Tonic, Final, *Kyū*: Tonal Mappings in the Meiji Period and Beyond

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> *The sound* kyū (宮)*, also known as "tonic," is used at the end of a piece and has the characteristic of controlling the will of the piece* (曲意)*, and if various scales define themselves by means of its position, it is extremely important to determine which sound in the tune is* kyū*. After* kyū *there is the sound* chi (徴)*, whose Western name is "dominant," and its nature resembles that of* kyū*.* (Uehara [1895] [1927] 1992, 41)[1]

SO writes Uehara Rokushirō in his *Zokugaku senritsu kō* (俗楽旋律考, "Thoughts on the melodies of vulgar/common music") of 1895, one of the most influential works of music theory to come out of Meiji-period Japan. It is one among many attempts to theorize his own people's music within the context of the European tonal system that had come rushing in along with so many other elements of Western culture when the US Navy Commodore Matthew Perry's black ships forced an end to Japan's Edo-period isolationism.[2] Uehara's discussion of tonics and dominants here seems to be an effort both to rehear Japanese music through the concepts of Western music and to understand the concepts of Western music through theoretical frameworks that had already existed in Japan before the Meiji Restoration (here *kyū* and *chi*). Like most other influential musicians of his time, Uehara had no interest in simply letting Western music supplant Japanese music entirely. Rather, his interest was in finding some way to let the traditions coexist, fuse, or map onto each other in some way—but this was no straightforward process, and disagreements inevitably rose as to what exactly the best mappings were.

The confusions that have arisen from these conflicting mappings are still with us today: much Japanese music that mixes elements from Japanese and Western sources can be difficult to describe using only one system, and to music analysts accustomed to Western frameworks, the use of multiple systems for the same piece can feel unfamiliar or uncomfortable. Richard Cohn (2012, 199–200), advocating for the viability of double syntax in heavily chromatic nineteenth-century music, writes that "claims of double syntax sit uneasily with postwar music theory's commitment to the idealist notion that a good composition resembles an organism in its indivisibility," and explains that there also exists a cognitive objection stating that our brains are incapable of processing such systemic multiplicity. The cultural gap that I shall be addressing here can raise additional concerns: to use too many concepts and terms that originate in Western music theory could seem to colonize Japanese

1. Unless otherwise noted, all translations are my own.
2. The black ships (*Kurofune*, 黒船) are a common symbol of this traumatic moment in history, to the extent that they were the subject and title of Yamada Kōsaku's 1940 opera *Kurofune*, which is generally acknowledged as the first Western-style opera in Japanese.

music too forcibly, while to use too many dating from pre-Meiji Japan on music that is full of Western elements would seem to deny the weight of Western influence on Japan since the 1860s.[3]

Through what follows, I would like to argue not only for the validity but also for the positive benefit of the mixing of analytical systems, which can reinforce and recontextualize each other just as the musical styles in question have done. The result can be messy, but the gains are worth the mess. To that end, I shall look at three Japanese writers on music in turn, each of whom had a different conception of Japan's native scales as well as different senses of how and whether they should be mapped onto Western tonality. They are, in order of the publication of their most significant treatises on music, Isawa Shūji (伊澤修二, 1851–1917), Uehara Rokushirō (上原六四郎, 1848–1913), and Koizumi Fumio (小泉文夫, 1927–1983).[4] Each understood the materials in question quite differently, and each had a deep influence on how Japanese musicians after them have conceived of their own country's music. Their diverse conceptions of mode can help us to analyze and understand Japanese music that makes use of such mixed content, not by filtering the Japanese and Western elements into separate boxes but rather by seeing how they act simultaneously and sometimes in unresolvable tension with each other. By extension, I hope to suggest that similar analytical processes can and should be brought to other traditions of music that do not sit tidily within a single well-theorized style, whether they lie across temporal boundaries, cultural-geographic ones, or both. Now, with more than half a century of distance even from the last of these theoretical writings, a synthesis of their diverse ideas may help us better understand the music that was conceived in the same environment of stylistic mixture that gave rise to these musical ways of thought. Before discussing their works, some background on Japanese music theory before the Meiji period and Isawa's treatise will be necessary.[5]

3. The way European and Japanese musics have blended here, especially in the context of colonialism and empire, calls to mind postcolonial theories of culture, most notably Homi Bhabha's understanding of "mimicry" and "hybridity" as discussed in his *The Location of Culture* (1994, 121–31, 159–63). Ryuko Kubota, however, has more recently put forth imperial Japan as one historical example that does not so easily work in Bhabha's framework. As she writes, "a dominant discourse about national identity was hybrid ethnicity rather than monoethnic purity, as it conveniently legitimated Japan's colonial control over East and Southeast Asian nations which consisted of diverse ethnic groups. . . . Far from being liberatory or celebratory, hybridity, when assigned a superior status, can become oppressive" (Kubota 2016, 480). In addition, Japan's status between 1868 and 1945 blurs the distinction between colonizer and colonized, because its own practice of empire-building across Asia was modeled after Western imperialism: being a colonizer was a result of its being spiritually colonized. Japan's music similarly played on both sides of this dichotomy at once. Bhabha (1994, 55) writes that "the meaning and symbols of culture . . . can be appropriated, translated, rehistoricized and read anew"—but how does this work when the very act of colonialism itself is the cultural object that has been appropriated, translated, rehistoricized, and read anew? Though Japan was never colonized, we can see in its music a version of the journeys undergone by what Frantz Fanon ([1964] 2003, 150) calls "the colonized intellectual, steeped in Western culture and set on proving the existence of his own culture." This of course is much too vast a topic to address fully in this article, but where relevant, I shall refer to musical tokens of this process as products of "translated imperialism."
4. For Japanese and Chinese musicians and scholars who have primarily worked in East Asia and written in Japanese or Chinese, I will write their names in East Asian order, i.e., surname first.
5. Because such a study will inevitably involve a great deal of terminology with which many Western music scholars may not be familiar, I have appended a glossary to the end of this article.

GAGAKU SCALE THEORY AND ITS CHINESE BASIS

The Meiji period was far from the first time Japan had undergone a process of absorbing and adapting foreign cultural elements. Like Buddhism and written language, music theory was brought over from China and Korea in various waves spanning the fifth through tenth centuries CE, along with some instruments and musical styles that were to become part of Japan's court-music tradition of *gagaku* (Endō, Sasamoto, and Miyamaru 2006, 14, 29). Until the Meiji Restoration, music theory in Japan was nearly always conceived of in relation only to *gagaku*, and not to the folk songs sung by ordinary people.

The Chinese tradition imported to Japan used a twofold system for naming notes. On the one hand, Chinese musicians had a twelve-tone chromatic scale derived from the already-ancient principle of *sānfēn sǔnyì* (三分損益),[6] much like the one that European musicians would derive about a thousand years later,[7] and they attached a specific two-character name to each of the twelve absolute pitch classes. On the other hand, they had a five-note system of movable solfège called the *wǔshēng* (五聲 or 五声),[8] which could overlay an anhemitonic pentatonic scale wherever in the twelve-tone framework it was placed (Hu 2019). To the extent that the Chinese *wǔshēng* is like European solfège, it most resembles movable *do* that uses *la*-based minor, not *do*-based minor: no matter how its modal center and/or final note changes, *gōng* (宮) is always the note with a minor third below it and two major seconds above it,

6. This principle is first detailed in Sima Qian's *Shǐjì* (史記, sometimes known in English as *Records of the Grand Historian* and dating to the beginning of the first century BCE), for which see https://ctext.org/shiji/lv-shu?searchu=%E4%B8%89%E5%88%86&searchmode=showall#result and https://ctext.org/text.pl?node=540723&searchu=%E4%B8%89%E5%88%86%E6%90%8D%E7%9B%8A&searchmode=showall&if=en#result. For this and any other unfamiliar terms, see glossary.

7. Ancient Greek and early medieval music theorists sometimes described a twelve-tone chromatic scale that may have been close to equal-tempered: Aristoxenus famously argued that the octave could be divided into six whole tones, a proposition vigorously opposed by scholars of a more Pythagorean bent, like Ptolemy (Barker 1984, 298–301), while Boethius's account of the *tonoi* ended up being passed via Cassiodorus to Aurelian of Réôme (Barbara Haggh-Huglo, email to author, August 12, 2018), whose fifteen *tonoi* are all separated by equal-size semitones (Gushee 1962, 2:25–27). By Aurelian's time, however, this type of ancient modal theory, especially any relation it may have held to practical music-making, was fast being lost, and it had essentially no bearing on the tradition of notated chant out of which came Guidonian hexachordal theory and Western music as we generally know it. The interest that Renaissance theorists like Vicentino and Spataro held in ancient Greek theory led them to equate their new forms of chromaticism with that of the ancient Greek chromatic and enharmonic genera (Hu 2013), but any connection through traditions of musical practice between the different meanings of chromaticism in these periods is dubious at best. For all practical purposes, a twelve-tone chromatic scale cannot be said to exist in the West until the seventeenth century at the very earliest, while the Chinese twelve-tone scale can be traced back at least as far as the bells found in the tomb of the Marquis Yi of Zeng, dated to the fifth century BCE. It has also been suggested (Cho 2010) that seventeenth-century Westerners may have initially picked up the idea of equal temperament thanks to the influence of the late-sixteenth-century Chinese music theorist Zhu Zaiyu.

8. The divergent state of Chinese character forms in modern Sinophone countries and in Japan causes inevitable awkwardness when one must use terms from both Chinese and Japanese, because the technicalities of different systems of simplification can cause words that are etymologically the same, and which would have been written in much the same way by all Chinese and Japanese speakers until the mid-twentieth century, to appear more different on the page than one may desire. In this article, because it is primarily focused on Japan, I use Japanese simplifications for all Japanese terms, and traditional characters for all Chinese terms, in every necessary case with a gloss that shows the Japanese equivalent, lest any reader think, for example, that 五聲 and 五声 indicate a wider difference than they do.

shāng (商) is always the note with major seconds both above and below it, and so forth.[9] The larger (minor-third-sized) steps are always those from *jué* to *zhī* and from *yǔ* to *gōng*, no matter where the scale starts and ends. See Figure 1, which aligns three different pentatonic scales on D.

The *wǔshēng* was imported to Japan wholesale in form, though not in function. In Japan, where *wǔshēng* is pronounced *gosei*, the five notes are called *kyū*, *shō*, *kaku*, *chi*, and *u*.[10] The differences went beyond mere pronunciation, however, for in Japan a fundamental change was made to the nature of the *wǔshēng*. Rather than a *la*-based-minor-like solfège wherein the same note name implies the same intervallic position within the pentatonic scale regardless of mode or final, Japan's *gosei* functions like *do*-based minor, wherein the final is always *kyū* and the intervals between notes of the same name change based on mode.

A likely reason for this change was that *gagaku* uses only two modes, which furthermore differ in only one place. This becomes quite evident if we line up the parallel *ritsu* (律) and *ryo* (呂) modes starting on the note *ichikotsu*, i.e., D, as in Figure 2. Because the only note that differs between these two modes is *kaku*, the third note, it may have seemed more logical to early Japanese *gagaku* musicians to privilege the parallel relationship between these modes

	***Gōng* mode**	***Shāng* mode**	***Yǔ* mode**
D	*gōng* (宮)	*shāng* (商)	*yǔ* (羽)
C		*gōng* (宮)	*zhī* (徵)
B	*yǔ* (羽)		
A	*zhī* (徵)	*yǔ* (羽)	*jué* (角)
G		*zhī* (徵)	*shāng* (商)
F♯	*jué* (角)		
F			*gōng* (宮)
E	*shāng* (商)	*jué* (角)	
D	*gōng* (宮)	*shāng* (商)	*yǔ* (羽)

Figure 1. A *gōng* scale, a *shāng* scale, and a *yǔ* scale, all beginning on D, demonstrating that the Chinese *wǔshēng* names reference the scale's intervallic relationships rather than its final.

9. Huang (2018) demonstrates the relation of this idea in China, especially when applied to heptatonic scales, to ideas brought over by the Kuchean scholar Sujivha.

10. Japan's names for the members of the twelve-tone chromatic scale are not directly derived from the Chinese note names. Tokita and Hughes (2008, 19–23) and Picken and Nickson (2000, 31–32) describe how they were derived from aspects of Chinese modal theory. Masumoto (2010, 196, 251) explains that their identification with particular Western pitch classes in modern temperament results primarily from similarity of absolute frequency. Below, I touch on the notational conveniences afforded by these equivalencies.

