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Mixing for *Parlak* and Bowing for a *Büyük Ses*: The Aesthetics of Arranged Traditional Music in Turkey

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In this paper I explore the production aesthetics that define the sound of most arranged traditional music albums produced in the early 2000s in Istanbul, Turkey.[1] I will focus on two primary aesthetic characteristics, the achievement of which consume much of the labor put into tracking and mixing: *parlak* ("shine") and *büyük ses* ("big sound"). Parlak, at its most basic, consists of a pronounced high frequency boost and a pattern of harmonic distortion characteristics, and is often described by studio musicians and engineers in Turkey as an exaggeration of the perceived brightness of the majority of Anatolian folk instruments.[2] Büyük ses, which in basic terms connotes a high density of heterogeneous musical parts, in contrast to parlak has no relation to any known longstanding Anatolian musical performing traditions or timbral aesthetics, and is a recent development in Istanbul-produced recordings. Parlak and büyük ses became widespread after 2000, accompanying the paradigm shift of Istanbul studios from analog to digital workflows.[3] Parlak and büyük ses are of interest for reasons that transcend music-aesthetics. The successful creation of mixes with parlak and büyük ses necessitates a palpable change in the performance practice of folk music instruments, as well a fundamental reconfiguration of the social structure of music-making, which in turn involves new musical competences and conceptualizations of musical practice. Parlak and büyük ses are not just a result of using a particular set of technologies (i.e., microphones or effects plugins), but instead arise from arduous and detailed arrangement and nonlinear editing work that is made feasible through DAW (digital audio workstation) systems.[4] Although parlak and büyük ses index the transformation of traditional music aesthetics in the context of digital audio recording production, and their production is at the forefront of concerns of the professionals working in the recording studio

environment, the terms are never mentioned in published music criticism, and only usually uttered in the studio context at the inception of a project and at the completion of a mix. Considerable preemptive work is done by studio musicians, engineers, and arrangers to avoid the need for the terms to be mentioned at all.

This gave rise to my first question: what motivates the striking silence regarding parlak and büyük ses? To approach an answer to this question, I investigate aspects of the institutional culture of record labels and recording studios, relating the widespread discomfort with discourse about work to the value most often mentioned by recording professionals—the value placed on "comfortable" working situations and the importance of "mutual understanding." Instead of discourse, I argue that practical mimesis is responsible for the spread of aesthetics, techniques, and practices, in both the studio and record industry environments. My second question: how are parlak and büyük ses produced, and how does their production involve a preservation of certain traditional music aesthetics, the exaggeration of others, and the creation of entirely new aesthetic criteria? The production of parlak and büyük ses starts with the earliest arrangement decisions and extends to the completion of the mastering stage. I will explore this question through a case study, focusing on moments that were particularly critical for the creation of a final mix that was regarded as having both parlak and büyük ses.

In the first section I explicate my research methods, with a focus on "embedded" methodologies and observational strategies. In section two I examine the phenomenon of arranged traditional music, which has roots in Turkish government ensembles, but now encompasses performances of repertoires in many ethnic languages found in Turkey. In the third section I look at the spaces and occupations of Istanbul studios, and how Anatolian folk musicianship is performed in this environment. The fourth section covers the transmission of aesthetics, relating discourse about aesthetics with the value accorded to practical mimesis. I conclude with an in-depth study of the creation of one particular song, analyzing studio musicianship, arrangement style, engineering strategies, and ultimately the multiple ways in which the requirements of büyük ses and parlak are implicated in the micropractices of the studio.

Research Methodology

In this article I draw on observations made between 2004 and 2009 at eight Istanbul recording studios (six commercial facilities and two home studios) and at the offices of several record labels and one distributor.[5] My observations range from passive observations to the active teaching of audio engineering, and from observing record deal negotiations to a sixteen-month

stint as the primary engineer of ZB Stüdyo. Although I conducted several dozen formal interviews with studio musicians, engineers, soloists, and arrangers, the richest ethnographic detail came from informal conversations over tea, from the split-second moments during recording when something went either inexplicably wrong (or right), and ultimately from long-term collaborations with musicians and arrangers.

In the humanistic social sciences, there has recently been increasing attention to "embedded" or "insider" research methodologies. The synonymous terms refer to a mode of research where researchers work in a somewhat normal capacity within an occupational setting. Embedded participatory methodologies have been discussed in sociology's sub-discipline Sociology of Work for over two decades, and are lauded for high data yield and superior "coverage of topics and richness of description" (Tope et al. 2005). My work in many ways parallels Allen Higgins's study of an Irish software company. Higgins notes: "In studying programmers creating and maintaining software we are presented with the challenge of how to access their work, to sense and understand action (socially and with technology) when it is not always apparent or clear, and is often virtual" (Higgins 2007:469). An identical problem confronts the ethnology of recording, as there is a palpable disjuncture between the appearance of the work at hand (an outsider's impression of the human interface between technology and art) and the actual work of producing recordings. This is exacerbated with digital workflows where "recording engineering" is difficult to visually distinguish from other computer activities utilizing a keyboard and mouse.

This methodology also introduces a new set of problems, requiring that the observer engages in "constant evaluation and reevaluation of one's frames of reference and the influence of one's role on the social and cultural nature of the organizational and social practices that take place within the worlds of work we seek to (re-)present" (Brannan et al. 2007:400). Within my study, the position of recording engineer was best characterized by the contradiction between its acute importance and its low social status (compared to other music industry occupations), which affected my interactions with my informants, the data I was able to collect, and my research conclusions. Perhaps the most extensive problem in writing up embedded research is the difficulty of knowing to what extent observations are normative or exceptional, and to what extent research results are generalizable (although this problem is hardly exclusive to embedded research).

My data collection was intensively participatory out of necessity: observing recording sessions to any meaningful degree was impossible without being an integral participant. Many sessions are closed to visitors, in part since artists worry about bootleg copies of songs being leaked to the public prior to the official album release. More commonly, the presence of someone

not actively working in the studio was equivalent to a *misafir* (guest) being present, leading to the mandatory providing of *misafirperverlik* (hospitality). When guests arrive at the studio, recording stops, tea and snacks are served, cigarettes are smoked, and small talk transpires until the guest recognizes it is time to leave the workplace. There was no comfortable accommodation for observers. To conduct an ethnography of studio work, I had to work in Istanbul studios—as an engineer, arranger, studio musician, or soloist. My audio engineering background predetermined the logical choice among these options.

Arranged Traditional Music in Turkey: Folklore, Locality, and the Ensemble

Anatolia is home to over one thousand unique musical instruments, many of which exist in only a few villages, as documented by Laurence Picken (1975). An individual Eastern Black Sea village's music may feature only the three-stringed *kemençe* box fiddle, while one neighboring village uses only the *tulum* bagpipes, another a tongued *kaval* (end-blown flute), and another the *garmon* (an Azeri button accordion that has become popular in a few Hemşin villages).[6] Picken noted that, with few exceptions, local folk ensembles contained no more than two different instrument types (ibid.:259), and most traditions were solo ones. The few heterogeneous ensembles of note were urban *fasıl* orchestras, which Picken describes as Ottoman "court leftovers" (ibid.:294) rather than as traditional entities. Thus, heterogeneous ensembles are not a prominent entity in traditional performance contexts.

What is unique about contemporary recordings is the role of technology and computer work in creating an "imaginary ensemble" featuring Anatolian instruments. Arranged recordings leave the listener with an impression of a pan-Anatolian orchestra, which though sounding plausible, has no actual historically-based performative precedent. The strong cultural value attributed to the aesthetic of large heterogeneous ensembles, which developed decades before büyük ses in recording production, can be seen as an extension of a longer (yet still recent) interest in ensemble aesthetics.

