

From Audiation to Yukpo: Vocalizations in World Instrumental Traditions

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In the classic film The Sound of Music, Maria offers this advice to the Von Trapp children: “Now children, *do re mi fa so* and so on are only the tools we use to build a song.” Indeed, the solfege syllables used by Maria and the children with great panache are a cornerstone of music pedagogy in the Western Art Music tradition, a learning tool that activates the listening ear, the vocal-productive skills, and the cognitive processes, and which directs musicians towards understanding the iconic figures of notation, for both vocalists and instrumentalists. The adoption of solfege into pedagogical use in a system known as solmization dates to a proposal by eleventh-century monk Guido of Arezzo in which the first syllable of each line of music to an eighth-century hymn is used as a mnemonic for the scale tone on which it is sung (Miller 1973). Solfege, also known by such names as solfeggio and Tonic Sol-Fa, turns everyone into a singer, lifting their voices to convert graphic figures and gestures into a stream of sung pitches. Now used widely in instructional practice and prominent in published teaching (and student) materials, Guidonian solfege serves a variety of purposes for singers as well as for players of piano as well as various band and orchestral instruments. The syllables themselves are semantically meaningless and could easily be replaced by others with a similar effect (though Maria may have to rewrite the words to her song), but the long-standing tradition of do-re-mi-fa-sol-la-ti-do is holding firm in the West, with every indication that it will be continued for the foreseeable future.

Western Art Music is not the only tradition to have adopted a set of vocalizations

for pedagogical use with instrumentalists. Many of the world's cultures have in place systems that direct players to sing as a pathway to musical learning, though these systems vary greatly in formality and complexity. In fact, while it is rare to find a complete rationale or even an origin story for such vocalizations (as in the case of Guido's eighth-century hymn), scholars have discussed vocalization systems that address pitch, rhythm, timbre, contour, and many other factors not present in Guidonian solfege. These systems from musical traditions of many of the world's cultures may tell a great deal about those musical traditions, even if they are rendered unconsciously.

Studying such systems of vocalization can be troublesome when vocables are used solely in instrumental music lessons, as formal performances are not likely to include their use and there may be little in print that describes them. The use of the solmization system of solfege syllables is only a small component of the ethnographies of musical cultures, and has rarely been investigated exclusively. Even rarer are studies comparing their use across the world. The purpose of this paper is to compile and determine the functions and purposes of the use of singing – specifically, the singing and chanting of semantically meaningless vocal syllables – in the formal lessons offered by musicians of selected instrumental art traditions of the world's cultures.

Vocalization in Western Instrumental Music

The evidence is plentiful in documentation of the use and effectiveness of solfege in Western art music traditions, including its presence in formalized institutions such as schools, conservatories, and in university courses. This may be related to the intellectual and sociocultural processes that underpin musical learning in the West. Grutzmacher (1987) found that a school program of instrumental study that included vocalization was

more effective at teaching technical skill and conceptual understanding to fifth- and sixth-grade instrumental students as compared to instrumental practice alone. Similarly, Sheldon (1998) found that the study of sight singing of excerpts from relevant band literature and the use of solfege had a positive effect on an important dimension of musicianship: the ability of undergraduate music majors to identify errors in instrumental music excerpts. In both of these studies, no inherent value is ascribed to the semantic meaning of the syllables themselves; rather, the sung syllables are important to the understanding by students of the contextual value of the pitches within the tonal system. This research is further supported by Goolsby (1996), who observed that effective music teachers employed all varieties of vocal modeling with greater frequency than inexperienced teachers. The intentional use of vocalizations in instrumental music instruction in the West is in no doubt due to its efficacy in developing musical understanding and skills, particularly connecting the listening ear to what is visualized in printed staff notation.