	Ichikotsu ritsu	***Ichikotsu ryo***
D	*kyū* (宮)	*kyū* (宮)
B	*u* (羽)	*u* (羽)
A	*chi* (徵)	*chi* (徵)
G	*kaku* (角)	
F♯		*kaku* (角)
E	*shō* (商)	*shō* (商)
D	*kyū* (宮)	*kyū* (宮)

Figure 2. A *ritsu* scale and a *ryo* scale, both beginning on D, demonstrating that the Japanese *gosei* names reference the scale's final rather than its intervallic relationships.[11]

rather than the relative relationship, the latter of which would have seen the two modes as rotations of the same scale. Under a hypothetical relative-mode-based framing, which would align with the Chinese use of the *wǔshēng*, the *ritsu* scale would begin on the *ryo*'s *chi*. The parallel-privileging *do*-based-minor-like system shown in Figure 2, however, has been in place for long enough that the rift between the Chinese and Japanese uses of the same solfège characters has become an entrenched fact on top of which all later developments depend (Tokita and Hughes 2008, 19).

Because Chinese music theorists recognized a twelve-tone chromatic scale in addition to their rotatable pentatonic scale, they also naturally enough observed that the two larger steps in pentatonic space could be filled in with extra notes to create a heptatonic scale, which ends up resembling the Western diatonic scale. As Huang (2018) explains, there was some debate at the late-sixth-century Sui court regarding exactly which notes should fill the gaps. Between *yǔ* and *gōng* they seemed to agree that *biàn gōng* (變宮 or 変宮, literally "changed *gōng*") should be a semitone below *gōng*, but the note between *jué* and *zhī* caused more trouble. Zheng Yi, a Sui-dynasty music theorist, argued that *biàn zhī* (變徵 or 変徵) should be only a semitone below *zhī*, just as *biàn gōng* is only a semitone below *gōng*—this allowed all seven notes to be generated in rising fifths starting from *gōng* via the method of *sānfēn sǔnyì*.[12] This formed for Zheng the correct *yǎyuè* scale (雅樂, etymologically the same word as the Japanese *gagaku*, 雅楽), whereas the commonly-used *xīnyuè* scale (新樂, literally "new music") placed *biàn zhī* a whole tone below *zhī*, and thus a perfect fourth above *gōng* (Huang 2018). To apply modern

11. For illustrations of these and other scales to be discussed later in this article, see Appendix A.
12. See Koizumi ([1958] 1977, 199–200) for a discussion and demonstration of this concept, and its reception in Edo-period Japan.

Western mode names to the Chinese scale options for a moment, the *yǎyuè* scale is Lydian, while the *xīnyuè* scale is Ionian.

When Meiji-period scholars formalized *gagaku*'s *ryo* mode—which they did as part of their work on the 1878 *Nihon gagaku gaiben* (日本雅楽概弁, "Outline of Japanese *gagaku*"), a booklet written specifically for the presentation of *gagaku* to the Western world at the third Paris World Exposition (Tsukahara 2013, 230)[13]—they based it on the *yǎyuè* scale. Thus in the *ryo* scale on D as shown above, though most melodies in it would be pentatonic, the note between F♯ and A (*hen chi*, 変徴) was theoretically G♯, not G♮, just as that between B and D was C♯. The *ritsu* mode, meanwhile, because of the parallel-mode logic applied to its solfège names, could not make any Chinese scale the basis of its auxiliary notes, since already its *kaku* was a perfect fourth above *kyū* rather than a major third above,[14] which directly contradicts the Chinese definition of *jué/kaku*. *Kaku* in the Japanese sense, however, is the third note of any pentatonic scale, regardless of interval structure. The auxiliary notes of the *ritsu* mode thus could not be taken directly from a Chinese scale, and seem to have been assigned based on some combination of influence from (as-yet-untheorized) Japanese folk music and some amount of structural analogy to the heptatonic *ryo* scale.

The chosen structural analogy amounts to something of a mirror image: just as the *ryo* scale's auxiliary tones were conceived of as lowered versions of the notes a semitone above them, the *ritsu* scale's came to be thought of as raised versions of the notes below them.[15] Thus an F♮ called *ei shō* (嬰商) was inserted between E and G, and a C♮ called *ei u* (嬰羽) between B and D. The *ritsu* mode's comparative closeness to scalar forms sometimes used in folk song, combined with *ichikotsu*'s status as the most basic, or more literally the "first" note,[16] has led to an almost unbelievably neat coincidence: the heptatonic version of the *ichikotsu ritsu* scale (in some ways the "first mode" in post-1878 *gagaku* theory) appears in Western notation as a perfect untransposed Dorian scale, i.e., a scale on D with no sharps or flats (the "first mode" in

13. Until then (and continuing in *gagaku* practice and much written material that privileges actual practice), the heptatonic *ryo* modes were more Mixolydian than Lydian, and sometimes in practice lower even more notes than the Mixolydian model would suggest (Masumoto 2010, 203–207).

14. The names of the *ryo* and *ritsu* modes in Japan in fact appear to be derived from this non-alignment of the *kaku* pitch in the two scales, since in one branch of ancient Chinese music theory these terms were used to differentiate lower and upper pairs of semitones. These terms were applied to *kaku* to differentiate *ryo kaku* from *ritsu kaku*, the former being a semitone lower than the latter (Marett 2001).

15. Unlike the *ryo* mode's Mixolydian/Lydian mismatch, the heptatonic *ritsu* was thought of as Dorian both before and after 1878.

16. At least in the *Hoiku shōka*, *hyōjō* (E) is actually a more common *kyū* than is *ichikotsu* (D), but the *ichi* in *ichikotsu* refers to the number one, and it is nearly always the first note shown in Japanese diagrams about absolute pitch, much as C tends to be given pride of place in Western diagrams even though C is certainly not the most common tonic in many repertories. This can be observed as far back as, for example, Nakamura ([1664] 1800–1878), in which a circle demonstrating the fifth-based relationships of all twelve tones gives each note a number between 1 and 12 and a *kanji* representing the twelve animals of the Chinese zodiac. The numbers 1 to 12 connect the notes in descending fifths, while the zodiacal *kanji* connect them in ascending chromatic order. *Ichikotsu* is first in both sequences, being numbered 1 (一) and labeled with the character for the zodiacal mouse (子). Furthermore, in this diagram *ichikotsu*'s name's first character is written simply as 一, whereas it is usually given the more complex form 壱 or 壹.

European medieval and Renaissance modal theory)—even though *ichikotsu*'s alignment with D comes not from the way its diatonic position conveniently eliminates accidentals in Western notation, but rather simply from its absolute pitch (Masumoto 2010, 196, 251; also Tokita and Hughes 2008, 21).[17]

The volvelles in Figure 3 demonstrate how late-nineteenth-century Japanese musicians conceived of the mapping of Chinese, Japanese, and European note-naming systems onto each other (Tsukahara 2013, 229).[18] The inside of each volvelle tells us which mode it represents (*ritsu* (律) or *ryo* (呂)), though the two are identical aside from the innermost ring, which the reader could rotate to represent scales starting on different notes (though in this reproduction both have been set to D). The innermost ring shows the solfège syllables as they apply to each heptatonic mode: observe that *kaku* (角) in the *ritsu* mode is a semitone higher than it is in the *ryo*, and that the *ritsu* mode contains two notes marked *ei* (嬰, representing raised notes) while the *ryo* has two notes marked *hen* (變, the older form of the modern simplified 変, representing lowered notes). All of the other circles outside this innermost one relate to absolute pitch rather than to position within a mode, and thus are the same in both diagrams. The second ring displays the Japanese chromatic scale's note names, the third ring the Chinese chromatic scale's note names,[19] the fourth ring European letter names, and the remaining three the notational symbols that match these notes on various wind instruments used in *gagaku*.[20]

17. Perhaps not surprisingly, this alignment of *ichikotsu* with D was not taken to be universal right away. In Francis Piggott's *The Music and Musical Instruments of Japan* (1909), all Western-staff-notation transcriptions are pitched a whole tone higher than the pitches that were already becoming conventional, thus placing *ichikotsu* on E, *hyōjō* on F♯, and so on. Piggott's explanation, which does not address the more common pitch correspondences, is simply that "the key of F♯ minor on the Piano more nearly renders the plaintive character of the Koto music in the normal tuning," that "it is when I have played in this key that the Japanese musicians have agreed with my conclusions," and that it has "the practical advantage of avoiding the use of flats, which impede the clear rendering of the music on the Western staff, as the flat is not known on the Koto" (85). No Japanese author that I know of, however, links *ichikotsu* with any Western note but D.

18. These may be productively compared to the Qing-dynasty volvelles shown in Hu (2019).

19. By analogy with the way they have assigned their own primary pitch, *ichikotsu*, to D, these diagrams also align the primary Chinese pitch, *huángzhōng* (黃鐘), with D. This reflects Tang-dynasty tuning (Tokita and Hughes 2008, 21), but it remains at least as common to align *huángzhōng* with C, both by analogy with C's centricity in modern Western music theory and also because that more closely matches pre-Tang tuning. For one nearly contemporary example that aligns *huángzhōng* with C in a similar circular diagram, see Van Aalst ([1884] 2012, 9). For more on the primacy of *huángzhōng* in Chinese music, see Huang (2018). One might also notice the potentially confusing fact that *huángzhōng* is written with the same characters as the Japanese pitch *ōshiki*, which is aligned with A. This appears to be a result of the *Tōgaku* mode of *ōshikichō* using the pitch classes of the *yǎyuè* scale starting on the pre-Tang pitch of *huángzhōng*, though with a different modal final (the relative *ritsu*, if one likes), which ultimately took the 黃鐘 name for itself in Japan (Tokita and Hughes 2008, 22). Furthermore, 黃鐘 is pronounced *kōshō* in Japanese when referring to the Chinese *huángzhōng*, meaning that the grapheme pair 黃鐘 has three different pronunciations and three different Western pitch classes equated with it, and they do not line up with each other on a one-pronunciation-to-one-pitch-class basis either.

20. The fifth ring is for the *shō* (笙), the sixth for the *hichiriki* (篳篥), and the seventh is split into three sections for the *kagurabue* (神楽笛), *yokobue* or *ōteki* (横笛, also known as the *ryūteki* (龍笛)), and *komabue* (高麗笛).

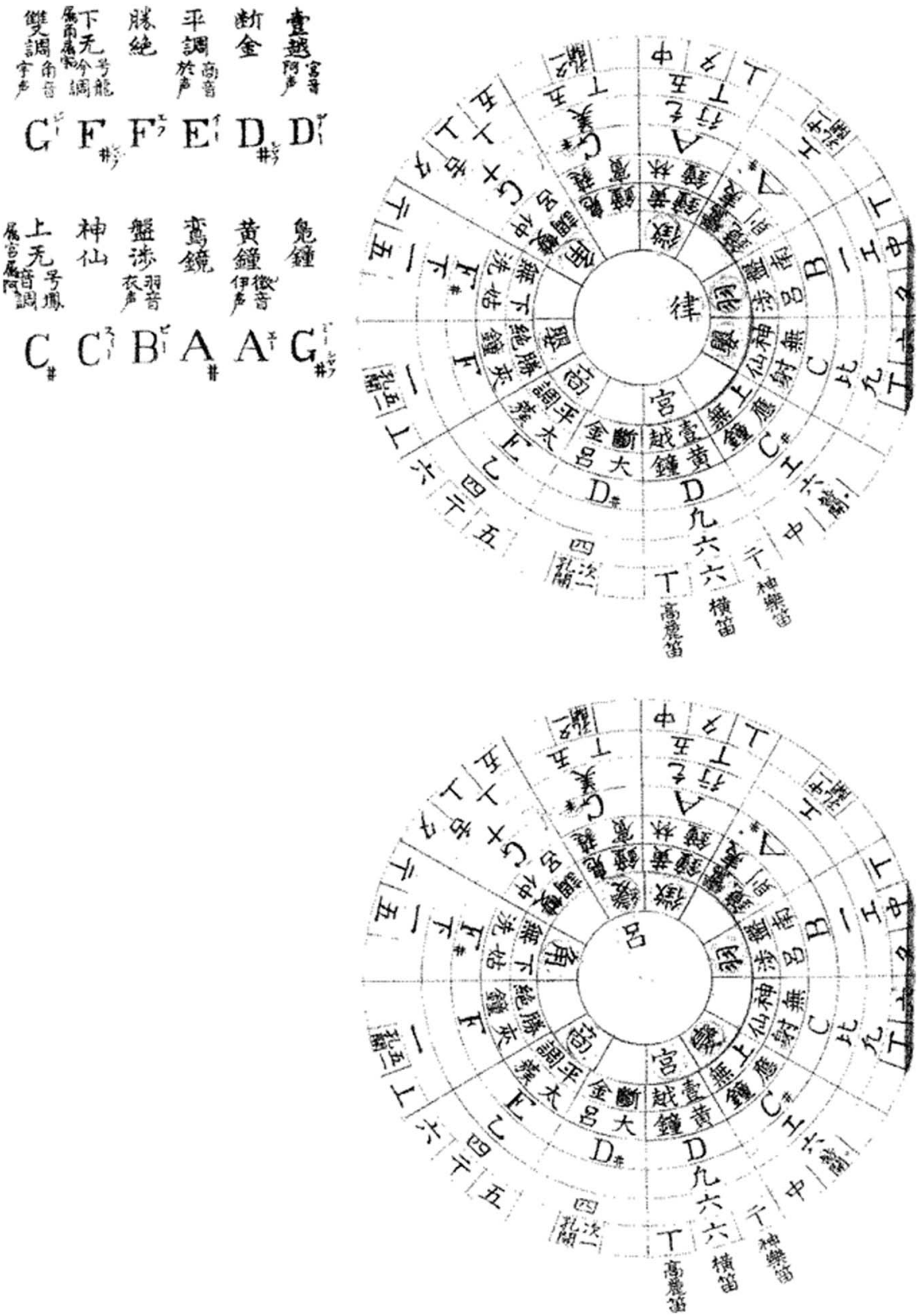

Figure 3. Volvelles demonstrating the *ritsu* and *ryo* modes from the collection of Tanimori Archive, reproduced from Tsukahara (2013, 229).