The ensemble concept, in art and traditional music, manifested in divergent ways through Turkish twentieth century music history, from Mesut Cemil's *sanat* (art) music chorus in the 1930s, to Yurttan Sesler (Voices of the Homeland) and the TRT (Turkish Radio and Television) folk music orchestras,[7] to numerous student folk music clubs, to post-1980 *etnik* and *protest* music groups such as Ezginin Günlüğü, Grup Yorum, Kardeş Türküler, and Helesa. One of the more extreme examples of ensemble extrapolations of traditional Turkish-language repertoires was a 2000 Köln, Germany event entitled "Bin Yılın Türküsü" (one thousand years of Turkish ballads), featuring

1246 *bağlama-saz* artists, 700 *semah* dancers, the Köln Symphony Orchestra, and hundreds of singers performing simultaneously. The event was later staged in Istanbul, featuring similar numbers.[8] It is not that any one ensemble configuration came to typify the modern context of arranged music performance in Turkey, but rather that since Republican-era governmentally-funded performing arts projects in the 1930s, art and traditional music ensembles have been an integral part of the contemporary Turkish soundscape.[9]

Arranged traditional music albums typically begin with tunes collected during folklore expeditions and are subsequently orchestrated for an "imaginary ensemble" that, although featuring local folk or art music instruments, doesn't (and perhaps couldn't) actually perform together in real-time. The concept is commercially successful, comprising much of the sound produced for feature films and prime-time TV shows, and a significant number of domestically produced albums. A number of arranged traditional music artists have scored critical successes: Şevval Sam, Hüsnü Şenlendirici, and Volkan Konak each have gold or platinum albums, while albums by Kazım Koyuncu, Kardeş Türküler, Aynur, and Fuat Saka ranked in the top 105 domestic pressings of the year in which they were released.[10] Kalan Müzik Yapım has been one of the top ten labels operating in Turkey since the early 2000s: their best sellers are their arranged recordings. Even obscure albums sell 5,000 or more copies, despite limited advertising budgets. The lines between arranged traditional music and other forms—Turkish pop, rock, folk music, world fusion music—are blurry for numerous reasons, notably the extent to which the arrangers, engineers, and studio musicians involved with traditional arranged music are also the prominent creators of rock, pop, and world fusion albums. The focus in this paper is on traditional arranged music, but much of this analysis is applicable to domestically-produced pop and rock productions as well.

Since 1991, when the Turkish government lifted the ban on recording in languages other than Turkish, there has been a large-scale effort in the Turkish record industry to release arranged traditional recordings of songs in languages such as Kurmancı, Zazaki, Lazuri, and Georgian. In an earlier work, I wrote about the emergence of the "Laz rock" movement (Bates 2008), a psychedelic rock adaptation of multilingual Eastern Black Sea folk songs that results in complex intertwining of multiple ethnic and nonethnic identity associations. Like Laz rock and other Karadeniz (Eastern Black Sea) popular music genres,[11] the musical examples I discuss here could be analyzed through many theoretical frameworks, and might appear particularly noteworthy for their multiple simultaneous ethnic and cultural meanings. However, in this article I am most interested in the work that precedes the actual solidification of meaning of an arranged song. After creating mixes with parlak and büyük ses, Istanbul's record labels market them to differing audiences, domestic and international. It is often unknown, even after finishing the final mix, how and to whom the

product will be marketed, and even what genre tag may be ultimately applied to it. Parlak and büyük ses are outside of considerations of musical meaning and identity, but are inherent to the process of recording as it is currently performed in Istanbul, and to the art objects produced in that context.

Studios and Studio Professionals in Istanbul

Arranged albums are created within the context of Istanbul's hundreds of loosely-connected recording studios, ranging from one-room project studios to multi-room facilities using Digidesign's Protools HD and imported outboard gear and microphones. Most studios are situated in mixed-use concrete structures that were designed for other purposes, and despite the use of fabric-covered insulation on walls and drop ceilings, the sound of rooms is best characterized by the low frequency buildup, flutter echoes, and uneven high frequency reflections of fabric-covered concrete rooms. Tracking rooms[12] are typically small (9–15 square meters), and partly due to this, usually a single instrumentalist at a time is recorded. The studios used for traditional and Ottoman classical musics may also house heavy metal or indie rock bands, film sound effects and voiceover work, and advertising jingles, as there is no genre-specific delimitation of individual commercial studios. To some extent, the acoustic properties mentioned above have effects on all audio recording that transpires in Istanbul.

There are three main studio-sited occupations: *tonmeister* (engineers), who typically handle all the tracking, editing, mixing, and mastering duties; *stüdyo müzisyen* (studio musicians), specialists on one or a few instruments who are hired on a per-song basis to provide nearly all the instrumental backdrop to contemporary recordings; and *aranjör* (arrangers), who oversee the recording process, perform orchestrations of basic melodies, and act as intermediaries between the studio musicians, engineers, and everyone else. The term *yönetmen* (producer) refers specifically to the financier of a project, most often the owner of a record label or a film firm. Producers rarely spend time in the studio, except at a project's inception and during the listening evaluation session for the final mix. Thus, recordings are typically the result of intense, long-term collaboration between engineers and arrangers, with brief but vital interactions between the engineer-arranger team and the many studio musicians employed on a project.

In the studio context, Anatolian instruments are experiencing a renaissance, as there is an increasing market for recordings featuring local sounds.[13] Correspondingly, there are Istanbul-based studio musicians who specialize in just one of several dozen different local instruments. Rather than playing in a traditional, solo fashion, these specialist studio musicians have adapted innovative techniques to facilitate the playing of local musical styles inside a

multitrack, layered, polyphonic arranged context. They play on top of click-tracks; record double, triple and quadruple takes of the same part with incredible intonational and ornamentational precision; and can perform imitations of many local playing styles in addition to producing non-traditional parts such as Anadolu rock melodies or foley (synchronized sound effects for TV or film). Yet, these specialist musicians, like stage and concert performers of the same instruments, play repertoires and instruments that originate in the region in which they by necessity have familial roots—often where they grew up. In addition to being bound by the popularly held conception of place-specific knowledge that only comes from having a certain *memleket* (ancestral birth home), studio musicians must also have the ear and the playing technique to work within computer-based workflows. Studio musicians may have contemporary skill sets, but are also judged on the basis of authenticity discourses that exist outside of the studio or recorded music context.

Discourse and Mimesis

Scholarship on audio engineering and recording production has tended to employ three modes for approaching a study of the relation between engineering practices and musical aesthetics. The first is an analysis of public discourse and "speech about sound" (Porcello 2004) whereby debates on aesthetics such as "liveness" or "fidelity" are related to emergent engineering techniques.[14] The second is a study of the professionalization process for engineers, including topics such as the (unspoken) attainment of tacit knowledge (Horning 2004) and the semiotics of workplace banter (Porcello 2004). This mode assumes that something in the transformative process of *becoming* an engineer results in tangible aesthetic effects. The third mode attempts to understand aesthetics by reverse-engineering the creation of recordings, often in tandem with interviews with engineers or producers about the production process in question.[15] In most cases, scholarship employing these three means has focused on English- and French-language transnational popular music productions, and the authors have been able to take advantage of a varied and vast repository of texts written about the musical practice in question. Indeed, terms such as "warm," "phat," "in the pocket," and dozens of other emphatic descriptors for describing mixes are uttered not only in American and European studios, but have entered the lexicon of non-specialists, a situation related to a widespread interest in talking about tools and technologies, and to popular music videos and TV shows that depict recording studios, the recording process, and mixes "in progress."[16] But how do we analyze the relation between engineering practices and musical aesthetics for musics when there are few or no texts and a paucity of documented public debates? Besides spoken and written texts, what other data

can assist in investigating the relation between engineering practices and musical aesthetics?

In the context of Istanbul's recording studios, it is not so much in *discourse* about recording aesthetics where conceptions of traditional music-making change, but in the *practices themselves* that the terms parlak and büyük ses reference. Parlak and büyük ses, as terms, are nearly invisible and undetectable, in the sense that they are not articulated in mainstream media coverage of music and are not even used by some recording artists. It is doubtful they would be mentioned by any musicians who don't primarily work in studio contexts. In studios the terms are only occasionally muttered, most frequently by a record label, film producer, or arranger when communicating to the engineer that which is *missing* in a "failed" (i.e., unsatisfactory) mix. *Parlak yok*—"there is no shine."[17] Yet, every mixing engineer that I interviewed mentioned that producers and arrangers demanded mixes that had these two qualities above and beyond all others, even though no one could easily define exactly what parlak or buyük ses meant. Engineer Metin Kalaç, in discussing arrangers' preoccupation with parlak, offered up his motto for a successfully-running mix session: *Parlak gelsin oluyor!* ("It's happening if you let the parlak come!").[18] It was striking how much work in a typical studio workflow was preemptively done to avoid the terms ever needing to be mentioned.