Popular approaches to music pedagogy put the principle of vocalization to use in instrumental (as well as vocal) settings. The Kodaly concept, a thorough-going training that features sung solfege in the sequential development of inner hearing, is highly regarded for its pathway to music literacy (Choksy 1999), and the eurhythmic movement of the Dalcroze method embraces solfege (and solfege rythmique) as a critical component of musicianship training (Mead 1994). Followers of Edwin Gordon and his Music Learning Theory advocate for the use of vocables in teaching not only pitch relationships through solfege but also rhythmic relationships. Walters and Taggart (1989) expounded on this idea and its applications to the teaching of instrumental music,

elementary general music, the piano, and jazz. Grunow and Gordon's (1995) instrumental method books *Jump Right In* are an example of solmization in practice, as they employ Gordon's concept of audiation (inner hearing) which relies upon vocalizing musical ideas such as rhythms, solfege syllables, and rote songs. Other authors, including Dalby (1999), Robinson (1996), and Schleuter (1984) discussed the practical application of the use of vocalization (as advocated by Gordon's theory) in beginning and intermediate band and orchestral classrooms. Howard's (1996) proposals for integrating solmization into instrumental music lessons are similar, though Kodaly-based in their emphasis on folk music, kinesthetic mnemonics (i.e. the Curwen hand signs), and canons.

Vocalization in World Instrumental Music Traditions

These examples of the use of vocalization in instrumental music education programs in Western culture have been proposed for similar purposes, generally as an aid to understanding and retention of pitch relationships and rhythmic patterns, occasionally containing information on contextual tonal meaning and stylistic interpretation.

Elsewhere in the world, instrumental music practice involves systems of vocalization that affirm these purposes, as well as to introduce other reasons for its presence in the musical training. The role of vocalization as a mnemonic device for various musical elements is central to its use in music in and beyond the West.

Mnemonic Aids

In his encyclopedic entry to the authoritative Grove Music Online, Bent (2010) defines the concept of notation to include "formalized systems of signalling between musicians, and systems of memorizing and teaching music with spoken syllables, words or phrases" (§ 1). This definition is broad enough to encompass both visual systems of

notation (such as the Western staff notation) and aural systems such as solmization.

While the practice of visual notation is common in some traditions, aural processes without associated visual icons function well in other traditions as effective means of transmission. Words or syllables, with and without semantic meaning, can function as critical memory aids for learning and retaining music. Chiener (2002) provided an example of this in the *nanguan* music of Taiwan, when he noted that the memorization of song texts is a crucial step in the acquisition of a sufficient body of instrumental repertoire within this delicate and gentle chamber music genre. Comprising the *nanguan* ensemble are *pipa* (four-stringed lute), *sazian* (two-stringed lute), *erxian* (two-stringed fiddle), *xiao* (flute), and a wood clapper. Originating in the southern Chinese province of Fujian, *nanguan* requires the oral transmission of these song texts from masters to disciples (with the aid of handbooks) (Yeh 1988). The song texts are placed in right-to-left columns on a page, joining indications for beat, pitch, and fingering, and these four elements are presented orally by the teacher and are thus memorized by the players (see Fig. 1)



Fig. 1: Example of Nanguan song text

Whereas memorization in nanguan music relies upon a system of vocalization in which the syllables have inherent meaning, Anderson (1980), Ruckert (2004), and Allen and Viswanathan (2005) discussed the importance of rote memorization (aided by a vocalization system in which the syllables are semantically meaningless) in the Hindustani and Karnatic musical systems of North and South India. In these traditions, the practice of singing precedes the development of instrumental performance on *sitar*, *sarod*, *vina*, *shenai*, and *bansuri* in Indian classical music, where there exists no comprehensively meaningful system of written notation.

Mnemonics by vocalization can take many forms, and there exist various

vocalization systems around the world that aid in the memorization of specific elements of music. Perhaps the simplest form of this is the transmission of melody. Koning (1980) described the use of an Irish technique called *jigging* in which the student invents nonsense syllables on which to echo an instrumental melody. The syllables themselves may change from iteration to iteration, and yet while they are often neither discernible bits of Gaelic or English language, they provide simple verbal building blocks for the transmission (preservation) of instrumental melodies commonly played on fiddle, flute, and bagpipe. To the southeast of Ireland, *gajda* (bagpipe) players in Bulgaria learn their melodic repertoire from each other in ways similar to the Irish, by whistling or repeating melodies on improvised nonsense syllables like “ta-da” (Rice 1994). A further geographic distance away, the Shona *mbira* players of Zimbabwe employ many styles of singing while playing, some of which – *huro*, for example – are direct imitations of instrumental motives improvised by other musicians in concert (Berliner 1981).