Isawa Shūji

The individual who had perhaps the largest impact on the influx of Western music to Japan was Isawa Shūji, an early Meiji-period educator.[21] His contention was that it would be as wrong for the modernizing Japanese to remain ignorant of Western music as it would be to entirely overwrite Japanese music with it, and that "the proper measure would be to secure a new and suitable music for our country . . . by selecting the best from both European and oriental music" (Eppstein 1985, 22). It was in Isawa's best interest to prove that Western and Japanese music were similar, because this would make it easier to sell the idea of introducing Western music to Japan (Eppstein 1985, 24). I would add that proving such a similarity could help to convince people—Japanese and Western alike—that Japanese music was as much worth preserving, teaching, and theorizing as Western music was.

And so, with much riding on this proof, Isawa was not content to stop at reading a few basic primers on Western music fundamentals and applying their principles to Japanese music. In 1875 he traveled to Massachusetts to study at the Bridgewater Normal School and briefly at Harvard, learning education theory and English pronunciation from Americans. Not long after returning to Japan in 1879, he wrote his influential music treatise *Ongaku torishirabe seiseki shinpō sho* (音楽取調成績申報書, "Report on the results of an investigation of music"; Isawa 1884), to which nearly every work on Japanese music theory since may be considered a response, at least indirectly.[22] It is from here, for example, that the first alignment of *ichikotsu* with D comes,[23] as well as a rather facile mapping of the *ryo–ritsu* binary onto the Western major–minor binary. Isawa takes the heptatonic forms of the *ryo* and *ritsu* scales as their basic forms, and observes simply that each differs from its Western counterpart by only a semitone in a single scale degree, i.e., in that the *ryo* scale's fourth degree is a semitone higher than that of the Western major, while the *ritsu*'s sixth degree is a semitone higher than that of the Western natural minor. He argues that these are differences of little significance, writing that the ♯4 found in the *ryo* mode "is also very easy to move to in Western music," and that "even

21. He was born in 1851, only two years before the first arrival of the black ships and seventeen years before the Meiji Restoration. He came of age, in other words, exactly when Japan was busy coming to terms with the newly persistent presence of Western powers on its doorstep.

22. The mid-twentieth-century American historian William Malm has noted, "Izawa [sic] was not a musician and therefore produced rather far-reaching ground rules for the future of music without any profound knowledge of the art itself" (Eppstein 1985, 2). While the profundity of his knowledge cannot be measured objectively—one must at least concede that his understanding of Western music history was impressively extensive—it is still remarkable that someone whose central vocation was not music had such a uniquely weighty effect on the development of Japanese music after him, not only through supporting certain educational programs over others, but also through directly developing the musical content and theory of those programs.

23. Isawa only rarely uses Roman letters for note names in this treatise. Instead he originates the Japanese system of naming the notes *i*, *ro*, *ha*, *ni*, *ho*, *he*, and *to* after the first seven syllables of a Heian-period poem that famously uses each Japanese mora exactly once. He proposes the *Iroha*-based names as alternatives to the traditional ones on account of their being shorter, and thus easier to sing and write, than the traditional names (Isawa 1884, 68–69). Immediately after this, he proposes mapping the Arabic numerals 1, 2, 3, 5, and 6 onto the solfège names *kyū*, *shō*, *kaku*, *chi*, and *u*, even though this works only for the *ryo* mode and not the *ritsu*. Despite the rarity of his use of Roman letters, it is clear that he is equating *i* (イ) with A, *ro* (ロ) with B, *ha* (ハ) with C, etc., in the diagram I show in Figure 4.

though one should in theory move to *u* in the *ritsu* mode, it has been discovered that instruments will often go down to ♭6" (Isawa 1884, 72, 74).[24] Not surprisingly, this is a mapping that would quickly be challenged.

But Isawa's interest in bringing Western music theory to Japan goes much deeper than these simple one-to-one mappings. After an attempt to explain two of Japan's folk scales that are not part of the *gagaku* tradition (1884, 76–77; he calls them *zokugaku* scales, i.e., "vulgar/common music," 俗楽),[25] the next section of his treatise turns to a topic that seems to hold greater interest for him: the history of ancient Greek music, and its affinities with Japanese music. Much more than his mappings of note names or mode types from nineteenth-century Europe onto those of Japan, it is really Isawa's fixation on ancient Greece that is the heart of his thesis. After a brief description of the origins of Greek tetrachordal theory in the early four-stringed lyre, Isawa presents diagrams of the Greek Greater and Lesser Perfect Systems that are not entirely accurate,[26] though they allow him to argue for close relations between his vision of the Lesser Perfect System, modern Western tonality, and one of the *zokugaku* scales, cementing notions of close affinity between ancient Greek music, modern Western music, and the folk music of Japan's common people (Isawa 1884, 83). His diagram of the Lesser Perfect System is shown in Figure 4. Though he marks each note with scale-degree numbers, and marks out A with the *kanji* for *kyū* in an effort to connect this pitch system with the key of A minor, his positioning of the tonic in the middle of the scale shows an even greater desire to demonstrate the Greek notion of conjunct tetrachords, wherein this A (*mesē* in the Greek system, which Isawa [1884, 82] identifies rather inaccurately with the notion of *kyū*) is the note by which the two tetrachords are conjoined.

Isawa soon turns to one particular piece of ancient Greek music: a hymn in praise of Apollo, whose transmission history through Vincenzo Galilei and John Wallis he details before explaining how it fits perfectly into the *gagaku* mode of *banshikichō*. To prove the point, he provides transcriptions of the hymn into the Japanese musical notation systems for the

24. Isawa's latter observation, about Japanese musicians lowering *u* in the *ritsu* mode by a semitone, is also discussed in Masumoto (2010), and has been speculated by her and by Marett (2001) to be the influence of *in*-scale folk music creeping into *gagaku* practice.

25. Despite being eager to draw links between Japanese *zokugaku* and ancient Greek music, Isawa usually had only contemptuous things to say about *zokugaku*. For example, he wrote in 1883 that "[*zokugaku*] did not advance moral or physical culture, and was altogether immoral in tone. It is against the moral and social welfare of the community. It is against the progress of the ethical education of society. It is against the introduction of good music into the country. In foreign relations it damages the prestige of the country" (Eppstein 1985, 32). Close to eighty years later, some of this same feeling of embarrassment about Japan's *zokugaku* can still be felt in Satō Yoshiko's English-language introduction to the set of *min'yō* arrangements she published with Ishii Kan in 1960 when she writes that "their musical contents are not so rich as the music of the West. If they are sung as they always have been, their impressions would be merely those of the music of some primitive race" (Ishii 1960, back of every volume). This was meant as some of the justification for the elaborate Western-art-song-style accompaniments with which she and Kan had fitted the songs they chose.

26. He correctly associates the Greater Perfect System with disjunction and the Lesser Perfect System with conjunction, though he makes the latter's upper tetrachord still contain a B♮ rather than a B♭, making the notion of conjunction merely diagrammatic rather than intervallic: the upper tetrachord ends up structured differently from the lower one, erasing the original defining trait of the *synēmmenōn* tetrachord.

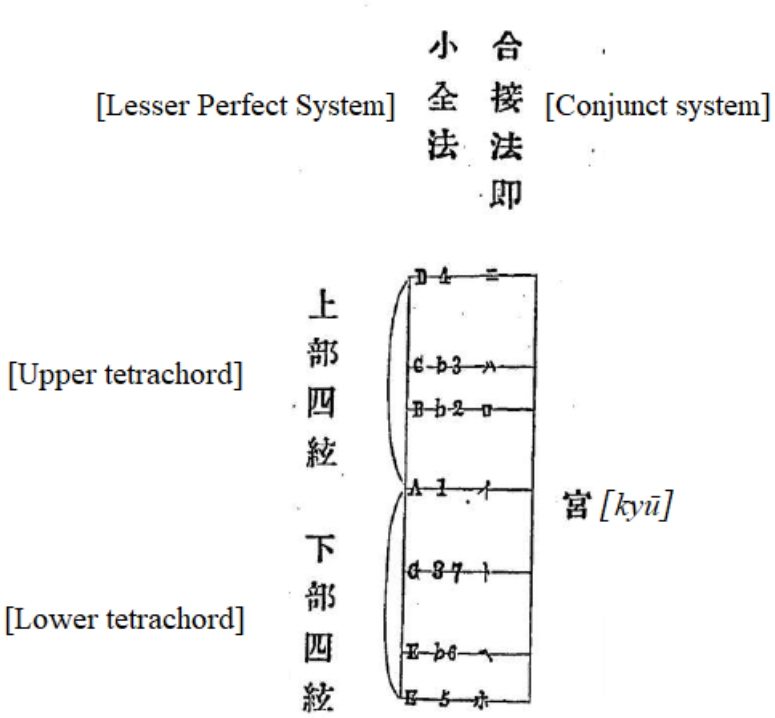

Figure 4. Isawa's Lesser Perfect System, realized as a scale from E to D with the A marked both as scale degree 1 and as *kyū* (宮) (Isawa 1884, 83). The ホ, ヘ, ト, etc., characters correspond to the letter names E, F, G, etc., in Isawa's *Iroha*-based note-naming system.

biwa (琵琶), the *koto* or *sō* (箏), the *shō* (笙; Isawa writes 鳳笙, i.e., *hōshō*), the *hichiriki* (篳篥), and the *ryūteki* (龍笛). That Isawa provides not one but five transcriptions of Apollo's hymn suggests how important this task was for his project: by showing how comfortably this piece of ancient European cultural bedrock could translate into five different Japanese notational systems corresponding to five different Japanese instruments, Isawa makes an argument for the suitability of Japan to inherit Western cultural prestige in a way that, to a certain audience,[27] he hoped would reach much farther than any theorizing about whether the *ritsu* mode and the modern Western minor mode accurately map onto each other or not. To put it another way, if a true ancient Greek hymn to the Greek god of music translates so easily to Japanese contexts, it hardly matters that the tonal systems of nineteenth-century Europe and that of *gagaku* don't match exactly—the modern kinks will inevitably straighten themselves out if the ancient grounding is solid. It is Isawa's confidence in Japan's right to be a part of the

27. Lafcadio Hearn helped carry Isawa's mission to Anglophone audiences by writing a report in 1885 about how Isawa, who he proclaimed was "learned to a degree that would do credit to a German master-composer," had demonstrated the similarity between the lyre's tuning and a Japanese scale, as well as how neatly the hymn to Apollo could be played in *banshikichō* on various Japanese instruments. Hearn relatedly transmitted Isawa's hypothesis that both Japanese and European music "had roots in Hindustan" (Hearn 1885, 201–202).

great tradition of Western music[28] that both allowed him to have so much power and influence over Meiji-period music and that laid him open to so much critique from his successors.

At least as influential as Isawa's theoretical treatise-manifesto of 1884 were his singing manuals for use in children's education, which swiftly outpaced the earlier *gagaku*-style *Hoiku shōka* in popularity.[29] Made with the aid of Luther Whiting Mason, an American music educator whom Isawa met during his time in Massachusetts and enlisted to join his effort to reform young children's music education, Isawa's manuals are at first glance almost aggressively Western: they are not only written only in Western music notation, but the musical content is also entirely Western, at least initially. In the first book in the series, the heptatonic major scale is the only one introduced in the brief opening section on rudiments,[30] and every single song in the book is in the major mode.[31] Several of the songs in the series are imports from the West with new Japanese lyrics, some of which remain broadly known staples in Japan today—for example, *Chōchō* (蝶々, "Butterfly"), is what the Anglophone world knows as "Lightly Row," while *Hotaru no hikari* (蛍の光, "Light of the Fireflies") is "Auld Lang Syne." Many of the major-mode songs are pentatonic, though their melodic patterns are generally derived from Western (often Celtic) practice rather than from *gagaku* or Chinese music (Manabe 2009, 119).

