn their music orally, and a higher rank of musicians who were musically literate. Needless to mention this class divide between the illiterate folks and the literate elite had to be “settled” for political reasons, thus the aforementioned notion of Arabic music was adopted in order to strengthen the notion of a national identity and belonging, reinforced through a cultural institution comprised of music schools, the Arabic orchestra, radio broadcasting and record companies, and later film and TV.

While this is a very huge subject in itself, what we need to observe in this matter is the fact that Maqam music had to be re-presented not only as Arabic as mentioned in the first point, but also as following a certain logic that the socio-political reality could not bear anymore: Maqam music had to be taught, broadcasted and even criticized, and that in accordance to the power structures and their relations, that means following a certain hegemony tried to bring together the European approach to music education and production with the “local” music, hence the notion of “bureaucracy” : a system controlled and regulated through a certain extra-musical hegemony, which is either unaware or dismissive of the internal logic of Maqam music.

As a final point on misrepresentation: it has led to a gap between scholars and practitioners and the early sources as potential resources: many practitioners do not know almost anything about the texts mentioned earlier, or about the history of Maqam music before 1900 for that matter. In addition to the limited availability of the aforementioned texts, scholars and theorists who know those early sources claim, among all, that they were either purely experiments which are hard to adapt the current practices to, or simply are unusable because they are too theoretical, thus eliminating them as potential resources,

while there is a lack of a proper theoretical framework due to either restricting Maqam music to its “authentic practice” or through adapting its practice to a Western based staff logic.

The Social Functions of Maqam Music and their Spatio-Temporality

Maqam music practices have their own spaces and times, namely social occasions, even though those have been changing along the years, in many ways and due to different factors, yet a fundamental relationship between social -or socio-religious- functions and musical practices have always existed in both secular and religious contexts: from weddings to Sufi religious ceremonies, and from night cafes to concert halls and outdoor festivals.

What interests us in this matter is a specific phenomenon common to most contexts mentioned above, known as Tarab, while in religious contexts the words Zikr or Samaa’ might be used, yet those words refer to the same phenomenon : “a state of a heightened emotionality, often translated as “rupture”, “ecstasy” or “enchantment”, but can also indicate sadness as well as joy” (Shannon, 2003), or “an Ecstatic Feedback Model”, as defined by Racy (1991).

Tarab in most cases is analogous to the word music in Arabic, and can be seen as an interaction between the performer, almost in all cases a singer, and the audience which through a sense of “judgment” - a word literally used in this context, and that means “judging” how good a performer is, referring to how “ecstatic” they make them feel, and expressed both physically, as in dancing and moving the heads and hands, or verbally through “aahs” and “oohs”, and in turn, the higher the degree of the achieved “ecstasy”, the more the performer gives, in the forms of repetitions or prolongations. This kind of experience is often attributed to extra-musical factors, often even ambiguous, like “spiritual powers”, or the “soul of the orient”, and less they have to do with how

well the music is being performed.

While the Tarab experience is interesting in itself, taking a look at it from a social perspective it can be seen as an “emotional exchange” between the performer and the audience, where the performer is confined to the emotional “needs” of the audience.

Shannon (2003) links this phenomenon to the sense of temporality experienced by the listeners, through detemporalization and retemporalization - notions which are in turn borrowed from Sufi terminology, according to which, the listeners are transported into another “transcendent dimension”.

While a “transcendent dimension” may have a metaphysical reference, it does have a social interpretation that can be linked to the psychological effects of music, more precisely in the way that it shapes the relationship with time, in the same sense that work song in various cultures makes time “flow” while performing work tasks, in the way the so called programme music transports the listener to the scenic time, or in the case of serious music, in the way it may prompt a “reflective” time, in which time itself might be the question. This only emphasizes a property inherent in the essence of music itself as a time based activity – one that takes place against social time, in most cases a tension between work and leisure time. Yet in the case of Tarab, this “time” is homogenized as a time exclusive for an emotional exchange, which comes into expression due to contradictions present in the social structure itself, in which emotions become the only outlet emerging from the divides between the different temporalities in Arab societies: time for work, and most often times to suffer under the different socio-political realities, thus there is a need for a time “to forget” and express oneself in joy or sadness.

In addition to the temporal aspects of the social functions of Maqam music, if we may look at that as a division between different temporalities, the spatial aspects play a no-less important role: different

musical contexts are divided into different spaces, and only rarely interact. Wedding folk music has its own space and is performed by certain performers, the same applies to religious music, work music, night cafes' music, concert hall music and so on.

While the differences between those musical contexts seems to be only natural, in the case of Maqam music difference in fact meant division, in the sense that one musical context could not borrow elements from another, in the case of rhythmic patterns or instruments for example, a fact that kept each musical context inside its own "sanitary", thus reinforcing the socio-political gaps in society itself, most prominent through "higher" and "lower" societies, or rural and urban ones. Media technologies, most notably radio and TV broadcasting, had their own share in shaping this spatio-temporality of Maqam music, while this is yet another subject the discussion of which is beyond the scope of this research, it is important to note that in the case of Arabic societies, and since radio and TV broadcast agencies were owned by the state, they served to homogenize a certain sense of space and time: the one owned by the state, and serving its own ends.