Melody is often closely linked to its tonal context and that of its accompaniment. Like the standard solfege system in the West which includes not only the pitch-class of the melodic notes (do-re-mi-fa-sol-la-ti) but also an inferred relationship to chordal harmony, the *sargam* of Indian classical music links specific syllable names (correspondingly, sa-re-ga-ma-pa-dha-ni) to specific notes within the context of a *raga*, which is a concept that lies somewhere between a scale and “a storehouse of remembered melodic history and a body of melodic potential” (Allen and Vishwanathan 2005, 42).

In contrast to the association of mnemonic syllables with absolute pitches as in *sargam* and solfege, there exist many systems of equal complexity that treat melodic content according to its contour. Campbell (1991) outlined a medieval Japanese

symbology that contains only pitch contours in which it is impossible to reconstruct a melody from written sources, and oral transmission – by the use of such syllables – is therefore the only way to communicate musical material accurately. Research by Hughes (2000) on the subject of sung and rhythmically chanted syllable systems is richly descriptive. He referred to more than a dozen “acoustic-iconic mnemonic systems” of various levels of complexity that employ the technique of raising vowel formant with pitch contour, including systems from Scotland, Lesotho, Thailand, and Korea.

Like Gordon's Music Learning Theory method that links rhythmic patterns to mnemonic syllables, various world traditions utilize vocalization systems that contain rhythmic information (Campbell 1991). These systems are fully enveloped within processes for learning to play *tabla* (Ruckert 2004), the *mridangam* drum of the Karnatic Indian tradition (Allen and Vishnawathan 2005), the Irish *bodhran* (Williams 2009), drums and gongs of the Korean *samulnori* (Howard 2005), and the Egyptian tambourine known as *riqq* (Sawa 1996). In India, for example, students vocalize rhythmic patterns with specific syllables to coincide with the structure of the *tala*, or metric cycle (Gottlieb 1993, Ruckert 2004). Hughes (1991) described various aspects of the Korean *yukpo* mnemonic language, in which, lacking a strict one-to-one relationship between syllables and note lengths, certain vowels tend to signify shorter sounds while others represent longer ones.

Accents are often components of information on rhythmic patterns that are delivered orally. Some mnemonic systems include information specifically reflecting the stress of a given sound. Campbell (1991) outlined a system in Malawi (further detailed by Kubik 1987) in which certain hard consonant sounds represent accented notes, similar

to a system Kwami (1998) identified amongst Ewe drummers in Ghana. Hughes (2000) also recognized this principle in practice in the performance of “wind instruments, (in which) initial consonants generally mimic the attack or onset of a pitch” (96). For example, the *shoga* (oral mnemonic system) for the Japanese *ryuteki* flute often uses the syllable *ta* for stressed notes while unstressed notes are represented by the syllables *ra* or *fa*. Similar systems operate for the Brazilian *berimbau* (in the representative syllables *don* and *chin*) and for the Middle Eastern *doumbek* (similarly, *tek* and *dum*).

Many of these mnemonic systems for conveying rhythm and accent in drumming also contain information on articulation, timbre, and tone quality. In writing about temple drumming in Kerala, India, Groesbeck (2003) outlined the mnemonics for the six possible drum strokes, onomatopoeically related to the sounds they create. Kwami (1998) listed a similar catalogue of vocalized drum strokes amongst Ewe drummers in Ghana. This phenomenon is not limited to percussion instruments, however. For example, the *yukpo* mnemonic systems in Korea vary between instrument types based on the sound emitted by each instrument, depending on the type of attack and decay (Hughes 1991). It is therefore possible to determine the instrument for which a song is intended by listening only to a vocalized version, such as the percussive sounds of the plucked zither *yukpo* system’s featuring of *tang* and *ching* syllables versus the liquid sounds of the oboe *yukpo* system’s use of *re* and *na*. The informal rules governing consonants that represent techniques for tonguing Korean flutes and playing single notes versus chords are similar to those utilized in playing Japanese *shamisen* (three-stringed lute) and Javanese *kendhang* drumming.

Mnemonic vocalization systems can convey both musical and extramusical

meaning. In his study of learning processes in the Taiwan *nanguan* ensemble, Chiener (2002) noted the importance of gesture, both as an aid to and a product of memory. Rules of equal complexity dictate the gestural counting of the beat and the reciting of the mnemonics. The skill of a *nanguan* musician can be judged by his or her physical reaction to observed music, such that extremely skilled audience members can make their abilities known to the performers on stage simply by accurately tapping their feet in counting the progress of the music. This is similar to the keeping of the metric *tala* cycle in Indian classical music, which has a wide gestural vocabulary of finger, hand, and wrist maneuvers that act as reinforcement of the often obscured beat and can help identify musicians who are in the know (Anderson 1980). Russian and Lithuanian women take dance cues from verbal imitations of song melodies, and often times the dancing aids in rhythmic unification through the women's accented stomping patterns (Zarskiene 2003).