Isawa's grander vision was not that he would Europe-wash the next generation's musical ears, but rather that his manuals would prepare children to be proficient in both Western and Japanese music alike by using Western music as the entry point, since *gagaku* was "too refined" for children to comprehend and *zokugaku* "too vulgar" to cultivate good moral character (Manabe 2013, 97). Isawa considered this a possible and sensible course to take because of the close identification he had established in his 1884 treatise between the European and Japanese scales. In Isawa's view, skill in the one sphere would strengthen skill in the other, to the extent that he felt comfortable asserting that Shiba Fujitsune's setting of the song *Yamato Nadeshiko*, in G major and included in Isawa's first volume of children's songs, should be counted as an example of the *sōjō ryo* tonality in *gagaku*. Noriko Manabe (2009, 129–31) considers this

28. This is perhaps the clearest case of translated imperialism that can be seen in Isawa's work. Isawa's felt need to connect Japanese music to Apollo's hymn is a direct result of European imperialism. Then, by quite literally translating the hymn into the notation of Japanese *gagaku* instruments, Isawa seizes this unit of Western cultural prestige and transfigures it into something recognizable as traditionally Japanese, an act that grants these Sino-Japanese instruments the same cultural prestige as Apollo's hymn, even once they have ceased their praises to Apollo and resumed their praises of Amaterasu and her imperial progeny.

29. For more on the *Hoiku shōka*, see Manabe (2009), as well as Ibukiyama (1979), Honda (1997), Ōhata (2001), and Gottschewski (2003).

30. The note names are also shown as *ha-ni-ho-he-to-i-ro-ha*, showing that Isawa was using the *Iroha* pitch names at least three years before the publication of his treatise, and also that C was being enforced from the start as the foundational pitch and key of music.

31. One could say that the very first song, which uses only the notes C and D and ends on C, is too simple to even be given a major or minor classification, but in its context the two notes it uses are clearly intended to be understood as the first two steps of a yet-to-be-completed major scale. From this point forward, Isawa climbs the scale note by note until eventually the pupils can sing all seven.

classification too simplistic because it elides the difference in melodic habits found between these two frequently-aligned keys: for instance, Shiba's melody ends with a descending 3-2-1 cadence typical of Western music but not of *ryo*-mode *gagaku*-based music, which much more often ends with an ascent from *u* to *kyū*, that is, from 6 to 1.

Whether one accepts Isawa's classification therefore depends on whether modal classification is based only on pitch content or also on habitual melodic behavior. One way to lend Isawa's classification some credence, despite its convenient papering-over of behavioral difference, is to suggest that Isawa's classification is an example of what Harold Powers calls "modal representation." Powers (1998, 280–333; and many other articles) uses the term to discuss the relationship of sixteenth-century European polyphonic music to the Greek modal names by which they were and sometimes still are classified. As Powers explains regarding modal cycles such as Palestrina's *Vergine* madrigals or his offertories, these pieces' alignment with the Greek modes has nothing to do with any similarity between the content of ancient Greek and Renaissance Italian music, and everything to do with the cultural prestige attained by mapping the ancient modal system onto the music written to elevate the Counter-Reformation Church. That the Phrygian mode was a step above the Dorian, and the Lydian a step above the Phrygian, was enough—even the detail that in the ancient world the Lydian had been a whole tone above the Phrygian rather than a semitone, by this point known through treatises such as Zarlino's *Le istitutioni harmoniche* (Zarlino [1558] 1983, 32–35), did not matter as long as the mapping could still be made.

In comparison, Isawa's mapping seems mild: Shiba's *Yamato Nadeshiko* is much closer to *sōjō ryo* than Palestrina's *Vergine pura* is likely to have been to the ancient Greek Phrygian mode.[32] At the same time, Isawa's act of modal representation is in some ways more complex than Palestrina's because it involves cultures separated principally by space rather than by time, and so he must speak simultaneously to Japanese and Western audiences, whereas Palestrina had no need to impress the ancient Greeks. Isawa's claim of *sōjō ryo* status for Shiba's song imbues his songbooks with the Japanese gravitas of *gagaku* to placate Japanese people who might have been suspicious of Western influence; and simultaneously it announces to Westerners that Japan can easily join them on the world stage if its traditional theory already includes a tonality so similar to their comfortable G major.

While his mapping of the *ryo*/*ritsu* binary to the major/minor one was immediately influential, Isawa's claims about Greek music were not so quickly picked up by his successors, perhaps because they were simultaneously too detailed and too foreign to inspire meaningful

32. Depending on the era under discussion, ancient and Renaissance modes may not even have referred to the same parameters, with ancient mode (at least as represented by Boethius) often referring to transpositions of the entire Greek tonal system to different pitch levels rather than to what is usually meant by "mode" today (for more, see Barker 1984, 40). By contrast, *sōjō ryo* and G major at least both refer to the same two parameters—a pitch-class and a scale type—even if the details of how music inhabits these scale types do not always align quite as neatly as Isawa wanted them to.

responses.[33] Another suggested affinity between Japanese and Greek music would eventually surface in twentieth-century Japanese music theory, but not in ways that Isawa could have foreseen, or for the reasons of prestige-harnessing that most interested him.[34]

UEHARA ROKUSHIRŌ

The strongest critique of Isawa's overlaying of the European and Japanese tonal systems onto each other came from Uehara Rokushirō's *Zokugaku senritsu kō* of 1895. A primary target of his is Isawa's mapping of the Japanese *ryo* and *ritsu* scales onto the Western major and minor, but the vantage point from which he does so is telling, for while Uehara rejects Isawa's particular mapping, what he establishes in response is simply a different binary-to-binary correspondence. Uehara's strategy is to invert the scalar priorities of Isawa's treatise. Isawa gives pride of place to the *gagaku* scales of *ryo* and *ritsu*, bringing out the Phrygian-like[35] scales that he calls *zokugaku* scales only later, for the purpose of establishing ties with ancient Greek music. Uehara, on the other hand, begins with the *zokugaku* scales as his book's title suggests, and approaches them from the practical standpoint of *shamisen* and *koto* tuning systems. The model he comes up with is a base scale form that is not heptatonic as Isawa's was, but rather pentatonic. Unlike classical *gosei*-based theory, which is pentatonic but allows for the creation of heptatonic scales via the insertion of two extra tones, Uehara's pentatonicism allows a compromise only in the form of a movable note that sits differently depending on whether the scale is ascending or descending, much as the sixth and seventh scale degrees of the Western melodic minor scale are theorized.[36] To reflect the pentatonic basis of his scales, Uehara numbers his scale degrees 1 through 5, rather than using Isawa's system of 1-2-3-5-6 that leaves

33. Although it was not commonly picked up by Japanese music theorists writing after Isawa, a link between Japanese folk music and ancient Greek music was also explicitly drawn by Frederick H. Martens, an American journalist who wrote the English-language foreword to Yamada Kōsaku's *Three Old Japanese Art-Dances*, published in 1919 by Carl Fischer. Along with commenting on the dances' "logical coherence, that affinity with the scales of the West that characterizes all the music of Japan," Martens writes that "in modal character the melodies have something in common with ancient Greek music" (Yamada 1919, 1). These statements accord so closely with Isawa's values and arguments that it is hard to imagine that, by 1919, Martens had not read either a translation or a summary of Isawa's writing, and used its points to help Fischer sell Yamada's music to Anglophones.

34. The prestige-harnessing impulse did not disappear either, and it remains very much alive to this day all across the world. One example is the way the *Seiha hōgaku-kai* (正派邦楽会), a school specifically geared towards traditional instruction on the *koto* and the *shamisen*, still has as its emblem a Greek lyre. The school was founded in 1913, only a few decades after Isawa's treatise was published.

35. Here I mean "Phrygian" in the modern sense, i.e., tracing out the octave species defined by the white keys of the piano from E to E. Isawa calls it "Dorian," in reference to the names of the *harmoniai* that were discussed by ancient theorists like Cleonides and then forgotten in late antiquity and the Middle Ages (Isawa 1884, 104–105). For a Western attempt to map Japanese *koto* tunings onto both the ancient *harmoniai* and the mode names of Glarean, and which postdates Isawa by only two decades, see Abraham and Hornbostel (1903, 24).

36. Finn Egeland Hansen posits a very similar idea to Uehara's in the context of Gregorian chant. He calls this the principle of "tone alienation," wherein pitch variance that exists for the purpose of "clarifying the tonal expression" can result in the use of what under another system would be understood as two separate notes. Though Egeland Hansen does not appear to be aware of Uehara, he is also not ignorant of East Asian music theory, as his term "pien-tonality" derives directly from that used for Chinese heptatonic pitches like *biàn gōng* (1976, 180–181).

gaps for the notes that would "complete" a heptatonic scale.

This pentatonic orientation allows Uehara to recognize Isawa's two types of *zokugaku* scale[37] as merely rotations of the same scale, which Uehara labels the *miyakobushi* (都節, "capital-city way of singing"). Beginning on E, its ascending form is E-F-A-B-D-E, while its descending form is E-C-B-A-F-E. The substitution of C and D for each other is based on local melodic context, and Uehara observes that they never occur consecutively—thus they are better theorized as different faces of the same scale degree, rather than as separate scale degrees (Uehara [1895] [1927] 1992, 89).[38] Only after grounding the reader in a *miyakobushi*-based framework does Uehara expand his reach to the anhemitonic pentatonic scales used in *gagaku*. Naturally enough, he recognizes that the base pentatonic forms of the *ryo* and *ritsu* modes are rotations of each other, just as Isawa's *zokugaku* scales are; thus to create a symmetrical opposition to the *miyakobushi*, he collapses the anhemitonic modes into one category and calls this scale type the *inakabushi* (田舎節, "countryside way of singing"). He considers the *ritsu* mode to be its base form, not only because it is more common in folk music than the *ryo*, but also because it allows for a very neat parallel relationship with the *miyakobushi*, as shown in Figure 5. This parallelism is based on a crucial observation by Uehara: that whereas classical *gagaku* theory admits of both *ei shō* and *ei u* as auxiliary tones of the *ritsu* scale, treating them on equal footing, actual musical practice tells a different story. Uehara writes quite plainly that "in the *ritsu* scale *ei shō* does not exist" (Uehara [1895] [1927] 1992, 88). While a slight exaggeration, it is true that *ei shō* (which would be G in a *ritsu* scale on E) is used so rarely that excluding it from the base form of the scale is logical.[39] On the other hand, *ei u* (D in a *ritsu* scale on E) is used quite frequently—at least as often as *u* itself.[40] Thus Uehara is happy to promote *ei u* to equal status with *u*, allowing them to share the mutable fifth step of the pentatonic scale, while he excises *ei shō* entirely, considering it to have been invented only to parallel Chinese theory and create a theoretical system that is more logical on paper than it is reflective of musical practice.

37. Isawa's (1884, 76–77) two *zokugaku* scales are in pitch structure equivalent to what are called in the West the Phrygian and Locrian modes, and are intended as heptatonic models of the modes that Uehara would soon more accurately theorize as the *in* scale or *miyakobushi*.

38. Ōtsuka Haiko, a theorist who has written on pitch structure in *shamisen* music, argues for a model that resembles Uehara's but is freer regarding ascent and descent, describing the C and D of the *miyakobushi* scale on E as simply free alternates, still not occurring in succession but not restricted to one or the other direction (Tokita 1996, 12–13), and Tokita (1996, 9) has confirmed that at least within the *shamisen* repertory Ōtsuka's model is accurate.

39. In the *Hoiku shōka*, for instance, it appears in *Oshie no michi* (教ノ道, on p. 96 in the PDF scan of the manuscript made in 1883 by Shimizu Tazu provided by the library of Ochanomizu University at https://www.lib.ocha.ac.jp/opc/recordID/catalog.bib/OT00002146) and in *Hida takumi* (on p. 25 in the PDF scan of a manuscript provided by the library of Waseda University at http://archive.wul.waseda.ac.jp/kosho/chi11/chi11_04038/chi11_04038.pdf). Koizumi ([1958] 1977, 201) agreed with Uehara on this observation.

40. The easiest setting in which to confirm Uehara's observation is the Japanese national anthem, *Kimi ga yo*, which first appeared in the *Hoiku shōka*. It is in D *ritsu* and never uses F once, though it uses C three times, always while ascending, and B only once, in descent. For more on its history, see Gottschewski (2003) and Manabe (2009, 91–95).

	Miyakobushi	***Inakabushi***
E	1	1
D	↑5	↑5
C♯		↓5
C	↓5	
B	4	4
A	3	3
F♯		2
F	2	
E	1 (*kyū*)	1 (*kyū*)

Figure 5. A *miyakobushi* scale and an *inakabushi* scale as Uehara conceived of them, both beginning on E.