As a consequence, those different aspects of spatio-temporality, through socio-cultural divisions, together with the Tarab phenomenon as a mode of musical experience, whether live or broadcasted, had confined musical practices only to their scaled down emotional use-value, which also means that there is no other space or time that music could take place, other than the permitted ones. Thus political and protest songs were banned, and sometimes even dismissed by the "public taste", even though some were performed by prominent musicians and singers, or in the case of non-political music, long instrumental pieces, whether pre-composed or improvised, are mostly deemed "boring" by the general audience, except if performed by a regime-sponsored star-performer or orchestra, or in the case it is presented as soundtrack music.

A Note On Innovation

Bearing in mind that contradictions in general presuppose that a certain conflict must be resolved somehow, the aforementioned contradictions in Maqam music were sought to be resolved through different approaches to innovation, most of those innovations started slowly during the 19th century and followed a faster pace after 1930. Following the presumption that European classical music is much more developed than Maqam music; composers, musical institutes, and commercial production companies saw European music as a model that should be followed, exactly at the same time where European classical music was going further against itself. Alongside the already mentioned adaptations of educational methods, those innovations, except of the case of solo instrumental works mentioned below, sharp-focused on the facade of European classical music : harmony and the orchestra -- both its size and instruments. Another issue that was tackled is equal temperament and a standardized 24 tone octave, after the 12 tone equal tempered scale. Those innovations can be summed as such:

- The Arab Orchestra: In which the number of instruments in the traditional ensemble was multiplied: from five instruments at most to twenty five and sometimes fifty instruments, in addition to larger choruses. The Arab Orchestra preserved the traditional repertoire of the 19th century and early 20th century, except for the cases where it backed well known singer-stars like Umm Kulthum, where she later performed songs written especially for her. It is important to note that for certain Arab orchestras, expressions of “Tarab”, like praising the performers, clapping or waving hands were totally banned.

- An Arab-Western Orchestra which presented harmonized works based on themes from folkloric and popular songs, in addition to works by Arab composers, like the Palestinian-Jordanian Youssef Khashouradian (1927-1997) and the Egyptian Abou-Bakr Khairat (1910-1963), who incorporated rhythmic and melodic Maqam elements in orchestral writing, in a way where the Maqam elements and harmony would compromisingly fit each other, due to limits in matching harmonic development to Maqam melodic development. Many of those composers were in fact influenced by 19th century musical nationalism and its harmonic styles accordingly.
- The development of lengthy instrumental solo improvisations and precompositions, mostly for solo u'd. Those kind of works gained credit due to their rather metaphorical and ambiguous expressions, associated with mystic notions and spirituality, nostalgia, nationalist identity and collective memory, and while they are faithful to most Maqam conventions, the development occurred the use of expressive melodic development, and the break away from the singing traditions, a very important development after a break with Maqam instrumental music that lasted for almost two hundred years, however very different from the earlier instrumental music in both expression, form and function. An example of this approach is the Iraqi u'd player Munir Bashir (1930-1997).
- On the popular culture level, “West-East fusions” started to emerge since the sixties, including “Oriental Jazz” and the more recent “World Music” and “Electro-Sufi” musics, which in most cases are commercial productions with very limited musical vision.

As we can see from the above, the approaches to innovation are very different, yet what they have in common is that it was sought elsewhere, outside of what the Maqam could offer, except of the case of solo u'd works, even though the notions of melodic development were developed further, it was still limited in the fact that it sought refuge in metaphoric expressions shared with the collective consciousness, and focusing on the persona of the virtuoso performer, who is often presented almost as a mythological figure, like in the case of Munir Bashir who is known as *The King of The U'd*. Those given facts raise the question of what is innovation? and how can it be achieved in the case of Maqam music?

Before trying to answer those questions, we can see in the issues presented up until now that Maqam music as a music only distanced further from its own musicality, and often reduced only to “images” of it, that in addition to the huge gaps between theory and practice, the disregard of its rich theoretical history, its limited misrepresentations, and subjecting its practice to certain functions within culture, all of which facts which limit the musical potential that may be found in it, thus creating a mode of alienation between what is considered as music and musicality as a relationship that is aware of its own rules, processes and source material – sound itself, thus considering that musicality refers to a musical potential that, even if shaped by extra-musical factors, it can not be reduced to identifying with them, or as Karl Marx wrote “they can not represent themselves, they must be represented”, we can re-read this in respect to Maqam music as a music that can not be brought forth by its own force and potential, it must be brought through certain extra-musical factors, which most of the time disregard its potential, by seeking innovation elsewhere, outwards, and furthermore in an already established, shaken, and re-established forms and expressions.

Considering innovation with the above in mind, we can conclude that in order to work with Maqam music, it must come from within, in other words: it must be carried through with consistency and coherence within its own framework, through negation for example – like in the case with the long instrumental solos against the convention of short ones, and complex melodic developments against simple ones. Consistency and coherence in this case also mean being aware of the fact that innovation is an inclusive creative need after all, for which not only form and expression are important, but also content, material and process. Another important aspect of innovation which is often misunderstood is that it is not about adaptation to ongoing developments, but rather about a presence that has something to say, suggest, and offer, out of an awareness of its own problems and challenges them in a direct way, not through the mediation of easy solutions – like in the case with borrowing a harmonic language which was developed for a different context - this is what “solving those problems musically” at the beginning of this research referred to.