The rare phenomenon of the Lithuanian *skuduciai* music is perhaps one of the most striking examples of the role of vocal mnemonics in the process of learning and performing. Here, the sound of the pipe is produced by uttering certain vocalizations. It is therefore impossible to play without simultaneously singing semantically meaningless syllables, which are then used to teach the songs in the absence of the pipes (Zarskiene 2003). These *skuduciai* consist of grass-like reeds, but may be made of wood, too. They are still played outdoors while going to work, during night watches of grazing horses, and at work with bees, always with players vocalizing directly into the pipes.

Finally, these vocalizations can be used as a memory aid not only for the content of the music but also for the style in which it is played. In his classic tome on jazz musicians, Berliner (1994) described a musical conversation in which the teacher, an

accomplished drummer, used various “scat” syllables to convey to his student the intricacies of a recording. By riffing and improvising on the thematic material at hand, the teacher and student were able to absorb the musical ideas and their potential variations, and thus to work within one of the core components of jazz style: improvisation.

Implicit Learning

The example of scat-style vocalization in jazz forms a segue into the second broad category of the uses of vocalizations in instrumental music traditions. While oral mnemonics are used explicitly to teach and remember key aspects of music performance (e.g. for pitch contour on the Korean flute, or for stick techniques in Indonesian drumming), these vocalizations often contain implicit information that is vital to the performer but not a function of the syllables themselves. In Berliner’s chronicling of jazz musicians, for example, the scat syllables are used explicitly to convey the style: “Some syllables enable them to imitate singular qualities of different instruments” (126), since the “b” and “p” sounds accurately mimic a saxophone reed beginning to vibrate, while “d” and “t” sounds are formed just as one would tongue a trumpet or trombone (Stewart 1987). Additionally, the student in the musical conversation learns to improvise variations on rhythmic phrases through use of scat syllables. This information is not contained in the syllables themselves, but is a natural result of their correct and continued use.

Chiener (2002) summarized this principle succinctly, writing that “authoritative learning processes [like rote repetition and memorization of examples performed by the teacher] limit the student's acquisition of theoretical concepts that stand free of specific

repertoire. Teachers presume that learning is a process of memorizing one piece after another. Although they have theoretical knowledge, it is a knowledge that is not ordered into abstract, generalized discourses but is implicit within musical content” (119). Vocal syllables, therefore, can also teach theoretical knowledge implicitly through these authoritative pedagogical techniques or other means.

As seen in Berliner’s account of scatting by the jazz teacher and his student (Berliner 1994, 109), the ability to improvise is a common outcome of this vocalization technique. A similar practice is central to Hindustani conventions of improvisation, or *manodharma sangita* (Campbell and Teicher, 1997). Once Indian musicians achieve fluency with the *sargam* syllables, they progress to a study of vocal improvisation, using scale-degree labels as the verbal content (Anderson 1980). Both vocalists and instrumentalists study improvisation by echoing phrases sung by the teacher until the composition process itself is familiar and accessible. This process leaves the student with the ability to improvise as well as to perform memorized *ragas* with correct stylistic ornamentation. Wade (1984) enumerated six forms of improvisation within the classical Hindustani genre *khyāl*, two of which utilize non-syntactic vocables: “*Sargam* passages are those enunciating the syllables for the pitches (Sa Re Ga Ma Pa Dha Ni) as they are sung...*Nom-tom* features rhythmic pulsations, achieved by pitch repetition, particular ornamentation, and enunciation of text syllables, vocables, or vowels.” (27)

Improvisation can be taught through similar processes whether or not it is explicitly embraced in the musical culture. Jazz musicians like Louis Armstrong generally subscribe to the belief that “If you can’t sing it, you can’t play it” (Berliner, 1994), inferring that vocal learning must precede instrumental learning for the purpose of

improvisation. On the other hand, Groesbeck (1999) described the pedagogy of *Tayampaka* temple music in Kerala, India: “In a performance which consists almost entirely of improvisation, improvisation is generally not taught, and discouraged among students; some older informants even remembered times in which students were beaten with sticks or canes for improvising” (9). Instead, students learn preset forms that are combined according to orthodox rules until the student achieves a level of mastery sufficient to create his or her own forms.