But Uehara's own theoretical system is quite logical on paper as well, and his wish for his system to map so neatly onto Western tonality led to inevitable distortions, in much the same way as happened with Isawa's system. Though Uehara does not use the *gosei* solfège names much, he still privileges them in important and strict ways. For him, scale degree 1 is always *kyū*, and *kyū* is equated explicitly with the English word "tonic," while in the same way he equates *chi* with "dominant."[41] Though the equation of scale degree 1 with *kyū* goes back to the earliest days of Japanese adaptation of the *gosei*, Uehara's use of it is even stricter because he insists on there being only one possible *kyū* in each of his two scale types, as shown regarding the *yō* scale in Figure 6. This means that the traditional *kyū* of the *ryo* mode is no longer a *kyū* for Uehara[42]—rather it is the third step of his *inakabushi* scale, assuming the use of the descending fifth step rather than the ascending one (he takes the descending form of the fifth step to be the primary one in both scale types, in line with *gagaku* theory's privileging of *u* over *ei u*).

To enhance the clarity of this binary and its ability to map onto the Western major-minor binary, Uehara affixes alternative and shorter names to his scale types: the *miyakobushi*

41. He makes these equations in an interesting way, defining *kyū* and *chi* with the words 主和弦 and 属和弦, which one would ordinarily read with the Sino-Japanese pronunciations of *shuwagen* and *zokuwagen*. But next to these words, Uehara writes in *furigana* トニック and ドミナント, i.e., *tonikku* and *dominanto*, suggesting that the reader read these words in English, thus removing any ambiguity that he is equating *kyū* with the notion of tonic and *chi* with that of dominant. In Iwanami Shoten's 1927 edition of Uehara's book, a note is included to assure the reader that this *furigana* is not editorial and was included in the very first 1895 printing of Uehara's book as well (Uehara [1895] [1927] 1992, 26). Koizumi praises Uehara for recognizing two possible tonics, though this evaluation flattens Uehara's hierarchical conception of *kyū* as stronger than *chi*, not to mention his explicit defining of *chi* as "dominant" ([1958] 1977, 195).

42. We should remember too that the traditional *kyū* of the *ryo* mode is, in Chinese theory, the only acceptable place for *gōng*.

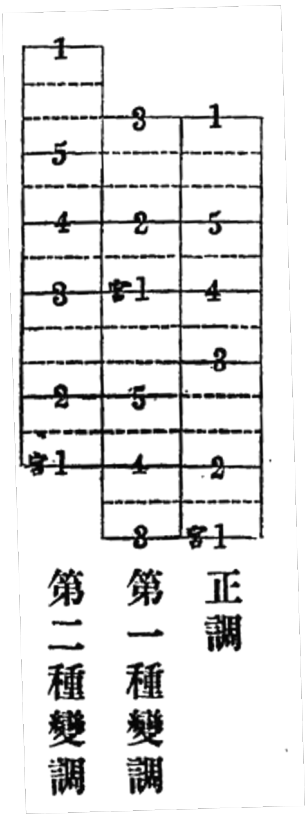

Figure 6. Uehara's demonstration of modulation from one *yō* mode to another. The rightmost column shows a *ritsu* scale, the middle column (labeled "first change of tone") a *ryo* scale with *kyū* marked a fifth above the *ryo*'s first note (the latter of which traditional theory would have called the *ryo*'s *kyū*), and the leftmost column (labeled "second change of tone") shows a parallel shift of the *ritsu* scale up a whole tone (Uehara [1895] [1927] 1992, 82).

he calls the *in* scale (i.e., 陰, the *yīn* [dark] part of the Daoist *yīn-yáng*) while the *inakabushi* is named the *yō* (陽, the *yáng* [light] part). As suggested by these names, the *in* scale maps to the minor mode, while the *yō* scale maps to the major.[43] Both scale types lack any note a major or minor third above the tonic: they step straight from a second above the tonic to a note a perfect fourth above the tonic. But the mapping still works because the *in* and minor scales

43. Alison Tokita notes that the labeling of members of a binary with *in* and *yō* "does not necessarily mean respectively gloomy and cheerful, but is the equivalent of neutral labels such as 'type a' and 'type b'" (1996, 4). Though this may often be true, Uehara's explicitly stated intention to map the *in–yō* binary onto the Western minor–major one ([1895] [1927] 1992, 88) makes it clear enough that his use of the *yīn–yáng*-derived labels is not connotatively neutral, especially considering that this occurred in the late nineteenth century, by which point Europe's mapping of a light–dark binary onto the major–minor system had already been in place for centuries and showed no signs of abating. In *gagaku* theory, there is even a tradition of calling the *ritsu* mode *in* and the *ryo* mode *yō* (Endō, Sasamoto, and Miyamaru 2006, 81), echoing the opposition between Isawa and Uehara's conceptualization of the *ritsu* mode. Outside of *gagaku*-specific circles, however, this system of labeling is nowadays far less well known than Uehara's use of the terms *in* and *yō* for *miyakobushi* and *inakabushi* respectively.

can both be conceived of as pulling notes from their *yō* or major parallels down by a semitone. In the Western scales this happens with the third, sixth, and seventh degrees, while in Uehara's conception of Japanese scales it happens with the second degree and with the descending form of the fifth.

The *ritsu* mode has therefore become the equivalent of the Western minor for Isawa and the equivalent of the Western major for Uehara—hardly an easy deadlock to proceed from! Uehara's *in–yō* binary has remained a vital force in Japanese music composition and theory, as we shall soon see—its main shortcoming lies not so much in its act of major–minor mapping itself, but rather in its rigidity about the placement of *kyū*. After all, it is not only *ryo*-mode *gagaku* pieces that suffer disfigurement at his hands—there are also a great many pieces of *zokugaku* that end on notes other than those that Uehara has designated as *kyū*. For example, in a corpus study of *yō*-scale folk songs from Nara Prefecture, Makino Eizō (1961) found that if Uehara's *ritsu*-mode tonic is considered to be the only *kyū* in the *yō* scale, *chi* and *shō* end up being more common ending points than *kyū* despite Uehara's claim for *kyū*'s singular tonic status. While Uehara may not have known these precise statistics, he was well aware that plenty of pieces ended on notes other than his two chosen *kyū* notes. His way of accounting for this property shows tensions between his wish for a coherent system on the one hand and his wish to represent *zokugaku* accurately on the other. In the interest of keeping the number of scale types low, the only solution Uehara could come up with was to allow pieces to end on notes other than *kyū*. For the most part, the only non-*kyū* endings he acknowledges are those on *chi*, which he expressly identifies with the Western dominant. On the dilemma of *chi*-ending pieces, he writes:

> *Pieces generally announce their endings on* kyū*. But also, there are quite a few pieces that end with* chi*. In contrasting pieces that end on* kyū *and those that end on* chi*, we might say that in the totality of their habits they are equal, but just as those pieces that end on* kyū *create a complete feeling of a piece ending, those that end on* chi *conversely create a light feeling thereof. And if there is not a clear delineation of how one must distinguish* kyū *from* chi*, it is only with this method that one can struggle to distinguish* kyū *from* chi*. But since there is no other good method, this is how* kyū*'s position is determined.* (Uehara [1895] [1927] 1992, 42)

In allowing pieces to end on *chi*, Uehara has caused the *gosei* to come nearly full circle, since after all the main difference by which ancient Japanese practice differed from the Chinese was precisely that *kyū* was always the ending pitch in Japan, in contrast to its fixed position within the scale's interval cycle in China. Now, by applying the *gosei* to the much less systematized repertory of *zokugaku*, Uehara finds himself forced to decouple the notion of *kyū* from endings somewhat, though in his equation of *kyū* with the Western concept of tonic he holds on to the notion that pieces that end on his *kyū* are more solidly resolved than those that end on his *chi*.

Uehara's allowance of pieces to end on a pitch other than *kyū* (even though he extends that courtesy only to *chi*) may help us to question how much like a Western tonic *kyū* really is.

Uehara's definition somewhat resembles Cristle Collins Judd's definition of "final" in contrast to "termination" in the music of Josquin. She writes, "The sonority on which a motet ends need not necessarily represent a 'final' in a 'closed' tonal form. By termination, I mean, as did sixteenth-century theorists like Aron [(1525, 19)],[44] simply the place where a piece ends, which may or may not be the 'final,' the focus on tonal activity—theoretically the note on which a melody *should* end" (Judd 1993, 162). Uehara appears to be making the same distinction as Aron and Judd in reference to an entirely different repertory.

But as Makino (1961, 130) demonstrates with songs like *Renge tsumoka* (reproduced in Figure 7), Uehara's belief in the *ritsu*'s *kyū*'s tonic primacy may not be well supported by the *min'yō* repertory itself. Considering that A, a minor third above the terminating F♯, is frequently used, F♯ cannot be what Uehara would call *kyū*. Given the four pitches used in the song, the only possible *kyū* would be E, the note on which the song starts, which would force the ending F♯ to be *shō*. Makino (1961, 130–31) stresses that songs like this are very common, and especially considering that endings like this on *shō* are even more common (at least in Makino's corpus) than those ending on *kyū*, it is hard to find any reason other than a system-building impulse to deny tonic status to its final note. In this way, Uehara continues to

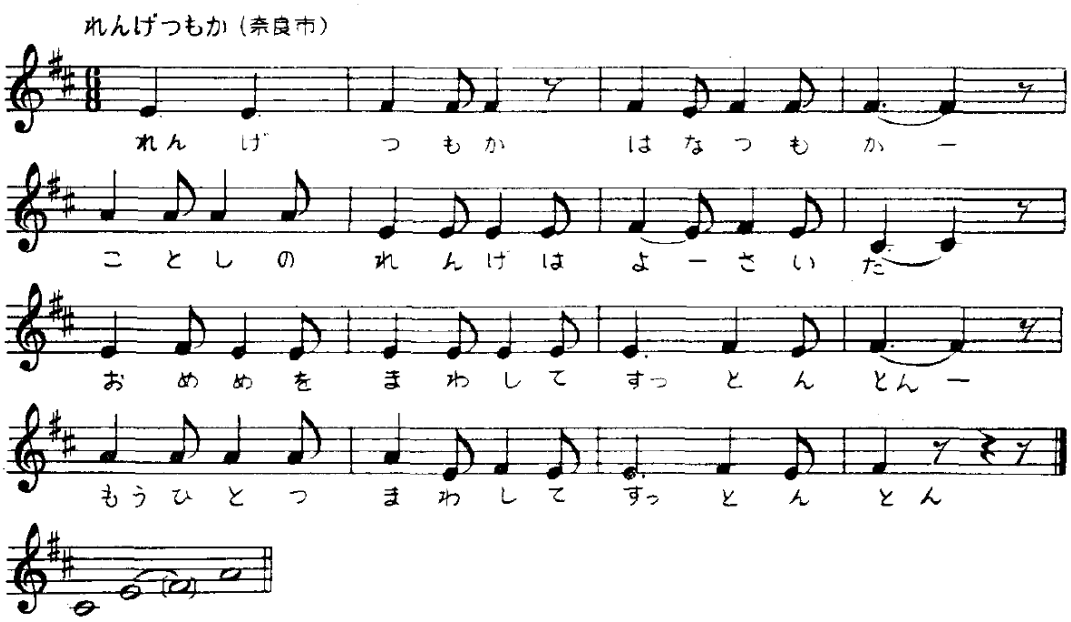

Figure 7. The song *Renge tsumoka*, as transcribed by Makino (1961) for his article. The bottom system, with the open noteheads, represents the pitch repertoire of the song and highlights its final note, F♯, with brackets.

44. Because Aron's *Trattato della natura et cognitione di tutti gli tuoni di canto figurato* has no page numbers, the numbers when cited refer to the page numbers of the 47-page PDF found on IMSLP. Thus the title page is p. 1, the dedication is p. 3, the table of contents is pp. 4–5, the famous portrait of Aron is p. 6, and the beginning of the first chapter is p. 7.

appear rather similar to Pietro Aron, who sought ways to classify pieces that ended on A and C in an eight-mode system that did not have space for them as modal finals (1525, 16–19), even though before his time there were already several pieces in which these notes, especially C, were, in the words of Judd (1993, 162), "the note on which a melody *should* end" under any metric other than one whose primary interest was in preserving the eight-mode system.[45]

As Makino's study makes clear, *yō*-scale songs have more than two likely ending pitches. Various collections of Japanese folk songs (Hattori 1960; Machida and Asano [1962] 2013) suggest that Uehara's treatment of the *in* scale is more accurate than his treatment of the *yō*, as the *in* scale's *kyū* and *chi* do in fact account for a high majority of *in*-scale song endings, though still not all of them. There are 255 *min'yō* and *warabeuta* distributed between Hattori's collection and that of Machida and Asano. Of those 255, I have determined that 52 songs may be said to use the *miyakobushi* scale. And of those 52 *miyakobushi* songs, 10 end on notes other than Uehara's *kyū* or *chi*: a clear minority, but an existent one nonetheless.[46] I will return to these outliers soon.