Innovation in Maqam music can thus be seen as challenging its external limitations, presented in the problems listed up until now, through taking full advantage of its internal possibilities, starting from its primary source and its essence: **sound**.

To illustrate this relationship better, we can look at innovations in modern Arabic poetry which started to emerge during the late 40s of the 20th century, most of the poets who initiated those innovations, among them an Iraqi female poet: Nazik Al-Malaika (1947-2007), had a very strong knowledge of the history of pre-Islam and classical Arabic poetry and their theories, and used that knowledge in order to create a totally different poetry which was termed as “free poetry”, in which the rules of traditional poetry were approached as rules relating to the nature of words and language itself, rather than thought of as the rules of Arabic poetry, the difference being in the understanding

of the role and function of rules themselves, thus shifting their field of operation from the field of cultural or creative conventions to a field in which they were reconsidered as inherent and integral to the nature of words and language, therefore allowing for more possibilities in poetic operation and expression which in itself is in accordance with the social and political realities outside poetry.

The same as with the calls for the preservation of Maqam music, there were - and to a lesser extent still - calls for the preservation of Arabic poetry because modern poetry was destroying the essence of poetry and its images, literally voiced as the desert, the past, and the ambiguous notions of identity, spirit and social traditions, matters which have nothing to do with the essence of language itself, not to mention they have nothing to do with the social and political realities the Arabs are living.

To conclude, it can be said that a creative framework, whether logical or aesthetic, must maintain a close and conscious relationship with its essence, where the sources become resources instead of acting as mere mediations or agencies. In the case of poetry that is words and language, and in the case of music, it is sound, and after all, innovation is subjective, the least to say that it is a western invention, for in this case, sound and hearing are too ancient to be innovated, but they must be reclaimed, in terms of awareness, consciousness, creativity and productivity.

A Common Ground: Sound

“The history of music is the history of sound, the history of music is the history of sound synthesis”

– Paul Berg, *Sonic Acts: The Art of Programming*, 2001

“Sound does not know its history”

– Morton Feldman, *The Anxiety of Art*, 1965

Departing from the concluding statement at the end of the previous chapter, and in order to utilize Maqam as a creative framework with full potential, the relationship of Maqam music to sound as its source material should be re-established. With this in mind, Maqam music should be approached regardless of its historical and socio-cultural representations, as a framework where sound and sound relationships are concerned. This can be said of all musical frameworks, yet it should be made clear that what makes one musical framework different from others is the different environments and contexts within which they emerge, and within which the relationship with sound is constituted with varying degrees of aesthetic and logical relationships, in which dedication, scholarship and creativity should be employed, that is why not only many musical cultures and instruments exist, but also many individual theorists, composers, and performers who all have their own unique relationships with music and sound.

Understanding this primary relationship with sound not only helps in understanding utilizing Maqam music better, but might also help us reconsider and re-think ancient and early music from a sonic perspective, outside the periodical or historical framework, like the Bach organ works for

example, in which he was consciously working against sounds and what might be called their morphologies, yet within a specific set of rules, or in the case of Church polyphonic choral and chant music which can be seen as a music constituted on the relationship between sound and the space in which it was performed. This relationship between sound and the supposedly historical material should be considered through its inherited relevance to the present conditions of music and sound making, bearing in mind that electronic music already has a well established history; and after all, the auditory system itself is inherited through the history of human evolution.

With the above said, we can see that underlying the history of music, a much more complex history of sound exists, not only complex due to the complexity of history and its conditions, but even more for the internal and external complexities of sound itself: with its relations, its transformations, its interpretations and its use. Given this complexity, we can recall Barry Truax' answer to "Why use a computer?", with "is that it is suited to organizing complexity". Needless to say, the possibilities sound and computation technologies offer, and the fact that they allow us to operate on sonic and musical levels and materials unreachable before, is an old fact now, yet we are amazed by emerging and developing musical and sonic possibilities which, rather being the products of computers and sound technologies, are the products of human brains, as Xenakis' puts it: "you must not be fascinated the computer. It is a tool. You must be fascinated perhaps with what you have in mind".

At the same level, ignoring the sonic and musical possibilities offered not only by computation and sound technologies, but also by extended instrumental techniques, compositional theories and soundscape awareness among all, is the same and one as ignoring sound complexity itself, which should be the backbone of any musical activity, whether theoretical or practical. However, it should be emphasized that the correlation between to what might be called as "awareness" to sound complexity and technology – any technology, is not bound to how developed one technology is: we can see that

some so called “primitive” technologies of sound productions, like in Africa or Asia for example, consciously produce very complex and interesting sounds and sound structures, and on the other hand, not all electronic music employing “top technologies” succeeds at presenting at least interesting or convincing music.

Towards an Electroacoustic Framework

“The information age in music making has flung these [electronic and experimental] composers back to a period in human creativity that rivals that of the medieval period; musical instruments are not standardized, representational systems for music are emerging, and the roles of composer and performer are once more blurred to the point of near unity”

– Mary Simoni, Analytical Methods of Electroacoustic music

In order to establish the framework for this practice-based research in Maqam and Electroacoustic music, two starting points are set: the early theoretical texts, while employing them as resources rather than sources, on one hand, and Electroacoustic techniques on the other; where the two are brought together as means to analyze, represent and create sound structures, materials, behaviors, and organizational relationships, without confining either to per-defined roles: thus for example the computer is not used simply to model or generate structures and behaviors of Maqam music, nor to generate any musical or sonic material “out of nothing”, and similarly the Maqam-based musical elements -whether instrumental or theoretical-, are not approached from their expected or traditional roles.