In Turkey there is no widespread interest in the recording studio, its technologies, or the personality and techniques of producers—regardless of musical genre. Likewise, inside the studio context there is little concern for the public debates or the discourses of music criticism. Changes happening to music aesthetics in Turkey, most starkly recognizable in the "modernization" of traditional folk and indigenous art music repertoires (Tekelioğlu 2001), are outside of the public discourse. Journalistic and academic music writing in Turkey pretends that the studio, its technologies, and recording professionals are nonexistent, a feat accomplished through an exclusive focus on biographical details of singers' lives and on their repertoire choices. Arrangers and engineers, correspondingly, strive for a work environment shielded from outside aesthetic critique by establishing and maintaining mutually-beneficial working relationships with a small number of record labels, film studios, and/or TV production companies, the relational qualities of which are judged through the criteria of *rahatlık* (comfort) and *anlaşma* (mutual understanding). A minimization or near-elimination of discourse relating to the recording process and the aesthetics of completed work—particularly discourse that would increase the amount of interaction between the studio and the outside world—is paramount for a high degree of comfort and perceived mutual understanding, at least from the viewpoint of engineers, arrangers, and studio musicians.[19]

There are probably numerous reasons for the discomfort with discourse. One hypothesis of mine is that the comparative lack of nuanced aesthetic vocabulary in the Turkish language for talking about music hinders protracted, fruitful discussion about aesthetics. For example, commonly used words like *tiz* are vague (tiz can indicate something that is either high pitched, played in an upper octave, tuned excessively sharp, or contains a lot—or excessive amounts—of high frequency content), and there is no way to clearly distinguish the meaning of the word *ses* (which can mean "sound," "tone," "vocalist," or "timbre"). I observed situations with brand new engineer-arranger teams where five to ten minutes were spent trying to assess what the arranger meant by saying that a note was "tiz," or that something should be done to the "ses." More experienced arranger-engineer teams accomplished work without discussing the matter or using terms such as these, thereby saving time and increasing perceived comfort and mutual understanding.

Rather than replicating forms and techniques through public discursive milieus (trade conventions, industry publications, or formal pedagogy), forms are replicated through practical mimesis. I use the term *mimesis* instead of *imitation* to focus attention on the specific practice of copying visible details and mannerisms, rather than other manners of imitation. Newcomers into the music industry attempt to copy the business models, production workflows, technology choices, and even the contract personnel choices (arrangers, engineers, and studio musicians) of businesses that are perceived as successful.[20] Mimesis extends into the realm of studio design. Acoustical treatments (absorbers, diffusors, bass trapping, and the like) in new studios typically arise from a blatant copy of the visual appearance of other studios, with less regard for the audible achievement of any particular acoustical aim. Also, despite the availability of an increasing number of foreign brands of audio equipment, most new studios prefer to copy the technological selections of existing Istanbul studios rather than to differentiate themselves through unique equipment selection. I do not believe that economic factors primarily account for mimetic tendencies, as some of the prevalent technological choices are among the most expensive (least cost-effective) options available. Only infrequently did engineers mention specific comparisons of well-known gear and newer alternatives. Rather, practical mimesis occurs within an environment where mimesis is regarded in a positive light, and mimesis extends to many facets of the music industry, from record label organizational structures to technological decisions to creative choices.

Although parlak has only a tangential precedence in Anatolian music traditions, it is a feature that audibly exists outside the context of the studio. Istanbul's many *türkü* bars and other nightclubs blast Turkish folk, pop and rock music at a level that distorts the PA systems, and the recorded frequen-

cies important to parlak are close to those hyped by the horn drivers in the ubiquitous Atlantik brand Turkish-made PA systems (and similarly-constructed Behringer and Phonic brand imported PA equipment). As many studio musicians continue to perform live, it is likely that the omnipresent sound pumped out by these PA systems affects musicians' and audiences' conceptualizations of what sounds "natural" and feeds back into the process of recording production, creating a vicious cycle whereby parlak is increasingly exaggerated. While working at ZB Stüdyo, I tracked (recorded) over fifty studio musicians, and all but a few routinely set their tracking headphones at an ear-splitting level—loud enough that the headphone amp distortion began to take on the audible characteristics of Turkish nightclubs.[21]

It is partly through this mimetic tendency, I theorize, that büyük ses and parlak have been able to spread from one specific production environment to become general aesthetic paradigms.[22] New producers, in the attempt to mimic a "successful" production formula (say, an exemplary CD already on the market), hire the arranger/engineer team and the studio musicians who worked on that CD, with the assumption that the combination of personnel, technologies, and production techniques will impart a similar aesthetic result for the new production. New producers may have no idea what was entailed in making the production that they wish to emulate and, particularly if they are inexperienced with the intricacies of digitally facilitated music recording or the nuances of musical performance practices, may have little expressive vocabulary with which to express their desires. The terms büyük ses and parlak, for the producers, index a loosely-defined set of practices and techniques which they believe will produce desirable, yet equally loosely-defined, aesthetic qualities. For the studio musicians, arrangers, and engineers, the terms index a set of practices, techniques, and strategies that I will examine in the following case study.

Parlak and büyük ses may be widely shared production goals, but that says nothing about how individual musicians, engineers, and arrangers feel about them. Ömer Avcı, an arranger-engineer-percussionist who has worked extensively on arranged Turkish and Kurdish language folk music productions, succinctly encapsulated his perception of the problem: "Türkiye'de insanların kullağı maalesef kirlenmiş, bozulmuş" (In Turkey, people's ears unfortunately seem to have become polluted, spoiled; p.c., 24th April, 2007). To Ömer, excessive parlak and the system through which it is produced have a negative affective value, as they arise from non-critical listening. A small number of engineers, including Ömer, Yılmaz Yeşilyurt, and (until his untimely death in 2008) Tanju Duru, have attempted to buck the trend towards more parlak and ever-increasing track counts, but they have only been able to do so through being very selective about what projects they agree to work on.

Case Study: The Creation of "Gülçini"

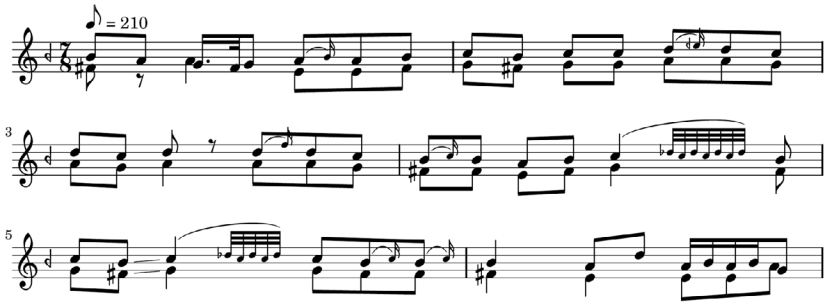
"Gülçini" is a fast, Turkish-language *horon* dance song that was recorded for Yaşar Kabaosmanoğlu's debut album, *Rakani.* Faruk Altun, the owner of the label Metropol, commissioned this album of Hemşin ethnic music as a follow-up to other successful Karadeniz albums he had produced, and hired Aytekin Ataş and Soner Akalın, former members of the pioneering ethnic music group Kardeş Türküler (Uncu 2008), to arrange the album. Aytekin and Soner's arrangements are characterized by complex six- to twelve-part polyrhythmic percussion arrangements supporting dozens of layers of Anatolian traditional instruments, yet always feature instruments and structural traits specific to the song's region. I engineered, mixed, and mastered the album at ZB Stüdyo, a commercial facility formerly located in the Galata/Tünel neighborhood of Istanbul.