The greater accuracy of Uehara's treatment of the *in* scale is corroborated by the *Ritsugen hakki* (律原発揮) of Nakane Akira (中根璋, 1662–1733, also known as Nakane Genkei [中根元圭]), an Edo-period mathematical music treatise published in 1692, more than 150 years before the arrival of the Americans in their black ships. He presents five *koto* tunings that are all transpositions of what we would now recognize as a close relative of the *miyakobushi* scale (he soon afterwards calls them *honpō zokuchō*, i.e., "this country's vulgar/common keys/harmonies").[47] Despite some small if interesting differences,[48] their basic outline is clearly the same as the descending form of Uehara's *miyakobushi*, and *kyū* is on the same note on which Uehara places it. On the other hand, Nakane also presents a different *koto* tuning using only the notes E, G, A, B, and D,[49] in which E is always marked as *kyū*, not D as

45. Famous examples of unambiguous C-final pieces that predate Heinrich Glarean's *Dodecachordon* of 1547 are Dufay's *Ave Regina Caelorum (III)* and Josquin's *Ave Maria . . . virgo serena*. Unambiguous examples ending on A can be a little more difficult to make a case for, but there are a few pieces that admit of such a classification without strain: one could, for instance, suggest the popular fifteenth-century chanson *J'ay pris amours* or Josquin's *Missa Gaudeamus*. For more on the question of pre-Glarean A-finality, see Judd (2000).

46. All ten of these come from Hattori (1960), and none from Machida and Asano ([1962] 2013), suggesting a repertorial divide between *min'yō* (folk song) and *warabeuta* (children's songs), or perhaps a difference in how these transcribers made decisions about when a song has ended.

47. The transpositions are those that place their *kyū* on D, E, G, A, and B, in that order. These transposed scales are named, perhaps confusingly but also revealingly, after *gosei* names themselves: the D *in* scale is called *kyūchō* (宮調), the E *in* scale is called *shōchō* (商調), and so on. Thus they are named after the positions that each scale's respective *kyū* occupies in the D *ritsu* scale, suggesting the theoretical primacy of *ichikotsu ritsu*.

48. In Nakane's presentation of these scales, *shō* is only a quarter tone above *kyū* rather than a semitone, and not one but two *hen* notes are allowed within the large gap between *shō* and *kaku*. If Isawa had known about this earlier depiction of the *miyakobushi* and its quarter tone, he would have had even more grounds to compare it to ancient Greek music, specifically to the enharmonic genus.

49. Nakane of course uses the Japanese names of these notes, not Western letter-names, though it is worth mentioning that because of the recent and influential arrival of Jesuit missionaries in China and their influence on Chinese mathematics (see Hu 2019), Nakane's treatise is probably not without some Western influence, even if indirectly.

Uehara would have had it (Nakane 1692, 10v–12r).[50] Once the Meiji period had dawned, it would take close to another century and two World Wars for Nakane's analysis of this *koto* tuning, i.e., the tonality of *Renge tsumoka* and many other such songs, to be widely recognized as a common and important Japanese mode.[51]

Even with Uehara's allowance for *chi* endings, his system still allows only four different ending pitches, namely the *kyū* and *chi* of the *in* and *yō* scales. And despite the higher accuracy of his description of the *in* scale's *kyū*, Uehara includes such oddities as the following description of the *shakuhachi*'s construction and common use:

> *The* shakuhachi *has five holes, and so there are five sounds originally given to it. Including the lowest sound, that is, that of the pipe itself, there are six sounds. Sounds aside from those can be made by way of managing the fingertips or lips. Those original sounds are as shown below:*[52]

hi [D]
ri [C]
chi [A]
re [G]
tsu [F]
ro [D]

> Ro *is the sound made by blowing with all holes closed,* tsu *with the one lowest hole,* re *with two holes,* chi *with three holes,* ri *with four holes, and* hi *is* ro*'s octave duplication above, and is the sound made by playing when all holes are left open. All of these sounds have their own octave duplications above and below. Totaling all those others up produces thirty* ritsu *[notes]. And concerning the mode of* honkyoku*, we know that it resembles the* miyakobushi *scale, namely as below:*

50. The *miyakobushi* diagram may also be found in transcription in Koizumi ([1958] 1977, 206).
51. It seems that Uryū Hajime (瓜生寅, 1842–1913) did suggest this mode as an important one, but Uehara dismisses Uryū's theory of scales on the grounds that he conflates instrumental tunings with scales and modes (Uehara [1895] [1927] 1992, 44), something that Uehara is clearly at pains not to do from the beginning of his book. As we are about to see, however, he cannot quite avoid falling into this trap himself when he turns to his own instrument, the *shakuhachi*.
52. The bracketed letter-names in these reproduced diagrams are my annotations, as Uehara does not include pitch-class information for them, but the spacing of the cells and the careful placement of solid and dotted lines are his, and the standard unstopped pitch of the *shakuhachi* has long been D (Tanaka 2018, 163).

1 [D]
5 [C]
4 [A♭]
3 [G]
↑2 [F]
↓2 [E♭]
1 [D]
First mode

1 [D]
↑5 [C]
↓5 [B♭]
4 [A]
3 [G]
2 [E♭]
1 [D]
Second mode

> *You see things in the first mode most often, while you see examples of the second mode in only a few pieces. Also, for things in the first mode, the second mode is occasionally used like the* miyakobushi *as a change of tone. But it is extremely rare for something to announce its end with the third sound of this diagram, and everyone ends with the first sound. Because of this, when we see this, we must judge something in* honkyoku *that ends with the third sound both in the second mode and in the first mode to be a variant* (變體 or 変体, hentai). *In other words, although one may say that the order of five sounds used on the* shakuhachi*, the quality of the ascending and descending sounds, and those other modes are entirely included in the* miyakobushi *scale, its* kyū *placement is not the same, and is five* ritsu *[i.e., a perfect fourth] below the* kyū *placement of the* miyakobushi *scale. Thus the close resemblance of the mode of the* shakuhachi honkyoku *and the* miyakobushi *scale must probably be an accident. I shall record this now and await greater teachings.* (Uehara [1895] [1927] 1992, 76–78)

In other words, because most *shakuhachi honkyoku* music ends on the note that he would ordinarily classify as *chi* in the *miyakobushi* scale, Uehara has decided that *honkyoku* must be a separate, Locrian-like mode, specific to the *shakuhachi*, whose similarity to the *miyakobushi* is only coincidental. This stems surely from his close association of the concept of *kyū* with that of "tonic": if the tonic is the note that signifies being at rest, and pieces in a particular repertory most often end on a particular note, it makes sense that the most common ending note should be considered the tonic of the mode in question. But in the context of Uehara's otherwise very systematic treatise, this passage is curious and inconsistent. One likely explanation of this passage's unusual nature is that it is because Uehara was himself a *shakuhachi* player (Galliano 2002, 108), and despite having come up with a satisfyingly tidy theory of *zokugaku* tonicity in general, he found the repertory with which he was himself most familiar not quite conforming to it.

Whatever the reason, this passage opens up two questions that Uehara does not answer, though later generations do:

(1) Could not *kyū* and *chi* have a relationship that is not so much tonic versus dominant, but rather one of equal stability and suitability for closure?

(2) In addressing the variant ending on the third note of the *honkyoku* scale, Uehara explicitly writes that this applies not only to its first mode but also to its less common second. The third note of the first *honkyoku* mode is simply the ordinary *miyakobushi kyū*, but what of the third note of the second *honkyoku* mode?

By the way I have phrased the first question, the reader surely already knows that my answer to this question is yes—but that is a conclusion that is already over half a century old at this point, through an avenue I will soon discuss. To the second question: this is *kaku*, the note of the *miyakobushi* scale that most easily sounds like the Western minor tonic, and it is one to which Uehara gives no attention other than this one passing comment. It is also the note on which eight of the ten *miyakobushi* outliers discussed above end.[53]

Japanisches Volkslied Kazoeuta mit Variationen

Though the morphological similarity of this note—the *miyakobushi*'s *kaku*—to the Western minor tonic does not appear to have attracted much attention from either Uehara or Isawa, it was a characteristic that Japanese composers easily noticed and exploited. See, for example, the song in Figure 8, *Kazoeuta* (数え歌, "Counting song") as it appears in the *Yōchien shōkashū* (幼稚園唱歌集, "Kindergarten song collection") of 1887. The melody uses a collection

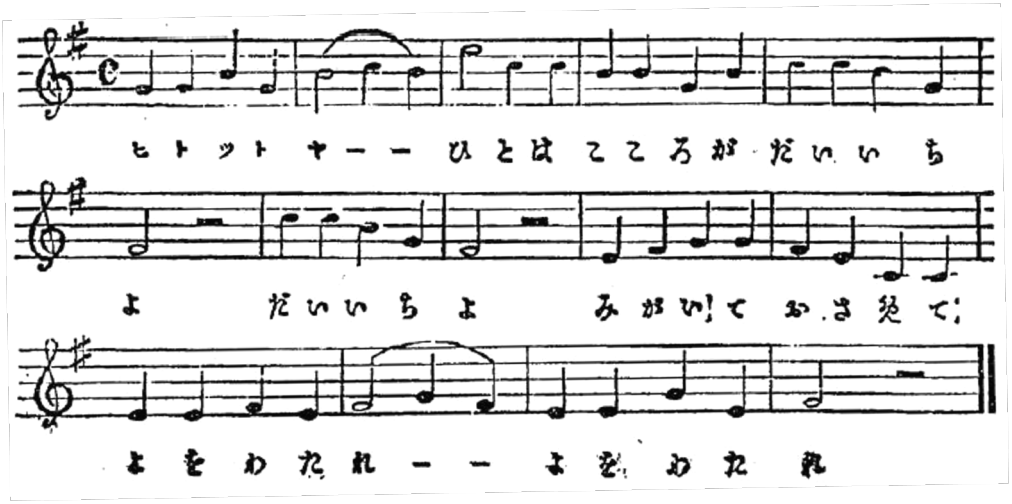

Figure 8. *Kazoeuta*, as it appears in the *Yōchien shōkashū*.

53. The other two outliers end on the note that Uehara calls the descending fifth step, but in both cases these appear to be auxiliary to the note a minor third below, i.e., the same note on which the other eight songs in this group end, by way of either a final vocal slide or a choral fade-out that Hattori simply happens to have stopped transcribing on that particular note. Thus with more room for interpretation, the number could perhaps rise from eight to ten.

of pitches that Uehara would call the descending form of the *miyakobushi* (in both directions), with its *kyū* on B, making this a song with a *chi* ending. Unlike an ending on *kyū*, it would be impossible to harmonize this ending with an E minor chord, which to Western ears sounds like the tonic harmony.

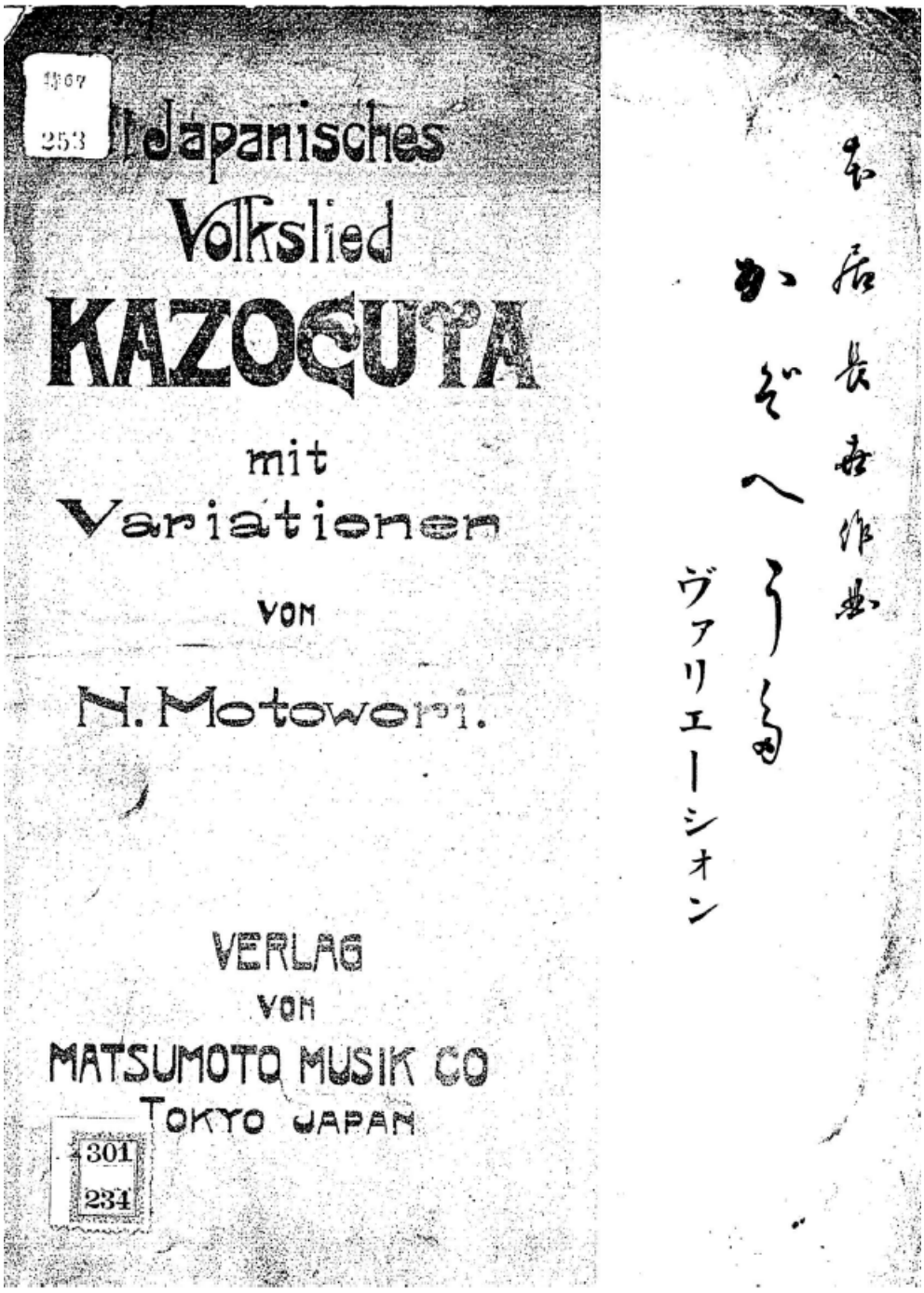

Figure 9. Original title page of Motoori's variations on Kazoeuta.