Thus, the objective is set rather at exploring the possibilities of sonic and musical organization through a musical process and product, and within the context presented in the first part of the thesis: through realizing the potential of Maqam music found in its instruments, theories and practices, and through re-establishing its relationship with sound as a primary source, and challenging what was called its social function and spatio-temporality.

The use of Electroacoustic techniques, namely signal processing using the Puredata real-time DSP environment, not only allows for the possibility to operate on sonic aspects of Maqam music, but also is very crucial in the process of sound organization itself.

Both Maqam music and Electroacoustic aspects were used in order to define and frame compositional processes and organize them on three heterarchical levels: temporal, spatial, and timbral, which are further detailed and explained in the later sections.

A Note on the (re)sources

In the course of the current research, the basic texts which used as references, and which are approached as resources, as an emphasis on their relevance to Maqam music practices today, since they are dismissed and referred to only as “historical” texts if at all, not to mention that many practicing musicians have little if any knowledge on those texts, even though their authors are well known –at least by name--, yet many people have no idea that Ibn-Sina, who wrote also on medicine, wrote on music as well, the same with Al Farabi and Al Kindi, who are better known for their philosophical works. Another point should be emphasized, that even though those texts were written in Arabic, their authors (except for Al-Urmawi) are not Arab at all, yet many people still regard the Maqam as an “Arabic invention” which is not true, a matter which was presented earlier, that in addition to the fact that those texts are explicit in their study of Greek and Persian music, stating their influences, explaining them, and developing them further, Ibn-Sina, for example, mentions the Greek interval system as “the most perfect” among the nations, and which he took and developed further.

Most of the manuscripts of those works are scattered in libraries around the world, the most of them in Europe and Turkey, yet they were investigated, edited, printed and published mostly during the 60s of the 20th century, however, the most of them are out of print since then, and only several editions were re-printed in later years, a fact that makes them almost inaccessible to the wider public, while they are still can be found in university and public libraries.

On another account, there is a minimal bibliographical information on over 200 hundred works written only during the Abbassid rule, besides several other hundreds of texts written in later years, which are simply lost. Most of the works which survived after the Abbassid period were rather of a biographical and encyclopedic nature, in which music theory is mentioned only briefly and within specific contexts.

Herein a list of the text used in this research:

- *Risala fi khabr ta'alif al-alhan* (Treatise on the Composition of Tunes) by Al-Kindi (Iraq, 801-873)
- *Kitab al-musiqa al-kabir* (The Great Book of Music) by Al-Farabi (Today's Kazakhstan, 872-950)
- *Risala fil musiqa* (Treatise on Music) by Ibn-Sina (Persia, 980-1037)
- *Risala fil musiqa* (Treatise on Music) by Ikhwan Al-Safa (The Brethern of Purity) (Iraq, 10th century)
- *Al-Adwar fil musiqa* (The Cycles of Music) and *Al-risala a-Sharafyiea* (The Sharafi Treatise) by Al-Urmawi (Persia, 1216-1294)

As a final note on the matter, those texts were of varying degrees in depth, detail and scope, while some dealt explicitly with rhythm and interval cycles, others present a deep study of sound as such, other aspects like phonetics, the use of music in medical practices, instrument building and so on, are all matters that were known and theorized.

The Organization of Time, Space and Timbre

“Music is a mathematical science which explores the different states of tones and the reasons of their consonances and dissonances, and the states of durations within which they occur ... exploring the tones and their different states is known as composition, and exploring the states of durations is known as the science of rhythms”

– Ibn-Sina

There are blurred lines between composition and improvisation in Maqam music, which are crucial in determining the overall structure of a musical work, as in traditional performance practices, there is almost always movement and transition between improvised parts and pre-composed parts. The rate and degree of movement and transition defines the musical form, ranging from composed songs with slight improvisations in some parts, larger song forms with more space for instrumental and vocal improvisations which often alter the overall structure, instrumental pre-composed pieces with well defined theme-variation relationships with a limited space for improvisation, yet improvisation is crucial in shaping the transitions between the different sections of the piece, and lastly there is the *Taqsim* which literally means *segmenting* or *sectioning* which can range from extended improvisations around known or pre-composed themes, to a freer intuitive improvisation.

This relationship between movement and development within the musical work and its overall form and structure, can be described as an organizational relationship varying between fixed and loose, and it functions on three distinct levels: a temporal level, manifest in rhythmic and metric structure, the spatial level, manifest in melodic and tonal development, and the timbral, manifest in instruments and instrumental combinations.

In practice, those relationships can be noticed in different contexts: a fixed and static temporal level, manifest in rhythmic accompaniment to a solo performer, allows for a freer movement on the spatial level, which is manifest in melodic developments and extensions. In some song and instrumental forms, movements in the temporal and spatial level are accented on the timbral level, manifest through alternations between voice and different instruments and instrument combinations.