Big Sounds from Small Fiddles

The kemençe is a small box-fiddle with three metal strings, which customarily performs solo or as accompaniment to singing. In Karadeniz popular and traditional music recordings kemençe is typically the primary instrument employed to bring a local or regional *renk* ("color"), even though the kemençe is not typically associated with ethnically Hemşin songs such as "Gülçini." Tahsin Terzi, the performer on "Gülçini," is widely regarded in the Istanbul recording industry as the most skilled kemençe studio artist (Şengün 2006b). Although other *kemençeci* (kemençe players) are perhaps better respected for their live concert performances of particular local Eastern Black Sea repertoires,[23] Tahsin has a broad repertoire knowledge and, more importantly, the skill of being able to quickly record doubled takes of very complicated ornamented passages.

When Tahsin entered the tracking room to begin recording for the album, he moved the microphone to spot he always uses—right in front of the kemençe bridge, less than a foot away from the instrument. This position emphasizes the fricative noise of the bow moving across the steel strings, which I believe is crucial to maximizing the parlak of the raw kemençe track. Tahsin asked Aytekin to play the arrangement from the top. What he heard was a version of the song featuring "scratch" (unfinished) vocals sung by Yaşar, and a rough sketch of the instrumental section played on a *bağlama* using a right hand string-muting technique. Supporting this was a multi-part percussion arrangement, similar in character to the one that ended up being on the finished album, and—loudest of all—the 7/8 click track. During a brief conversation about the vision for the arrangement, Aytekin told Tahsin that Mahmut Turan would later be playing tulum (bagpipes) during some of the

Figure 1: "Gülçini" main melody performed by Tahsin Terzi (*kemençe*) showing complexity of ornaments.

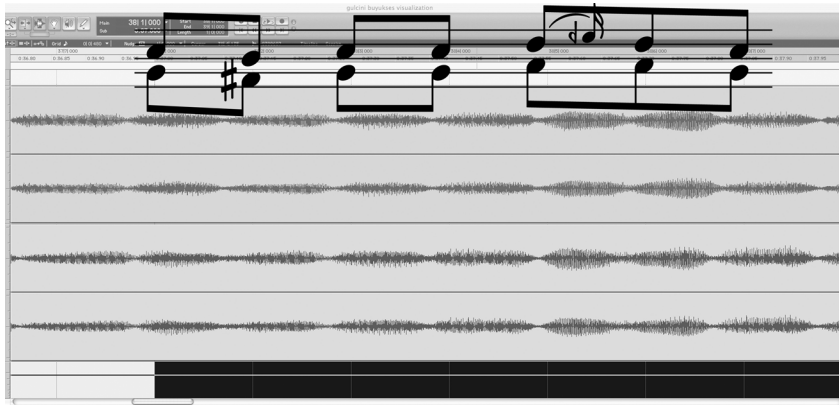


instrumental sections. Tahsin reacted to this—I'm not sure exactly what his reaction signified, but Aytekin took it to mean that Tahsin wanted to think carefully about ornaments that would be playable on a tulum as well as on his kemençe. After a couple minutes, Tahsin recorded the main melody in two takes (see Figure 1 for a transcription of the ornamented melody as performed).

As soon as we had finished tracking the original melody part, Tahsin indicated immediately, without prompting, that he wanted to record a double. While close-miking a kemençe can increase both perceived parlak and büyük ses, there is a limit to how much "size" is attainable through miking; therefore the primary technique for increasing büyük ses involves invoking the Western orchestral section concept—through layering multiple tracks of kemençe performing the same part (with subtle discrepancies between the tracks). As there isn't any normal context where kemençeci play together, this is achieved by a single player through multitracking: the strategic, asynchronous doubling, tripling and quadrupling of the part.[24] The resulting effect is similar to a violin section, although the parlak-intensive timbre imparted by the kemençe, and specifics about the desired combined timbre, result in an audibly different aesthetic.

After recording the original track, it took Tahsin about ten minutes to record a "perfect" double, including precisely timed and intoned recreations of every ornament. Although there are ornamentation conventions in kemençe playing, it is exceedingly unlikely that in a traditional performance a kemençeci would ever perform a part exactly the same twice. This is the primary skill that differentiates a studio kemençe performer from a concert or local artist. Although the discrepancy between any two note attacks in the original and double averages 5–10 ms, some attacks have up to a 14 ms offset, as can be seen in Figure 2, a Protools edit window for the session zoomed in to the second

Figure 2: "Gülçini" *kemençe* doubling for one bar, demonstrating the tightness of the timings between the two tracks. The first note in the highlighted passage has the greatest discrepancy, at 14 ms, while other note articulations are from 0–10 ms.



measure of the main melody.[25] Regarding the timing between parts, "Gülçini" is typical for sessions I observed featuring Tahsin. I had access to both the final mix sessions and those with the rejected alternate takes, and discovered that doubles with consistently shorter discrepancies (less than 5 ms) were usually rejected, either by one of the arrangers or by Tahsin himself immediately after recording. The rejected doubles, although technically "more accurate," produced less of a pronounced audible effect. Thus, a specific discrepancy range appeared essential for the creation of büyük ses. Approximately the first five milliseconds of the attack of each distinctly bowed kemençe note has a noisy fricative timbre that is louder than the harmonic content, and an important part of the kemençe's unique sound. I hypothesize that by having note attacks offset by five or more milliseconds (but not excessively offset so that two distinct attacks are perceived), the audible effect is to lengthen the fricative aspect of the kemençe sound, while ensuring that there is always harmonic content even when a new note attack occurs in one part. The melodic continuity of the kemençe part is accentuated, while the bow friction noise, perhaps most responsible for the kemençe's unique timbre, is elongated.

Details about these expressive microtimings were not articulated in studio discourse, nor did it appear that other engineers had attempted to specifically measure them, although the expression *ufak tefek olsun* ("let the little discrepancies be") suggests a general awareness of the concept. I find Vijay Iyer's concept of "expressive microtimings" (2002) to be analytically more useful than Keil and Feld's concept of participatory discrepancies for explain-

ing strategic doubling, as the microtimings are thoroughly integrated into studio-situated performance practices, intentionally and reliably reproduced, and not the result of "participation." These expressive microtimings produce a subtle yet perceivable effect that manifests only within a very narrow timing window. Tahsin Terzi does not calculate how to play an ornament with a 5–14 ms offset, but instead, has practiced playing doubles to his own parts enough to easily produce this effect on demand. On the other side of the control room glass, the arranger and engineer hear the presence or absence of the audible effect, and regardless of conscious knowledge concerning its technical specificity, can recognize if a doubled part contributes to a greater sense of büyük ses.

Arranging and Engineering for Size and Shine

> "The degree to which sound mixers have taken part in aesthetic decision making has increased during the history of popular recordings with resulting changes in the aesthetics of music."
>
> —Kealy 1979:7

In addition to doublings such as those just analyzed, büyük ses is a product of strategic instrumentation. For "Gülçini," arrangers Aytekin and Soner worked with the producer-imposed prerequisite that kemençe and tulum both be featured prominently in the piece. Although both instruments do perform Eastern Black Sea horon dances, they traditionally never play together, have somewhat distinct repertoires and substantively different tuning and ornamentation conventions, and typically perform solo (the kemençe is in some localities occasionally accompanied by a single *askı davul* drum).