Twenty-three years after this songbook's publication, near the end of the Meiji period in the year 1910, the composer Motoori Nagayo (本居長世, 1885–1945) published a set of variations for piano on this same counting song. As the title page in Figure 9 makes very clear, this is a Japanese composer's rendition of a Japanese folk song published by a Japanese company—and yet the German rendering of the title and other such information is centered and privileged over the Japanese, and the publisher's information is written only in German. Still, despite its subordinate position, the Japanese title and composer's name on the right side of the title page is written in a dignified calligraphic script. The way the two languages are used can be taken as one instantiation of the Meiji-era drive to present Japanese culture with pride to the Western world,[54] and thus in Western-style packages—and Germanic harmony is one crucial part of that package.

In Figure 10 we can see how Motoori presents the theme in his variation set, which makes his harmonic orientation clear. The *miyakobushi* scale with A as its *kyū* is being harmonized such that its *kyū* is the dominant of a minor key, in this case D minor. Figure 11 shows the way Motoori leads from the end of the theme into its first variation. As we can see, Motoori's rendering of the tune is not identical to the way it appears in the kindergarten songbook, but he does retain its ending on *chi*, i.e., scale degree 2 in D minor, harmonizing it with a thirdless V chord. His use of variation form allows him to respect both the song's proper ending and the dictates of European harmony, since the opening of each successive variation on the i chord resolves the tension held by the V chord that each concludes on. Thus each variation's ending is closed under one system and open under another, and neither has to be formally prioritized—until, of course, the end of the piece, shown in Figure 12. Here the ending of the final variation, on an A chord that does contain a major third, is followed by a two-bar *adagio* coda that allows Motoori to close the piece on a D minor chord, choosing to privilege Western harmony ultimately. One can almost hear Motoori here trying to mediate between the two scale systems by placing A, i.e., *kyū*, in the top voice of the final chord, and by using a iv chord with an added sixth rather than a V chord as his penultimate sonority, since it allows for the descent from B♭ to A in an inner voice and avoids the rising leading tone, which is absent from the *miyakobushi*.[55] Even so, Motoori's ending on this D minor chord with its low D octave in the left hand seems like a concession to Western harmony, an acquiescence to the

54. As with Isawa's *gagaku* transcriptions of Apollo's hymn, this is an example of translated imperialism in its most literal form. In fact, the very word *min'yō* was coined in the Meiji period as an intentionally direct translation of the Germanic words "folk song" or *Volkslied*. The same is true of *onkai* for "scale" and *senpō* for "mode" (Tokita 1996, 4; Hughes 2008, 9–10). By formalizing and defining their own music along the same model as Europeans, and above all Germans, Japanese composers were able to claim a place in the Austro-German late Romantic tradition just as Isawa was able to in the legacy of ancient Greece. Japan soon spread its hybridized musical curriculum to its Asian colonies: Isawa's last official post, for example, was as the music director of public schools in Taiwan (Manabe 2009, 171–72).

55. One may note that *Kazoeuta* also entirely lacks Uehara's ascending fifth degree, which in D minor would be a G. This turns its vocabulary into complete *yonanuki* minor from the perspective of D as tonic, but this is a product of the original tune's construction and not of Motoori's treatment of it.

tension of the V chord being valued over the repose of the *miyakobushi* final.[56]

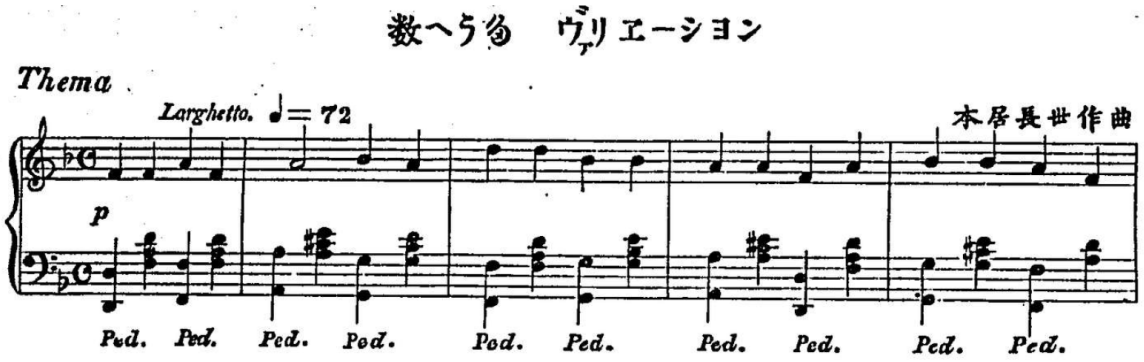

Figure 10. Beginning of theme from Motoori's Kazoeuta variations.

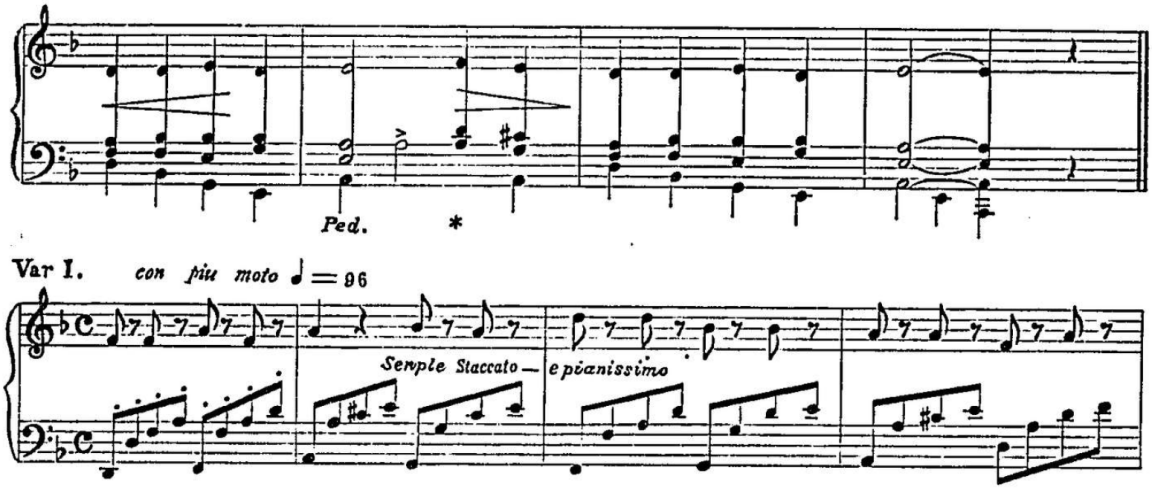

Figure 11. End of theme and beginning of first variation in Motoori's Kazoeuta variations.

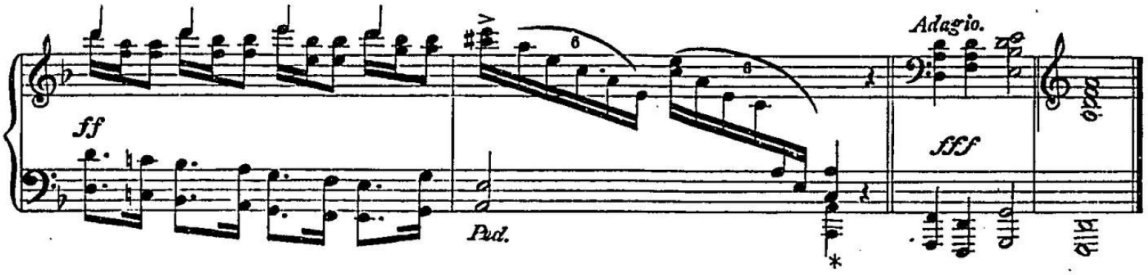

Figure 12. End of final variation and coda in Motoori's Kazoeuta variations.

56. Yamada Kōsaku (山田耕筰, 1886–1965) also wrote a setting of *Kazoeuta*, in F minor, which Pacun (2006) discusses while making clear that Yamada harmonically conceived of the song along much the same lines as Motoori.

KOIZUMI FUMIO AND THE RISE OF THE TETRACHORD

It would not be until after Japan's defeat in the Second World War that the question of Japanese tonicity would receive the vigorous new treatment still favored today,[57] namely the tetrachordal theory of the ethnomusicologist Koizumi Fumio in his 1958 *Nihon dentō ongaku no kenkyū* (日本傳統音楽の研究, "Research on Japanese traditional music"). Turning away from both Isawa's heptatonic conception and Uehara's pentatonic one, Koizumi argues that the most foundational scalar unit in Japanese folk music is not bounded by an octave at all, but rather by a perfect fourth. In a literal sense, his use of the word "tetrachord" may be a misnomer, because unlike the ancient Greek tetrachords on which Koizumi's are modeled, Koizumi's Japanese ones contain only three notes. His naming of them comes from the German ethnomusicologist Robert Lachmann, who used a similar naming system for the analysis of Siberian shamanic songs and Japanese *nō* songs (Asai 1999, 124), and what defines "tetrachord" in this scholarly lineage is the framing of these units by the interval of a perfect fourth, rather the number of notes involved being four. Their other similarity to ancient Greek tetrachords makes Koizumi's naming sense arguably more warranted: as in ancient Greek theory, the two notes at the upper and lower bounds of the tetrachord are stable (Koizumi calls them *kakuon* [核音], that is, "nuclear tones," after the German *Kernton*), while the note between them is movable. Also as in Greek theory, the tetrachords usually alternate as conjunct and disjunct, allowing octave equivalence to continue to obtain despite the octave's theoretical deemphasis within the system.[58] By moving the central note of the tetrachord to four different locations, Koizumi establishes a system of four tetrachords, which are shown in Figure 13. The result is that two of the four tetrachords can generate different modes of the anhemitonic pentatonic scale, made up entirely of whole tones and minor thirds. Koizumi calls these the *ritsu* and the *min'yō* tetrachords, somewhat arbitrarily naming the *ritsu* after its related *gagaku* mode and the *min'yō* after its frequent appearance in folk song, even though the first three of Koizumi's tetrachords are all quite common in *min'yō*. The other two create scales made mostly of semitones and major thirds, and Koizumi calls the first tetrachord *miyakobushi* after the scale identified by Uehara as such. The *Ryūkyū* scale is, as its name suggests, heavily associated with the Ryukyu Islands and Okinawa to the south of the

57. Tetrachordal analysis is often carried out by current scholars writing in both Japanese and English. Authors who have used it to new productive ends include Okada (1991), Pacun (2006), and Satō (1999). Scholarship that is more critical of Koizumi's work while still accepting its fundamental premises may be found in Shibata (1978), Tokita (1996), and Miyauchi (2014).

58. As an example, a *miyakobushi* tetrachord on C (C-D♭-F) will often be followed by a *miyakobushi* tetrachord not on F, but rather on G, a whole step above (G-A♭-C). This relationship is called *disjunct*, because the top of the bottom tetrachord and the bottom of the top one are separated from each other by a *tone of disjunction*. If they are disjunct in this way, however, the next tetrachord will be *conjunct*—that is, it will start on C, the same note as the top note of the previous one. Thus by alternating conjunct and disjunct tetrachords, the pitch-class material remains constant, as the tetrachord on the low C and that on the high C will be exactly an octave apart: showing beginnings of new tetrachords in bold, we would have **C**-D♭-F-**G**-A♭-**C**-D♭-F-**G**-A♭-**C**, and so on. By contrast, if all tetrachords were conjunct, we would get **C**-D♭-**F**-G♭-**B**♭-C♭-**E**♭-F♭-**A**♭, and so on—or, if they were all disjunct, **C**-D♭-F-**G**-A♭-C-**D**-E♭-G-**A**-B♭-D, and so on. In either case, a spiral of new pitch classes would be produced as the music went higher or lower.