While the timbral level may seem less obvious, yet its implications are very crucial in musical practices, for example, in the case of unaccompanied solo instruments like u'd, nay or qanun, it is precisely for their unique timbres that they perform unaccompanied, and have more space for improvisation, with this in mind, it can be said that unaccompanied solo improvisation within a piece for an ensemble for example, constitutes a movement between timbral spaces, mostly associated with symbolic representations: one of the solo instrument, one of duo combinations, usually of contrasting timbres, and one of all instruments at once. In this sense, lengthy unaccompanied instrumental solos can be understood as emphasizing the timbral level rather than a spatial one.

The relationships described above of course not unique to Maqam music, yet the form they take and the way they are used to shape the overall structure is actually what constitutes musical cultures: namely the approaches to rhythm, melodies, and instruments, and the way they are organized through composition and improvisation.

There are three modes of musical organization in maqam music: *ta'alif* (composition), which is explicitly concerned with rhythmic and metric organization, and the more straightforward *talhin* (melodic composition) and *taqsim* (segmenting / sectioning, improvisation), those three modes are almost always existing together, yet the distinction is made because each one those modes operate on a different organizational level: *ta'alif* determines the overall form and structure, *talhin* determines the melodic structure and its space, and *taqsim* can vary and range from in-between sections improvisation, thus acting as a connector between different sections, to standalone contexts where rhythms and melodies are *segmented* and developed through improvisation. It is important to note however that the word for improvisation in Arabic is *irtijal* not *taqsim*, and they are not identical, but rather, *irtijal* occurs within *taqsim*, as will as in other musical forms where improvisation happens on a smaller scale, like unplanned repetitions, variations or prolongations.

Taqsim is one of the few purely instrumental forms found in Maqam music, and as described by Racy as:

it “tends to be self contained; it is begun, developed, and resolved in accordance with an established modal plan”, and considered as the “purest realization of the modes” because of its “textless, meterless, and nonstrophic” nature, and “the *taqsim* is equipped to connote a wide variety of complementary cultural and artistic poles such as: community-individuality; norm-idiosyncrasy; restrictions-freedom; expectancy-surprise; reason-intuition; knowledge-talent; theory-practice; and other binary sets” (Racy, 2000).

If we consider the three modes of musical organization, and the specific characteristics of the *taqsim* as described above, in relation to the material to be organized (time, space and timbre), we can notice that there is yet another potential unrealized in the modes of musical organization, being

restricted by other conventions manifest in the preference of song forms over instrumental ones, and in limiting the taqsim to only one instrument at a time, or in duo settings the other instrument has a supporting role, matters which brought forth the idea of expanding those three modes of musical organization, namely to extend the taqsim to different instruments while extending the possibilities in the organization of time, space, and timbre, through a research-based compositional work for two quartets, two ouds, and live electronics.

Time

As we have noticed in the previous discussion, musical time, in the sense of rhythm and meter, had a very central role both in the theory and practice, given its own “organizing mode” and its own science, which shares a great deal with the science of poetic meter, in the sense that theories on rhythm were based on poetic meter, and often referred to as one and the same science, hence the exclusive concern of *ta'alif* (composition) with rhythm and meter alone. The difference however is that in music, rhythm as such manifests through the organization musical sounds, and in poetry, through the organization of speech units.

According to the various definitions of rhythms, in the early sources, it can be seen as space constituted by two elements: movement and organization, where movement refers to the continuous occurrence of sounds or speech, and organization is the manner in which this movement is organized through units varying in size and structure, and through sequencing, repetitions, and variations, from the very basic unit to the overall form of the music or the poem. Another important aspect presented in the definition of rhythmic structures, is that it based on a ratio-based relationships between movement and rest.

The basic units of rhythm as presented in those texts can be listed as such:

- Two beats: accent and rest
- Two beats: accent and accent
- Three beats: accent, accent and rest
- Three beats: accent, rest and accent
- And a special case of adding rests to unit combinations known as commas

The manner in which those units are combined comprises the *rhythmic cycle*, of which there are several types, determined by the ratio between accents and rests, and by the way in which they are joined together. Those rhythmic cycles are defined as being either “light” or “heavy”, referring to their metric complexity, thus a light rhythm might be one where the ratio between rests and accents is 1:1, what would give 2/2 or a 4/4 time. While “heavy” rhythms allow for a more complex unit combinations, joined by the addition of commas, and they vary in the degree of complexity, yet many of them are very common, mostly 7/8, 10/8, 13/8 and 48/8 rhythms, which are used until this day. There are however less common more complex rhythms and “endangered” rhythms, like 200/8.

In traditional practice, rhythmic cycles are usually predefined as patterns and have the primary role of determining the musical form. Thus the spatial level in Maqam music is -almost- always fixed and pre-composed, hence the exclusive attribution of “composition” to rhythmic organization. However, further ways to develop rhythmic patterns in performance are suggested and described as “altering the quantities and durations” by “addition and subtraction”, “slowing down and speeding up”, “adding long and short commas”, “weakening”, and “folding”, all of which are techniques which are “better if contrasted”.

Within the compositional framework of the current research, rhythmic organization is reconsidered as a means to produce complex rhythmic relationships of interlocking rhythmic structures based on variation, extension and the distribution of accents over the different instruments, while using the same very basic units of rhythmic organization for creating complex structures, thus departing from rhythmic “cycles” to open end rhythmic “lines”.