Although some of these differences created insurmountable incompatibilities prior to the adoption of nonlinear digital audio editing as a standard technique, today even the timing and intonation of an errant part can be made to conform, within limits, to other parts in the arrangement. The engineer *sees* when the timing is off, thanks to the DAW's graphical user interface (which was derived from photo and video editing software), and can subsequently "move" a reference to the sound fragment earlier or later in the timeline with sample-level (<1 ms) precision. An optional grid, which extrapolates a preset tempo and time signature into a visible representation of bar lines and beat numbers, can be used to speed up editing, and the "snap to grid" feature reduces time-aligning efforts to a single click-and-drag. Likewise, intonation adjustment plugins or software can make subtle or substantial changes to one note—or radical changes to every note in the entire performance. As these procedures for manipulating recordings are commonplace in Western rock, pop, electronic, and classical music recording workflows—the musics

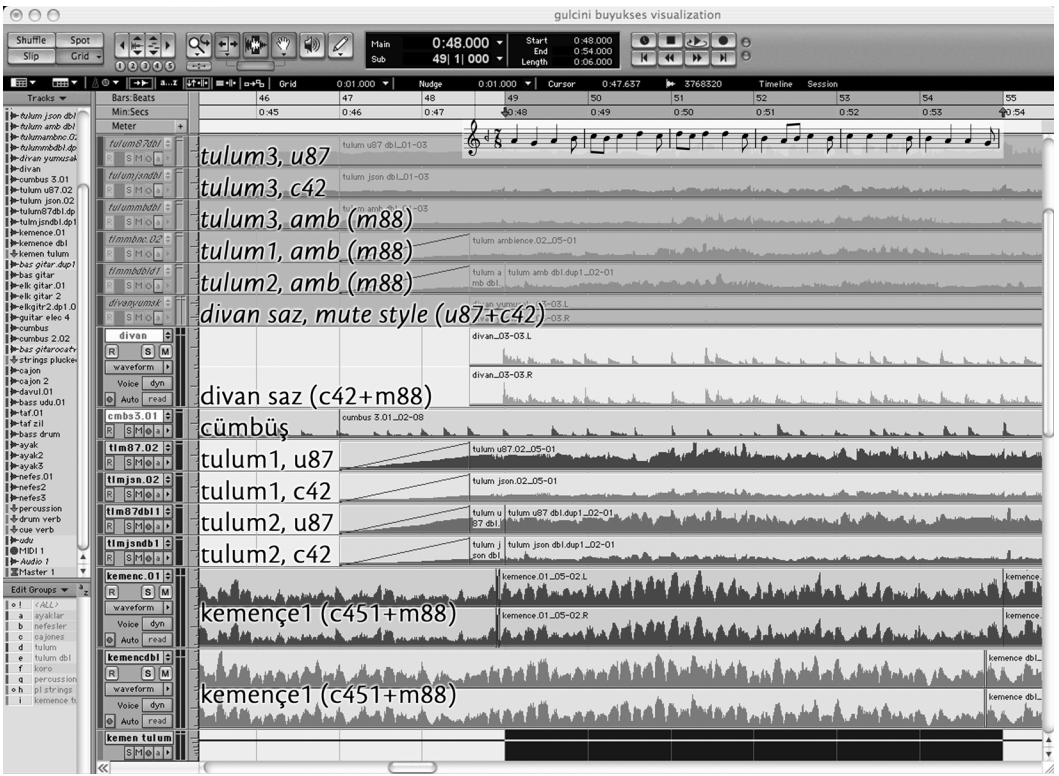
for which digital audio editing software was expressively designed—the interface is set up to facilitate specifically these manipulations.

Since so much is adjustable after-the-fact, and track counts are effectively unlimited in digital audio workstations, there is no longer an incentive to avoid tracking extraneous parts or to solidify arrangements prior to recording. Instead, arrangers in Turkey experiment with an excess of recordings of different instruments playing a wide variety of parts, including dozens of renditions of the song's main melody, to ensure that in the final mix, if a part needs to be jettisoned for some reason, there will remain enough heterogeneity for achieving the büyük ses aesthetic. For all instruments that might be featured at some point in a song, the arranger requests doubles, and often triple and quadruple-tracking. In the quest for attaining büyük ses, it is not uncommon for a song to reach thirty-six or more distinct simultaneous tracks, and some productions I observed used well over one hundred distinct tracks.[26] This starkly contrasts with the original source recordings that inspired these arrangements, many of which are solo recordings, but none of which consist of more than three distinct parts.

When arranging "Gülçini" (which happened simultaneously with tracking), Aytekin and Soner chose to double the song's primary kemençe melody on *tulum* (which we triple-tracked), *cümbüş*, and two stereo-miked tracks of *divan-saz*, the first played with a pick and the second played with a non-traditional "mute" technique involving finger-picking and muting strings with the picking hand (see Figure 3 for a Protools visualization of the arrangement's melodic layering). However, the third tulum and the muted divan-saz were not included in the final mix, as Aytekin didn't think they contributed to the desired aesthetic. (Büyük ses is achieved through a heterogeneous ensemble, but not an indiscriminately orchestrated one.) Although other songs on the same album received extensive timing adjustments, aside from being asked to use intonation adjustment to make the tulum in tune with the kemençe, little timing adjustment was done to the melodic parts for this song. The resulting mismatch between the bagpipe and fiddle ornaments produced a fuzzy "wash" of sound characteristic of büyük ses, rather than a precisely synchronized effect. With the added digital reverberation, it sounds like a football stadium full of bagpipes and fiddles played the song.

To support the melodic texture, Soner created and performed a nine-part percussion arrangement involving a mix of Anatolian and foreign percussion instruments. The arrangement is a polyrhythmic extrapolation of what, in a traditional context, might have been played on a solo *askı davul* drum. After recording the individual parts, Soner asked me to make timing adjustments to individual articulations to maximize the impact of the most important beats. For beats where all percussion played a *tek* (high frequency stroke), the sound is very crisp and accurate (i.e., little discrepancy between strokes), while on

Figure 3: "Gülçini" main melody doublings, including unused tracks (italicized). Overlaid on the Protools edit window is a synchronized score of the basic "Gülçini" melody.



downbeats where several drums played a *düm* (low frequency stroke) we deliberately moved certain articulations earlier or later in order to lengthen the perceived duration of the düm.

In sum, Soner and Aytekin's arrangement of "Gülçini" produces the plausible effect of a large orchestra supported by a driving rhythm section. But, this "orchestra" is without precedent in traditional performance practices and ensemble configurations. Indeed, it is doubtful that such an ensemble would actually be able to perform the piece as arranged in a live setting, due to the tuning and ornamentational discrepancies and timing issues mentioned above. If an ensemble couldn't actually perform this arrangement, how is it that the resultant recording is plausible? To answer this question, I draw on and extend Benjamin Brinner's theory of interaction. While Brinner was mainly interested in the relation between musical sound and the structures of social "roles and relationships" (1995:180) in live ensemble musicianship, which he theorized through four interactive "constellations," his theory can be extended to cover arranged recordings through the addition of a fifth constellation, which I term the *interactive mirage*. I define *interactive mirage* as the *deceptive alteration of a set of performances to make it conform with preexisting sound structures and with preconceptions about how actual ensemble interaction would take place*. In this case, the preexisting sound structures are rooted in field recordings and performances of local folk music traditions, while the preconceptions about ensemble interaction derive from the seventy-year history of staged folkloric ensembles. The mirage employed in Anatolian arranged music is in many ways the opposite of other kinds of technologically-facilitated simulated ensembles such as orchestral sample libraries or synthesized string sounds, in part since technology in this instance is not used to replace musicians or acoustic instruments but rather to produce particular desired aesthetics. Moreover, instead of instigating a workflow that reduces the amount of time and money spent in creating recordings, this manner of producing music is one of the most costly and difficult to manage recording workflows conceived of anywhere.

Büyük ses relates to an aesthetic of loudness characterizing many Western recordings of diverse musical styles since the 1960s (Kealy 1982:106), yet is produced via an entirely different workflow, with a different approach towards using technology and through the cultivation of specific configurations of musicianship skills. As an aesthetic, büyük ses is not dissimilar to recording aesthetic transformations outside of Turkey, yet hinges upon a workflow that was locally developed. Unlike most Western popular music engineers, few Turkish engineers use dynamics processing such as compression or peak-limiting.[27] Also, an obvious metaphorical relation between büyük ses and Phil Spector's famous "wall of sound,"[28] the style pioneered at Gold Star Studios in the 1960s, doesn't extend to a procedural similarity,

as Spector's "sound" resulted from recording a large number of musicians simultaneously in a very small room, using the concomitant analog recording techniques of the time (including analog tape saturation, which compresses the dynamic range and adds third-order harmonics to the source).