Similarly, Nooshin (1998) described the role of improvisation in Iranian classical music in this manner: “One of the most striking aspects of learning in this tradition in which improvisation plays such a central role is that pupils are not actually taught how to improvise as such” (73). By learning to sing short set pieces called *gushehs*, musicians learn improvisational competence. This process of abstracting stylistic elements from a canon (known as *radif*) of hundreds of pieces is an example of theoretical knowledge taught implicitly, exemplified in a remark made to Nettl (2002) by his teacher: “We do not teach improvisation. You learn the *radif*, and it teaches you to improvise” (140). Additionally, the art of improvisation is inseparable from the teaching and learning of the canonic musical material. Though the *gushehs* have a set melodic structure, they are always performed with creative variations bordering on improvisation, even as they are being demonstrated and repeated by teacher and student. As Nettl (2009) wrote, “the *radif*...is memorized, but structurally it cannot in essence be distinguished from the improvisation that is based on it” (197).

In Iran, the *radif* is organized into twelve modes (*dastgahs*), each of which contain hundreds of micromelodies known as *gushehs* that are fit for improvising upon

(Nettl 1987). While the *radif* (which has its roots in Persian poetry and oratory, hence its vocal emphasis) is the central organizing principle of both the instrumental lessons and the performances of the genre, it is only taught implicitly, through the *dastgahs* and *gushehs* (Nooshin 1998). Other traditions transmit the entirety of the instrumental canon through vocal means in similar ways. For example, the instrumental *gharana* tradition of Pakistan consists of an overarching canon of works possessed by groups of families (*biradari*), each of which transmits pools of specific musical ideas (Silver and Burghardt 1976); such a tradition exists also in India (Neuman 1990). The ideas within these *gharana* traditions are generated vocally and transmitted instrumentally. The music of the Ashkenazic Jews, on the other hand, is also informed by a liturgical canon consisting of prayer melodies and Biblical cantillations (Heskes 1984). The rules, styles, and motifs of the liturgical canon inform the Ashkenazic Jewish instrumental form of *klezmer*, which also derives much of its material from secular sources. Though *klezmer* is primarily an instrumental form, the transmission of religious material in synagogues and prayer sessions – some with words, as in prayer texts, and some without, such as *nigunim*, or sacred table songs – serves to preserve the raw material of this genre.

Prayer texts, of course, are not without contextualized cultural meaning. Often the instrumental adoption of modes used during specific services or times of the year can communicate special emotions to Jewish listeners who are attuned to the context of the motifs and melodies (Heskes 1984). This phenomenon is similar to the use in Nigeria of tonal levels in the Yoruba *dundun* (talking drum) language, including “linguistic tones, vowel sounds, consonant distinctions, and grammatical constructions.” (Manuel and Fiol 48) While the drum is used in a musical context, the meaning it evokes is based directly

upon its resemblance to the tonal nature of the Yoruba language (Waterman 1990). This is the reverse of vocal syllables as semantically meaningless signposts to musical ideas: Yoruba drumming is a semantically meaningful musical signpost to verbal ideas. Finally, the hocketing of vocal syllables integral to the production of tone in Lithuanian panpipe music functions as an indicator of group membership (Zarskiene 2003). As a single musician's part to a song is meaningless unless performed in the context of the others, these mnemonic devices only work as such when a full group of performers is present. Thus, it is the vocal syllables themselves that enforce group unity.

Other Uses of Vocalization for Instrumental Musicians

In addition to explicit mnemonic uses and implicit teaching, vocalizations are used for several other reasons in instrumental music pedagogy worldwide. In many traditions, these vocalizations are used as aids to performance and rehearsal efficiency and unity. Hughes (2000) observed the use of vocal syllables as shortcuts to selecting places to start rehearsals or practice sessions in Japan: "When a teacher wishes to direct a student's attention to a particular passage...this can be done by saying, 'Start again from [chichitetsuton]', without actually singing the pitches" (116). Maori chant employs a similar practice in order to synchronize musicians during performances. To cue a phrase ending, the song leader might add a non-translatable vocable such as "i" or "e" to the end of the preceding line as a signal to the instrumentalists (McLean 1968, McLean 1996). Similarly, Lithuanian and Russian pipe players' hocketed vocalizations serve to keep all musicians aligned in time (Zarskiene 2003). Shona *mbira* players in Zimbabwe take an opposite approach, setting their *mbira* patterns to nonsense syllables sung to signal a point of departure for an improvisatory section (Berliner 1981). Hughes (2000) described