Space

Maqam in Arabic literally means “place”, or more specifically a place where something happens or someone resides, and in the context of music, it refers both to the micro and macro aspects of music: it refers to both the melodies and intervals produced or composed, and to over all form they take shape in, as a song for example. This resonates well with the notion of space proposed hereafter: it can be defined as non-fixed pitch space, comprised of two levels : a network of *interval cycles* on the higher level, and lower level constituted by the intervals themselves. As was previously mentioned, there is a misconception of thinking of the Maqam as a scale, which does not represent the true nature of the interval cycles in Maqam music, even though some aspects of it are shared with the western scale system, like the mere fact of pitch order, and tonality in some cases, to illustrate this better, two interval cycles (or Maqams) known as Bayati and Hussyini, share the exact pitch set, yet they differ in that they start different positions and using different cycles, thus offering different ways of melodic development and direction, for example, one has an ascending character, and the other a descending one.

The three levels of pitch organization according to Al-Urmawi and others are comprised of basic intervals based on half, then three-quarter and whole tone steps; trichord, tetrachord, and pentachord units (*ajnas* in arabic, related to the greek *genus*); then the cycles, comprised of joint units, which are

often referred to as the essence of Maqam, which in this sense is used to define or emphasize the following order and relationships:

1. Specific musical degree (pivotal notes)
2. Interval cycle and the way they are joined
3. A set of rules regarding:
 - i. Melodic development
 - ii. Melodic direction (ascending or descending)
 - iii. Modulation (the movement from one interval cycle to another)

Melody is defined by Al-Farabi as “a group of finite many tunes, either all or the most of which are in accordance with each other, and are organized and ordered in a finite sum .. among which there is a defined movement according a defined rhythm” and he goes on to categorize 3 types of melodies, one with a sweet, pleasing or comforting character which affects the soul, the second is one that provokes imagination and thinking, and the third type is one that causes an excited reaction, where he might be talking about dancing.

Within the propose compositional framework, “melody” and “melodic development” are abstracted to identify with the pitch organization of the cycles themselves, starting from the assumption that ascending or descending through a given cycle is a melody in itself, thus composing the “melody” according to internal relations within the cycles themselves, while limiting the pitch set to a modified version of a well known Maqam called Saba, which has the pitch set of D, Ehf, F, Gb, A, Bhf C D(b), the slight modifications that were imposed, like starting on Gb instead of D, and adding the Bhf, resulted in a more neutral yet “deep” feeling of the Maqam, which is considered to be a “sad” Maqam, an intended take on the symbolic meaning of this specific Maqam, and musically

speaking, this neutrality of the Maqam can contribute to a freer movement among the pitches. With this in mind, spatial organization can be described as a contextual organization of pitches, to be distinguished from the common notions of scale and melody, which are however partly contained within this context.

As a final note: while silence in music opens up a different discussion than the one proposed here, yet it is worthwhile to note that Ibn-Sina and the others were well aware of the musical use of silence as it “defines the segments”, and “offers time for the listener to imagine”.

Timbre

“And the tunes and their attributes, are matters which can be sensed, imagined, and thought”

– Al-Farabi

Nearly all the texts mentioned above, alongside many others which have not mentioned, begin with describing and defining qualitative and quantitative matters of sound as a physical phenomena, often implying that understanding sound is a prerequisite to understand music, as we can read in the writings of Al-Farabi : “[music is about] exploring sounds and tones with regard to what causes them, what brings them existence, and the forms in which they manifest”.

Ikhwan Al-Safa wrote also on the wave nature of sound, and presented a systematic classification of sounds in their treatise on music as comprising sounds produced by living beings and non-living beings, logical and non-logical, instrumental and natural, and signifying and non-signifying. That alongside describing how is sound produced using musical instruments and using the human voice, and

the many ways in which it occurs and how it is transmitted in nature, and its effects on humans and animals alike, all of which matters which are presented as crucial in order to understand how to construct instruments, interval cycles, rhythms and in general the workings of musical practice and theory. What we know today as phonetics was also a well established discipline known as *I'lm al-aswat wal-h'uruf* (The science of sounds and letters), and it was closely related to music as illustrated by Ibn-Jani : “The science of sounds and letters is intersected with and related to music as the practice of sounds and tunes”.

This focus on the importance of sound to music has declined as discussed earlier in this thesis, a matter that had a direct effect on many aspects of music theory and practice: from the decline of instrument making, both in quality and in terms of developing new instruments, to more theoretical matters related to interval cycles for example.

Ibn-Sina and others describe timbre as the “form” or “shape” in which sounds come to being and existence, an attribute which is determined by the physical source of sounds and the way in which they articulated. Thus describing sounds according to two categories : qualitative (timbre and texture) and quantitative (high / low pitched, loud / quiet), they also noted a co-relationship between the qualitative and quantitative aspects of sound, as in dense timbres and loud sounds, or quiet timbres and low sounds.

In addition to that, around 50 different ways of sound articulations are described both in the context of singing, however there is no further elaboration on the most them in the available references, yet some of them are easy to guess from their literal names like “prolongation”, “shouting”.

“fragmenting” and “sustaining”. Ibn-Sina however goes furthermore to explain sound articulations as means to develop music making, where he mentions what is known as chords in western terminology, as a basis of textural playing, unfortunately though they are only mentioned briefly, apparently due to the fact that they were self explanatory at those times, as the names of the techniques mentioned in this context imply, like “cracking” and “thundering”, however today we can only guess.