Parlak as Exaggeration and Distortion

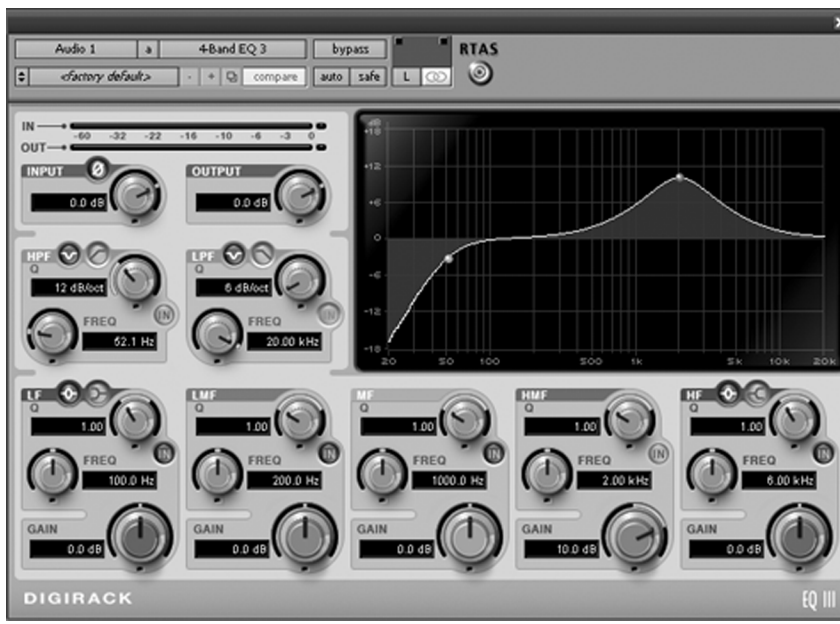
The production of parlak began with the choice of kemençe and tulum as the lead instruments of the song. Although musicians in Turkey often disagree about the fundamental characteristics of Turkish and Anatolian ethnic musics, I have often heard it said that Anatolian indigenous instruments are inherently "bright" or "trebly." Like nearly all of the instruments mentioned in Laurence Picken's tome, the kemençe and tulum are incapable of producing fundamental frequencies below 330 hz (E4). However, the brightness of Anatolian instruments alone is not enough to create parlak. Instead, parlak requires multiple stages of work, ranging from strategic microphoning to mixing and mastering techniques.

Parlak is captured with microphones known for having a characteristic *presence peak*—a high frequency boost centered somewhere between 6,000 and 10,000 hertz that corresponds to the frequency band of many spoken consonant phonemes. The AKG C451, Neumann TLM103, and Shure SM57 are often used for instrument recording in Turkey, and all feature a several decibel presence peak. While engineering in Istanbul, I had to retrain my ears to listen for subtle high-frequency sounds that were essential components of parlak, and retrain my instincts regarding microphone positioning. Left to my own devices, I would have probably miked Tahsin's kemençe from several feet away, aiming to minimize the buzzing noise of the bow. Likewise, my inclination was to minimize the "nasal" quality of the tulum by positioning mics several meters away from the bagpipe. I had learned in earlier sessions that my instincts and inclinations ran counter to the desired results. As it was, within seconds of being in the tracking room Tahsin moved the mic to where he felt it would produce the correct aesthetic (less than a foot from the kemençe), negating any control I might have otherwise had. Soner and Aytekin, although nominally the arrangers for the project, often took it upon themselves to place mics in the tracking room. Microphone positioning and parlak capturing was shared work involving everyone participating in the recording process. The effect of proximity on instrumental sound was to consistently exaggerate numerous high frequency characteristics that would normally have been inaudible to listeners.

Immediately after tracking, Tahsin came into the control room to audition the part he just performed. He never heard the raw, un-EQed sound, as immediately after tracking we engaged an EQ plugin on the track, selecting

from a small number of EQ presets that have circulated through many Istanbul studios.[29] From looking at the saved presets at several studios, I found that the frequencies important to parlak are consistently centered between 1.5–2.2 khz. These frequencies are boosted on individual tracks, on the stereo mix, and finally in mastering. From start to finish, it is quite commonplace that upwards of 20dB of boost in this frequency range—more than three times the amplitude—is imparted to key parts, particularly lead vocals or lead melodic instruments (such as Tahsin's kemençe). These boosts are always made with digital, nonlinear parametric EQs, including the Waves Renaissance EQ, the built-in EQs in Steinberg's Cubase and Nuendo software, and EQs packaged with Digidesign's ProTools systems (see Figure 4). Nonlinear, in this case, refers to an increase in phase distortion and resulting time delay of harmonics in the original signal; the more EQ that is applied, the more that certain frequencies become out of phase with each other. Linear digital EQ plugins exist, and some studios had them in their tool arsenal, but they were never used. Engineers I interviewed said they didn't sound right, and when I experimented with using them, arrangers didn't like the results. 20dB of boost applied to a source signal results in extreme phase distortion, leading me to believe that this phase distortion (as well as the frequency balance of the resulting signal) is an integral part of parlak.[30]

Figure 4: Typical *parlak* EQ settings.



My first attempt at mixing "Gülçini" happened relatively early in my research, and I naively approached the task with the aim of creating what I considered to be a more "natural" audible aesthetic, meaning one that utilized less extreme EQ settings. My first mix was flatly rejected by the arrangers. Aytekin thought the mix was "interesting," but would definitely be rejected by the producer, as it was missing parlak. The solution was simple—add several dB more parlak to the lead vocals, to the kemençe and tulum, and to the final mix. With small tweaks, that mix was approved, leading to a similar back-and-forth during mastering. With a consensus that the mix was acceptable, I assumed that mastering would require only subtle adjustments to the mixes. Faruk Altun, the producer, said two words about my first mastering attempt: "parlak yok!" With Aytekin, I examined the mastering session. My EQ choices involved subtle (less than 1dB) boosts and cuts on narrow frequency bands. Aytekin pointed to two frequencies, 1.5khz and 2.1khz, and said "aç!" (raise them). I tentatively raised the chosen frequencies from a 0.5 to a 1.1 dB boost. Atyekin reiterated—"aç, aç, aç!" I boosted the EQ to +6dB. Aytekin declared "bitti!" (done), and without even listening to the resulting sound, the mastering stage was complete.

Conclusion

I have argued that büyük ses is best understood through an analysis of and as a product of social interactions—both the actual interactions that transpire in the studio and the interactive mirages suggested in arranged recordings. Parlak, on the other hand, is a complex amalgam of distortions, some rooted in Anatolian traditional instrumental timbres and others in twenty-first century digital signal processing, which are productively understood as a feedback relation between the sound world of the studio and sound worlds outside of the studio. Through practical mimesis, rather than through articulated discussion, these aesthetics were able to become established as paradigms for arranged traditional music recordings.

Amidst the publicly-staged debates concerning Turkey's position between "East and West," *alaturka* (Turkish) versus *alafranga* (foreign) aesthetics, and the vitality of traditional and classical art forms within an economy that has embraced popular music production, a transformation has been taking place. The transformation can't be mapped with Cartesian coordinates, nor fruitfully reduced to a "Westernization" of musical practice. Moreover, the transformation has not generated a cornucopia of rich "texts" that can be deconstructed or read for their metaphoric or symbolic meanings. It is through the observation of that which *isn't* talked about—the assumed, routine, and non-contested micropractices of the studio—that the particulars of parlak and büyük ses begin to surface.

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Notes

1. Under the loosely-construed umbrella category of "arranged traditional music," I include contemporary staged and recorded manifestations of anonymously-authored folk music in Turkish and other languages, and authored folkloric local musics including Alevi secular and sacred music. Closely related are arrangements of classical/art musics including *Türk klasik/sanat müziği* (TSM). Another way of delimiting the object of study is not through genre, but rather by record label. Amongst the labels whose productions fall under this analysis are Kalan, Metropol, Akustik, Ses, Kom, Lizge, Doublemoon, Güvercin, and to a lesser extent *halk müziği* releases from Seyhan, Ulus and DMC.