an example of vocal syllables, aligning the three different instrument parts to be played by one musician: “Consider how villagers in Iwate, northern Japan, learn the ‘Devil Sword Dance’ (*oni kenbai*). While dancing, the student simultaneously sings [*den suko den den ...*] – the combined mnemonics for stick-drum and cymbals – to the tune of the flute melody, thus learning the dance and three instruments all at once” (117).

Unsurprisingly, oral mnemonics in music are often closely related to language. Kwami (1998) wrote of specific connections between drum-language syllables and Ewe language phrases, reminiscent of the syntactic meaning of *dundun* drumming in Yoruba culture (Campbell 1996, Manuel and Fiol 2007). Nooshin (1994) mentioned the “intimate relationship” between the logic of musical phrases and the syntax of sentence structures in Iranian music and Farsi. Indeed, the poetic structure of the music is so important in the *pin peat* ensemble music of Cambodia that vocables are added to the end of many vocal phrases in order to balance the meter of the lyrics, thereby altering the structure of the melody (Sam 1988). Zarskiene (2003) delineated the differences in vocal syllables used in the production of panpipe music in the Baltic regions based on the dialects spoken by the musicians, which persist even though all vocables arose from imitations of the same instrumental tones.

In fact, Baltic panpipe music is a prime example of a genre in which the system of vocal syllables is a direct outgrowth of the instrumental tradition that it imitates; this is not always the case in other traditions. Ramnarine (1996) profiled the adoption of the *kantele*, a once uncommon stringed folk instrument, by the Finnish school systems to teach the national epic (the Kalevala), which is a lengthy poem of interwoven storylines featuring a cast of players that has been set to music. Hughes (1991) described a

sixteenth-century Korean manuscript containing several vocal songs (playable on modern Korean instruments) that encompass non-translatable vocables that are likely examples of archaic *yukpo* – the Korean solmization system for relative pitch used for teaching flute melodies. This is potentially an example of an instrumental song influenced by vocal syllables which, in turn, originated in an instrumental tradition!

Such interrelationships between vocal and instrumental music forms may, in fact, be the reason for the continued survival of the musical content of particular genres over long periods of time. Tari (1998) argued that the longevity of certain musical traditions in northern Hungary is in part based on the interconnectedness of the vocal and instrumental traditions and the customs that both accompany. Even when elements of these customs are lost, as in the case of the original flute melody of the Korean song, the ability of a melody to transform across vocal/instrumental boundaries can be central to its survival: “A tune leaving its original custom often survives in another function. E.g. it may live on as a simple lyrical song without any custom (modification), or turn into an instrumental dance tune (metamorphosis)” (Tari 1999, 98). Indeed, Sam (1988) contended that when oral transmission alone is responsible for maintaining a musical tradition, many pieces may be lost, as was the case in the Khmer classical court music tradition. Ramnarine (1996) echoed the importance of institutional support for folk traditions in Finland played on the *kantele* as the presence of Western classical music in the schools can otherwise replace and 'disappear' the transmission of folk music.

Conclusion

Singing (and references to it as a pedagogical technique called “vocalization” and its solfeging system of solmization) serves many roles in the transmission of instrumental

music. More than simply “the tools we use to build a song” as articulated by Maria von Trapp in The Sound of Music, these vocalizations can serve as oral mnemonics for musical elements from pitch and rhythm to accents, ornamentation, and style. Furthermore, the vocalizations employed by instrumentalists carry a great deal of implicit meaning within the specific culture in which they function, such as the transmission of a canon of musical knowledge, theoretical knowledge, and rules surrounding improvisation. Finally, these vocalizations play roles in rehearsing and perpetuating music and musical traditions in their middle ground between vocal and instrumental music. Examples of vocalizations abound, providing windows that offer views of the role of music in multiple cultures, including the connections between vocal and instrumental music, music and language, and music and culture. As Maria von Trapp might well remark, “when you know the solfege system of vocalizations to sing, you can indeed *play* most anything”.

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