Apart from the theoretical aspects mentioned above, another aspect of sound inherit in musical practices is found in the relationship between environmental sound and melodic, rhythmic and timbral qualities of music, this can be seen in imitating grief and crying in melodies, imitating camel and horse footsteps in rhythmic patterns, and imitating sea waves sound as a background sound to singing in terms of timbre.

Instrumental drones play an important role as sonic elements as well, traditionally employed as a background sound that supports instrumental or vocal improvisation, while there is no theory or formal conventions behind the use of instrumental drones, yet many performers and listeners alike state that it gives a deep and spiritual feeling and transports them to another space, and in the case of the performers, it also helps them to improvise better and unleash their creativity. What we know as portamento, vibrato, pitch bending and other techniques are fundamental in instrumental and vocal practices of Maqam music, not as mere ornaments, but they actually very crucial in performance, both on the timbral and intervallic levels, what leads us to consider that intervals occur not only vertically as pitch-orders, but also horizontally as timbre-orders, yet another reason to emphasize that a Maqam is not a scale, melodic developments in Maqam music are not simply sequences of pitches, even though technically they are, but conceptually many of the intervals that naturally occur within them, and which are not mere ornaments, actually occur in the timbre space herein proposed.

With the introduction of sound recording and production technologies, the relationship with sound took new forms, most obvious through the massive use of reverb in recordings of Qura'n recitation and instrumental works for solo instruments, which is not used for musical reasons at all, rather than for the sense of "another dimension" it employs. Radio broadcasting had another impact, as mentioned earlier in this thesis, where the sound of radio constituted a spatio-temporal dimension for music: literally masses everywhere in the Arab world were tuning in for the weekly Umm Kulthum hour during the 40s, it was also the medium used for nationalist propaganda music, and up until this day, most radio stations in the Arab world still broadcast Umm Kulthum songs in the night and Fairuz in the mornings, thus people literally wake up and sleep on their voices carried through the aether.

What Emmerson (1998) says of Electroacoustic resources resonates well the aspects of sound in Maqam musical practices briefly mentioned above, as offering "the possibility of combining literal and metaphorical aspects of space and motion".

Needless to mention, electronic means give further possibilities not only for shaping the sound alone, but also for shaping our perception of it, a function in my opinion even though present in instruments, it got lost somewhere through habitual listening: the appeal to vocal music is related to the fact that it is an expression coming through a human voice, when people sing along together it is because they relate to this fact, the same with other instruments with closer range, dynamics and timbre to the human voice, like the violin for example, they appeal to the listener mostly due to this relationship with the human voice, which is grounded in its many representations – Not once we hear the expression "makes the instrument talk, weep or sing". If we consider those modes of

spatio-temporal perception and mimesis, we can see that the use of electronic techniques in the context of Maqam music it is only natural, and as was noted, the use of synthesized drones and reverb are common practices have been common practices for years now, which however are applied through mass produced equipment, often operated with the least knowledge of how to operate them.

The use of Electroacoustic techniques -however simple- in the musical component of this research can be said to be restricted only to the literal aspects of *musical* space and motion, where the musical possibilities and relationships alone are concerned. This should not be misunderstood as a neutralization of sound, but rather as a reclamation of sound which was lost in symbolic and other metaphorical representations, musical and non-musical alike, thus electronic processing is used to move between the three perceptual spaces of – “the heard”, “the imagined” and the “thought”, as described by Al-Farabi, not through distinguishing between them, but rather through approaching them as if they were three dimensions of the same space, a fact that is also related to the role of accompanying instruments within the piece.

However, the compositional and sonic highlights on the role of electronics in this context are rather related to the literal sense of *processing*, but in no less sense of the *processing* done through pushing the piano sustain pedal down, or in the different ways of bowing the violin, an approach that gives the computer a dual role to operate on and in-between instruments, and to operate as instrument on its own right.

On another level, questions might be asked on the use of technology within the context of Maqam music, and it should be highlighted that it is not only about this case, but also about the (unconscious) use of the synthesized drones and extreme reverb effects, and from the other hand, of no less importance the use of non-European instruments and techniques in European music, microtonality and

complex rhythmic structures for instance. Yet it should be noted that the two examples are not on an equal level, there is a great deal of conflict in the dialectic between those two worlds, for the musicians who use technology with little knowledge of operation – let alone of knowing how it works –, is not equal to a composer who exhibits a great deal of ethnomusicological and musicological knowledge of non-European instruments and music theories, it should be emphasized that “the medium is not the message”, if we are allowed to paraphrase the infamous McLuhan quote, the medium is only the carrier in this way, and the message is in fact often overlooked, and it is explicitly political and it can be echoed in Benjamin Dirsaeli’s statement that “the East is a career”, both for the exportation and importation of the many goods *and bads*.