2. There is a need for both terms, "Anatolian" and "Turkish." While the former refers to concepts specific to a locality or region within the geographical boundaries of Anatolia (the West Asian subcontinent of the present day Republic of Turkey), the latter refers to concepts specifically related to Turkish language and culture. Later in the article I discuss repertoires and instruments specific to Hemşin and Laz villages, which are better categorized as Anatolian than as Turkish.

3. A *workflow* is a sequence of operations that makes up a normative practice of production. In the case of audio recording, *analog workflows* (usually, recording to and mixing from analog tape) typically involve the greatest number of work hours spent in the recording and mixing stages, while *digital workflows* (recording to and mixing from a computer workstation) shift many of the work hours from recording to nonlinear editing.

4. A *digital audio workstation* (DAW) is a computer configured to record, edit, mix, and master digital audio. In addition to basic computer components, DAWs contain sound cards with AD (analog to digital) and DA (digital to analog) converters. All of the audio editing and mixing happens through a unified software application called a *platform*. In addition, platforms support third-party *plugins*, which enable the use of effects or other signal processing on digital audio. Other plugins provide graphical real-time analysis of digital audio.

5. I conducted field research at Stüdyo Sound, Yekâre, Kalan Stüdyo, Mavi Stüdyo, Ömer Avcı's home studio, MIAM, and two now-defunct studios: Stüdyo Sistem and ZB Stüdyo; at record labels Kalan, Lizge, and Metropol; at the film production company Beşiktaş Kültür Merkezi; and at the distributor Esen Electronics.

6. Other instruments such as the long-necked *bağlama* lute and the *askı-davul* double headed drum are less locally specific, and subsequently are employed in the considerable majority of arranged folk music recordings.

7. For a history of the Istanbul Radio branch of TRT, see Dinç et. al 2000.

8. The Köln and Istanbul events were organized respectively by the Almanya Alevi Birlikleri Federasyonu and the Alevi Bektaşi Kuruluşları Birliği (*Radikal*: Oct. 3, 2002).

9. There has been very little research examining twentieth century transformations in musical ensembles in Turkey. However, important parallels can be drawn with Arzu Öztürkmen's work

on the modernization of Turkish folk dance that transpired during the same years (Öztürkmen 1993, 2002).

10. The only extant statistics, collected by Mü-Yap (the acronym for the Bağlantılı Hak Sahibi Fonogram Yapımcıları Meslek Birliği, or Turkish Phonographic Industry Society), track the number of Bandrol stickers assigned to particular releases, and therefore the number of copies legally manufactured. Şevval Sam's *Karadeniz* officially ranked 22nd for domestic pressings in 2008 (Mü-Yap 2008). Hüsnü Şenlendirici's *Hüsn-ü Klarnet* and Volkan Konak's *Mora* officially ranked 17th and 25th in 2007 (Mü-Yap 2007). Kazım Koyuncu's *Hayde* and Kardeş Türküler's *Bahar* ranked 53rd and 103rd in 2005 (Mü-Yap 2005a). Aynur's *Keçe Kurdan* and Fuat Saka's *Lazutlar Livera* ranked 74th and 101st in 2004 (Mü-Yap 2004). Equivalent statistics prior to 2004 are not available.

11. The idea of a Karadeniz "genre" is very recent, arising only in the late 1990s with a flurry of releases of stylistically dissimilar arrangements of traditional songs from localities in the provinces of Trabzon, Rize, and Artvin. Kazım Koyuncu's innovative *Laz rock* was a fusion of psychedelic rock, world music, but most importantly local folk songs sung in the Turkish, Lazuri, Hemşince, and Georgian languages. Another was Fuat Saka's *Laz caz* (Laz jazz). Groups such as Kardeş Türküler and Grup Yorum explored pan-Anatolian fusions, while artists such as Birol Topaloğlu cultivated a more overtly "folkloric" aesthetic. Although all these examples can be found in the "Karadeniz" bin of music stores, and all are arranged musics prominently featuring local instruments, they have divergent aesthetic orientations.

12. In a multi-room studio, the *tracking room* is a sound-isolated environment where musicians are recorded. The *control room*—where audition, mixing, and other engineering-specific work takes place—is "connected" to the tracking room visually through a double-paned window, and audibly through headphone and microphone feeds.

13. I conducted interviews with some of the most active studio musicians, including Ertan Tekin (*mey, zurna, balaban*), Eyüp Hamiş (*zurna*, *kaval*), and Engin Arslan (*saz, tanbur, cümbüş*). All mentioned a considerable increase in demand for their studio work during the last few years. Necat Özgür, the primary studio garmon player, told me after a session that though there was no demand for garmon studio musicianship until the early 2000s, he now could make a living solely from studio work.

14. Edward Kealy's writings on "thickness" in rock 'n' roll drum recording (1982), Emily Thompson's study of the "fidelity" of audio recording in the late nineteenth to early twentieth century (1995), Thomas Porcello's consideration of the aesthetic of "liveness" in Austin rock recording (2005), and Fredrick Moehn's investigation of liveness in Brazilian samba recordings (2005) exemplify this analytical mode.

15. This mode is commonly employed in popular music studies as part of an analysis of recorded artifacts. Examples includes Jay Hodgson's work on Pink Floyd mixing techniques (2007), Michael Veal's monograph on Jamaican dub production (2007), and David Toop's writings on ambient music (1995).

16. Hennion wrote about French pop music production that "the aim of the entire organisation of production is to *introduce the public into the studio* through various means" (Hennion 1983:189, emphasis in original). This project of *introducing* has expanded in scope during recent years among the transnational publics for English and French-language commodities.

17. The only time I heard lengthy conversation featuring the term parlak was during a session run by a *yabancı* (non-Turkish) engineer, when the arranger was noticeably unhappy with both the audible aesthetics and the communication problems with the engineer.

18. Personal communication, 10 April, 2007. Metin Kalaç is the best known mixing engineer for Karadeniz rock and popular music (including all of Kazım Koyuncu's albums), and has also mixed numerous Kurdish-language pop and rock albums.

19. To be clear, recording professionals are very much concerned with the aesthetics and quality of the products they create. It is specifically extraneous discussion about the work which is viewed as potentially uncomfortable.

20. I observed such "business mimesis" once during the Istanbul-based component of my field research. A new label formed through copying the administrative structure, office layout, logo, and album design of a fairly well known label. They chose the recording studio and personnel for their first productions strictly on the basis of information gathered from liner notes to albums released by the model label. I later learned that the label they copied had itself come into existence in the late 1990s by similarly copying Kalan Müzik Yapım, then regarded as the most successful independent label in Turkey.

21. I occasionally had the opportunity to measure the precise sound pressure output of headphones, and from the measurements I made, studio musicians routinely set the headphone amp volume to generate a constant 95–110dB of sound, a range capable of producing substantial hearing damage, and many times louder than the acoustic sound of Anatolian folk instruments.

22. I do not claim that mimeses result in exact or successful copies of original forms, nor that the spread of büyük ses and parlak has resulted in these aesthetics being constituted identically across multiple sites. Instead, by suggesting a "mimetic tendency" I am drawing attention to the greater value that is placed on mimesis and institutional isomorphism than that placed on organizational or aesthetic innovations.

23. Nationally known, living performers of local kemençe repertoires include Yusuf Cemal Keskin (from Dernekpazarı), Hüseyin Bıçak (Giresun), İlknur Yakupoğlu (Tonya), and Dursun Dereli (Of). Although artists such as these have made recordings, they are not primarily studio musicians, and are not actively engaged with multitrack studio work.

24. Selim Bölükbaşı has recently begun exploring a "*kemençe dörtlüsü*" (kemençe string quartet), and commissioned a kemençe maker to create a bass kemençe. *Bas kemençe* can be heard on Fatih Yaşar's debut album (*Kıyıların Ardı*), but to my knowledge no kemençe dörtlüsü live performances have yet happened. For more on Selim, see Şengün 2006a.

25. 14 ms is a shorter duration than a 128th note at this tempo.

26. Ömer Avcı was recently asked to mix a song with over 150 tracks for the new Kardeş Türküler album (Yılmaz Yeşilyurt, personal communication, 17 September, 2008).

27. Compression and peak-limiting refer to signal processing that reduces the dynamic range of audio, often for the purposes of making it seem "louder."

28. See Erickson 2005 for a firsthand account from Carol Kaye, the session bassist who performed in many of the wall of sound sessions.

29. There is a widely known set of plugin presets that circulated through the internet in 2005–7 that had been allegedly copied from the studio of Sezen Aksu, a famous Turkish pop star. Whether or not these plugin settings had ever been used for Sezen Aksu recordings, or if they really had come from that studio, is unknown. However, they were used in the creation of many subsequent recordings, at ZB and elsewhere.

30. Some engineers attain other kinds of distortion with plugin EQs. I found that it was commonplace (though not necessarily intentional) for engineers to overload EQs, resulting in digital clipping of the waveform (akin to the sound of setting the input too high on a digital field recorder). Although phase distortions occur in nature, digital distortions are entirely artificial, and to the best of my knowledge have not been employed in acoustic music production elsewhere, although they are common in death metal and extreme noise genre recordings.

References

Bates, Eliot. 2008. "Social Interactions, Musical Arrangement, and the Production of Digital Audio in Istanbul Recording Studios." Ph.D. dissertation, University of California, Berkeley.

Brannan, Matthew, Geoff Pearson, and Frank Worthington. 2007. "Ethnographies of Work and the Work of Ethnography." *Ethnography* 8(4):395–402.

Brinner, Benjamin Elon. 1995. *Knowing Music, Making Music: Javanese Gamelan and the Theory of Musical Competence and Interaction.* Chicago: University of Chicago Press.

Dinç, Ayhan, Özden Cankaya, and Nail Ekici, eds. 2000. *İstanbul Radyosu: Anılar, Yaşantılar*. Istanbul: Yapı Kredi Kültür Sanat Yayıncılık and TRT.
Erickson, Jon. 2005. "Carol Kaye: Session Bassist Extraordinaire." *Tape Op* 45:42–45.
Greve, Martin. 2006. *Almanya'da "Hayali Türkiye" nin Müziği*. Translated by S. Dingiloğlu. Istanbul: Bilgi Üniversitesi Yayınları.
Hennion, Antoine. 1983. "The Production of Success: An Anti-Musicology of the Pop Song." *Popular Music* 3:159–93.
Higgins, Allen. 2007. "'Code Talk' in Soft Work." *Ethnography* 8(4):467–84.
Hodgson, Jay. 2007. "Outline for a Theory of Recording Practice with Reference to the Mix for Pink Floyd's 'Speak To Me' (1973)." *Art of Record Production* 1(i).
Horning, Susan Schmidt. 2004. "Engineering the Performance: Tacit Knowledge and the Art of Controlling Sound." *Social Studies of Science* 34(5):703–31.
Kealy, Edward R. 1979. "From Craft to Art: The Case of Sound Mixers and Popular Music." *Sociology of Work and Occupations* 6(1):3–29.
———. 1982. "Conventions and the Production of the Popular Music Aesthetic." *Journal of Popular Culture* 16(2):100–15.
Moehn, Fredrick J. 2005. "'The Disc Is Not the Avenue': Schismogenetic Mimesis in Samba Recording," in *Wired for Sound: Engineering and Technologies in Sonic Cultures*, edited by P. Greene and T. Porcello, 47–83. Middletown, CT: Wesleyan University Press.
Öz, Özlem. 2004. *Clusters and Competitive Advantage: The Turkish Experience.* New York: Palgrave Macmillan.
Öztürkmen, Arzu. 1993. "Folklore and Nationalism in Turkey." Ph.D. dissertation, University of Pennsylvania.
———. 2002. "'I Dance Folklore.'" In *Fragments of Culture: The Everyday of Modern Turkey*, edited by D. Kandiyoti and A. Saktanber, 128–46. London: I.B. Tauris & Co.
Picken, Laurence Ernest Rowland. 1975. *Folk Musical Instruments of Turkey*. London: Oxford University Press.
Porcello, Thomas. 2004. "Speaking of Sound: Language and the Professionalization of Sound-Recording Engineers." *Social Studies of Science* 34(5):733–58.
———. 2005. "Music Mediated as Live in Austin: Sound, Technology, and Recording Practice," in *Wired for Sound: Engineering and Technologies in Sonic Cultures*, edited by P. Greene and T. Porcello, 103–17. Middletown, CT: Wesleyan University Press.
Radikal. 2002. "Gelin Canlar Bir Olalım." *Radikal*, Kültur/Sanat section, Oct. 3, 2002.
Stokes, Martin. 1992. "The Media and Reform: The *Saz* and *Elektrosaz* in Urban Turkish Folk Music." *British Journal of Ethnomusicology* 1:89–103.
Şengün, Meftun. 2006a. "Selim Bölükbaşı ile Baş Başa." *Serander.net Karadeniz Kültürü*, Röportajlar section, Aug. 25, 2006. *www.serander.net/content/view/98/388/*
———. 2006b. "Kemençe Sanatçısı Tahsin Terzi ile Söyleşi." *Serander.net Karadeniz Kültürü*, Röportajlar section, Dec. 6, 2006. *www.serander.net/content/view/175/388/*
Tekelioğlu, Orhan. 2001. "Modernizing Reforms and Turkish Music in the 1930s." *Turkish Studies* 2(1):93–108.
Thompson, Emily. 1995. "Machines, Music, and the Quest for Fidelity: Marketing the Edison Phonograph in America, 1877–1925." *Musical Quarterly* 79(1):131–71.
Toop, David. 1995. *Ocean of Sound: Aether Talk, Ambient Sound and Imaginary Worlds*. London: Serpent's Tail.
Tope, Daniel, et al. 2005. "The Benefits of Being There: Evidence from the Literature on Work." *Journal of Contemporary Ethnography* 34(4):470–93.
Uncu, Ülker. 2008. "Şarkılar Kardeşlik Yollarında," in *Kardeş Türküler: 15 Yılın Öyküsü*, 1–97. Istanbul: BGST Yayınları.
Veal, Michael E. 2007. *Dub: Soundscapes and Shattered Songs in Jamaican Reggae*. Middletown: Wesleyan University Press.

Industry Statistics

Note: all are published by Mü-Yap (the Bağlantılı Hak Sahibi Fonogram Yapımcıları Meslek Birliği).

Mü-Yap. 2004. "En Çok Bandrol Alan İlk 200 Yerli Albüm."
———. 2005a. "01.01.2005–31.12.2005 Tarihleri Arasında En Çok Bandrol Alan İlk 200 Yerli Albüm."
———. 2005b. "Üye Firmaların 01.01.2005–31.12.2005 Tarihleri Arasında Almış Oldukları Bandrol Sayıları."
———. 2007. "Mü-Yap 2007 Müzik Ödülleri Dağıtıldı."
———. 2008. "2008: En Çok Bandrol Alan İlk 100 Yerli Albüm."

Discography

Aynur. *Keçe Kurdan*. Kalan Müzik Yapım, 2004.
Kabaosmanoğlu, Yaşar. *Rakani*. Metropol Müzik Üretim, 2006.
Konak, Volkan. *Mora*. Doğan Müzik Yapım, 2006.
Koyuncu, Kazım. *Hayde*. Metropol Müzik Üretim, 2004.
Kardeş Türküler. *Bahar*. Kalan Müzik Yapım, 2005.
Saka, Fuat. *Lazutlar Livera*. Artvizyon Müzik Film, 2004.
Sam, Şevval. *Karadeniz*. Kalan Müzik Yapım, 2008.
Şenlendirici, Hüsnü. *Hüsn-ü Klarnet*. Doublemoon, 2005.
Yaşar, Fatih. *Kıyıların Ardı*. Kalan Müzik Yapım, 2008.