In another stance, Cornelius Cardew wrote : “Since the war folk music has become dissipated and internationalized (at least in Europe and America) to the point that one can hardly call it folk music. This fate can be compared to the heroic pseudo-scientific universalism of serial music in the early 50s; at that time you were quite likely to hear serial compositions by a Bulgarian, a Japanese, or a South African on the same programme and be virtually unable to tell the difference between them”. This is a very clear demonstration of the power of sound, not only in its ability to transcend geographies, but more fundamentally in its ability to materialize conflicts and contradictions, thus transcending representations, so in this case sound can not be said to be the sound of power, it is a manifest materialization of power, because in the end, it *forces* us to hear, one can not shut off their ears, on the other hand, on the part of musicians and composers, sound is not only material, technique and process, but there is also a great deal of power embedded in there; whether social, power or emotional, all powers materialize in sonic power. Related to this, there is a very close notion to Tarab discussed earlier which is called *Saltanah*, coming from Sultan, a ruler with unlimited powers, and it can also mean metaphysical powers, a good singer *must* exhibit *Saltanh*,

literally the ruling over the listeners, this is an example of an emotional power that indeed does have its social and musical implications, the same can be said of commercial Pop music, its production, circulation and perception.

The shared domain between sounds and politics is not simply the loudspeaker or production technologies, it is in the spatio-temporal dimension, where both exhibit their powers: the issue “preservation of traditions” brought up earlier in this thesis, is not only about music, it is a politics of time, an enforcement of official time if we may put it this way, and on the same level, declaring Maqam music as Arabic music, is a politics of space, that is, of geography, in which case what might called an Arab identity is only a representation used for a territorial power.

In this way, Electroacoustic music provides the means to operate in this spatio-temporal domain, marked by rhythmic structures and shaped with timbres as the final manifestation of pitches and non-pitches , and if “sound does not know its history”, we can be more specific to say that signals do not neither their histories nor their geographies, but they embody them; for the good and the bad.

Conclusion

This research is but an outline of further work yet to be done, the main objective of which was set at approaching Maqam music through an Electroacoustic compositional framework, not only within a musical context, but most importantly through a wider context that takes extra-musical factors into consideration. This approach is present on two levels, theoretical and practical, which are brought together almost in a reverse engineering manner: while the theoretical process had dealt mostly with historical matters, thus starting from the “past”, the practical processes, embodied in setting up a compositional framework, emerged from the “future”, implying the possible yet not present, away from idealizations and other forms of symbolisms, thus emphasizing a “present” urgency for a music that is neither of the past and nor of an imagined or idealized future, a music that is aware of its place today because it knows its past and knows what it can become – and is even sure of that.

This reverse engineering – through the shift from outside representation to material -- of what was called a “histo-geographical complexity”, which itself is a geo-political manifestation, into a purely musical realm shows a dialectical relationship in which music has always something to say about the outside world, something that could be either affirmative or resistant, in this context music can be seen as the politics of time and space, and in case of this research a music that departs from its own material to its self-representation, non-mediated, the least to say.

Without being explicit about each other, the theory and practice of this research complement each other: what is theorized and written can not be sounded as such, and what is thought, composed and sounded can not be written as such, yet they do not mean anything if separated: all the historical, social, cultural and political problems discussed in the theoretical part of the thesis have had a huge

impact on sound and music in the Arab world, yet they are challenged from within music itself, that is, they are dealt with musically, both as compositional process and sound. In a way that, if we look at those factors as working against the “possible” --and that is only one aspect-- of Maqam music, music in turn rises up to prove “this is possible”, this might be subject to success and failure; judgment is not the matter, what matters is that all those problems and consequences are -hopefully- clearly presented and challenged.

As for the technical side, there is still a lot of work to be done on the early texts themselves, in terms of research, analysis, preservation and the like, which can not be the responsibility of one person alone, and while I am not sure of how much can be done about that, given the conditions in the Arab world today, I only hope they get the proper attention and care.

This leads us to another very crucial matter – musical research and education, following the discussion of the current situation of musical theories and practices in the Arab world today, there is a lot that needs to be done on the matter, there is a lack of serious publications and research institutes in the whole Arab world, besides that, I would not be exaggerating if I said that everything they teach in Arab musical schools is wrong, but we know that practice without theory does not mean anything beyond “fun” or “virtuosity” at its best, thus theory must be reclaimed and taught properly, not only in order to know the past, but also to have a better knowledge of ourselves today, theory does not imply a strict academic approach, there is a lot to learn from “illiterate” musical cultures which exhibit an understanding of musical practices that should not be neglected as they are today, and there is a lot to be learned from them, from complex rhythmic structures to extended sound producing techniques, and those should not be approached with an “ethnomusicological approach”.

On the personal level, as I have stated before – this is only the beginning of research, even though I took different direction of exploration at the same time, that is investigation the Maqam theories I have presented in algorithmic composition and formal language contexts, which for the objectives of this research were dissatisfying, as I did not simply want to model or imitate Maqam theories, yet a lot of work needs to be done in that field, at least for theoretical purposes.

Another very important field which offers a lot for both theory and practice is the one described as the “spatio-temporality of musical practices”, with special relation to the role of the radio in both musical and sonic contexts. Radio culture in the Arab world has a very unique character, as illustrated within this thesis, masses literally tune in all together to hear the same music, both during the day and the night, as described, they literally wake up to the same sounds, and go to bed to other same sounds. This says a lot about notions of time and space in the Arab world which one can see – needless to say clearly – yet, at times impossible to grasp.

Human voice, singing, and the power of text in Maqam music is another issue I had reserved for an independent study, mostly in order to give more emphasized on Electroacoustic instrumental music, besides that, musical Voice in Arab culture is analogous to authority, whether recorded, performed live, or broadcasted. Political and protest songs are excluded from this analogy, yet both, authoritive and resistant voices need to be further explored and taken into theoretical and practical consideration.

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