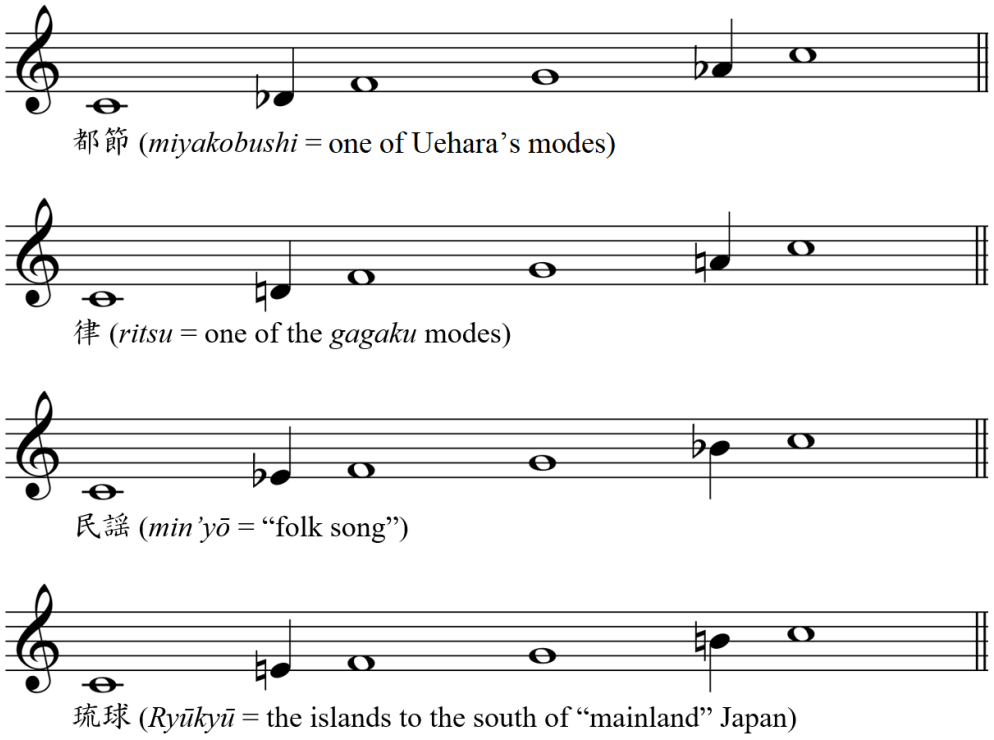

Figure 13. The four octave species that can be made by stacking two each of Koizumi's tetrachords of the same type onto each other, separated by a tone.

larger Japanese islands, and represents a tradition rather distinct from the rest of the music discussed here.

The Greek heritage of Koizumi's system, especially in the context in which I have placed it, may remind readers of Isawa's interest in aligning ancient Greek music with Japanese music, and it is not implausible that some of the same harnessing of ancient Greek cultural prestige remains at work here. Koizumi, however, attributes the notion of tetrachordal theory to Lachmann, as mentioned above, and Koizumi saw himself as an ethnomusicologist in Lachmann's lineage, more interested in various folk musics from around the world than in building Japan's national profile as Isawa and Uehara were.[59]

Koizumi's recognition of the *min'yō* mode as its own type greatly opens up the analytical field for *yō*-scale songs. Just as Uehara ([1895] [1927] 1992, 44) critiqued Isawa for not distinguishing *kyū* endings from *chi* endings, and also his forebear Uryū Hajime for conflating instrumental tunings with modes, Koizumi ([1958] 1977, 195–96) critiqued Uehara and Tanabe Hisao for conflating scale types with specific modes, this being the misstep that caused Uehara

59. This interest in a wide variety of world musics is displayed quite clearly in the afterword to the 1964 edition of Koizumi's book, in which he describes his past research in India and his future research plans in Egypt, Turkey, Hungary, and Bulgaria in the interest of finding "data on contact between Eastern and Western cultures" ([1958] 1977, 278).

to have the *ritsu* mode stand for all *yō* scales, with *kyū* in the same *ritsu*-final position throughout. For the *in* scale, on the other hand, there remains only the singular *miyakobushi* tetrachord in Koizumi's system.

He addresses the issue of *miyakobushi* finality by ranking the different pitches that form the boundaries of the tetrachord. Given the two disjunct tetrachords of E-F-A and B-C-E that make up an authentic *miyakobushi* octave from E to E in what Uehara calls the descending form of the *in* scale, Koizumi posits that although the tetrachord's frame of a fourth is foundational to much Japanese melodic construction (he literally calls it a "plagal melody shape" [(1958) 1977, 135]), the fifth between E and B is structurally important as well. He follows this by suggesting a hierarchy of available finals, with E as the most prominent, B as second most, and A as third most. Along with tetrachordally deemphasizing the octave, Koizumi mostly relegates the Chinese-derived solmization names, *kyū-shō*-etc., to a historical position, though in this situation he calls on them again: he names an ending on E a *kyū* ending, on B a *chi* ending, and on A a *kaku* ending (Koizumi [1958] 1977, 181–82), absolutely in line with Uehara's solmization of his *in* scale.

Directly before citing the above-described passage of Koizumi's in his 1978 *Ongaku no gaikotsu no hanashi* (音楽の骸骨のはなし, "The story of the skeleton of music"), the theorist Shibata Minao (柴田南雄, 1916–1996) writes:

> *So, one song in the so-called* Nanbu Min'yō *[Nanbu (Iwate) Folk Songs] is the famous* Ushikata-bushi *(example 1,* Survey of Japanese Folk Song*, Tōhoku Volume, NHK edition, 1952, p. 101), and minor-key harmonies can be attached to this melody more or less without strain. For a long time I thought that the explanation for the meaning and construction of melodies like this, i.e., those like* Ushikata-bushi, *was that they had woken up to—or been contaminated by—the dominant-tonic relationship. But Koizumi Fumio has already put out a clear answer in his* Research on Japanese Traditional Music. (Shibata 1978, 16)

Koizumi's explanation is, as we know, that *kaku* endings are simply a possible, indigenous, tetrachordally explicable phenomenon, even if a third-level-default one. Tokita (1996) corroborates this view, writing:

> *While A is certainly subordinate to E and B, it does not seem to lose completely its role as a nuclear tone in terms of frequency of use, its combination with E and B in shamisen ostinato patterns, and its occasional use as a section final. We should also not forget the use of A as an open string in the sansagari tuning.*[60] *However, its use does make the tonality veer towards modulation to the A-based scale.* (Tokita 1996, 15)

In other words, traditional *shamisen* repertory tends enough towards the conception of

60. *Sansagari* (三下がり) is a common *shamisen* tuning, in which the strings are tuned to the successive fourths B-E-A, as detailed not only in Tokita (1996) but also in Uehara ([1895] [1927] 1992, 39–41). Its successive conjunct fourths make it something of a tonal puzzle for Uehara when compared to the other two common tunings, *honchōshi* (本調子, B-E-B) and *niagari* (二上がり, B-F♯-B).

Uehara's *kyū* as tonic that enough emphasis on A can cause B♭s to start to creep in, making A a new *kyū*. Nevertheless, Tokita does acknowledge that *kaku* endings are possible in the repertory too, if rarer and more precarious.

THE *KAKU*-TONIC IN POST-MEIJI MUSIC

By the time Koizumi was writing, these *kaku* endings had already been used, and harmonized like Western minor tonics, by Japanese composers in much the way that Shibata was observing. As the tacked-on coda to Motoori's *Kazoeuta* variations shown in Figure 12 makes clear, Japanese composers had long been aware that the *miyakobushi kyū* mapped most easily not onto the Western minor tonic but rather onto the Western minor mode's dominant. This same correspondence clearly undergirds virtually all post-Meiji-Restoration *miyakobushi*-referencing minor-mode Japanese songs, for example Taki Rentarō's *Kōjō no tsuki*[61] and Motoori's *Akai kutsu*. Koizumi's explanation of these *kaku*-ending *miyakobushi* songs as ending on the upper boundary tone below the tone of disjunction helps to explain why folk songs like this exist at all in Japan, but it is clear that by the time he was writing, most of the Japanese music world had already accepted a nonsensical-sounding proposition: *in the* in *scale,* kaku *is tonic.*

I have intentionally phrased this in as self-contradictory a way as possible. The idea that the *in* scale has one specific tonic at all is Uehara's, but Uehara never allows the concept of "tonic" to be linked with any solfège name but *kyū*. Meanwhile, Koizumi's discussion of *kaku* as an ending tone assumes that *kyū* and *chi* are higher-level defaults, and that it is only folk and pre-Meiji music that is under consideration. My proposition above is not, to be clear, intended as a statement about all *in*-scale music. Rather, it is a hearing of the *in* scale that Japanese musicians appear to have adopted once the Meiji Restoration had brought Western music to Japan.[62]

Even with Western scales and tonics having entered Japan's soundscape, the older tetrachordal *miyakobushi* tonality that had already existed for centuries in Japan could not simply be overwritten without a trace. Indeed, Japanese composers continue to write pieces that leave older practices intact, if masked under a film of Western harmony. One of the main

61. *Kōjō no tsuki* (荒城の月) may be familiar to some Western string players because of its heavy presence in Suzuki-method books as an exercise piece, under the title "The Moon over the Ruined Castle."
62. It is not as if Western music was utterly unknown in Japan before 1868: Portuguese Jesuits introduced Western sacred music along with Christianity in the mid-sixteenth century, but their presence was almost entirely purged by the persecutions of Hideyoshi and the Tokugawa shogunate in the late sixteenth and early seventeenth centuries, and in any case their musical influence never reached far beyond the few churches that had existed. Shibata (2014, 151–58) has discussed the few lingering traces that it did leave, including a tradition of singing Portuguese-accented Gregorian chant in Latin on an island near Nagasaki. During the Edo period, Dutch merchants were still allowed to trade with Japan via the artificial island of Dejima, to which a few Western instruments were brought as curiosities, but once again the significant reach of Western tonality into the ears of the Japanese population cannot be said to have begun until the Meiji period (Hebert 2012, 45).

ways they do this is by creating the *yonanuki* minor scale.[63] *Yonanuki* quite literally means "4 and 7 removed": thus a *yonanuki* minor scale on A would be A-B-C-E-F-A. It is no coincidence that this scale's pitch content is identical to a (descending) *miyakobushi* scale on E—the creation of the *yonanuki* minor scale was a way of capturing in one scale the functional tonality of Western music and the *miyakobushi*-tetrachord-based melodic shapes of Japanese music.

Okada Maki (1991, 286) demonstrates the relationships between Koizumi's tetrachords and the *yonanuki* scales, showing that the *miyakobushi* tetrachord and the *yonanuki* minor use similar melodic intervals. Like Uehara, however, she seems to conflate too closely the notions of tetrachordal nuclear tones and of Western tonics when she writes that "in traditional scales the fourth degree is given great importance. But in the case of the *yonanuki* scale, i.e. the scale most often used in *enka*, the fourth degree is entirely missing" (Okada 1991, 285). While not an untrue statement, it aligns traditional scales with the *yonanuki* scale in a way that seems to equate the traditional *kyū* with the Western tonic, much as Uehara does, though Okada's "fourth degree" in traditional scales is what Uehara would call the "third degree": the note a perfect fourth above *kyū*, i.e., *kaku*, which in the *yonanuki* minor scale has become the tonic. To equate these two types of "fourth degree" with each other is to miss the way the older type has rotated to produce the newer type. This is why I will be calling the tonic of the *yonanuki* minor scale *kaku*: if we have Uehara's descending *miyakobushi* and place its *kyū* on E, the A that is that scale's *kaku* is the note that the *yonanuki* minor treats as its tonic.

In describing the following pieces, my goal will be to show that their heterogenous attributes justify using multiple sets of terminology—not haphazardly, but strategically, based on the origin of the ingredient in question. Whatever my terminological plurality may sacrifice in simplicity should be made up for with both accuracy and a palpable sense of the diverse ingredients that coexist and play off one another in certain genres of Japanese music from roughly the past century.

First, although not proceeding in chronological order, I will address the *enka* genre in one of its most commonly heard present-day forms, because it tends to be the most uncompromising in its privileging of the Western minor tonic as its tonal center. Observe Figure 14, which shows the ending of *enka* singer Ichikawa Yukino's *Ryūhyō hatoba*, composed by Miyuki Kōhei as recently as 2013. No one would doubt that the tonic of the piece is A♭, and that it is achieved and confirmed, especially at the piece's end, in much the way that any Western A♭ minor tonic would be. What is important here is that the final vocal cadence is accomplished in a way that derives from traditional tetrachordal practice, even if its *kaku* has

63. Christine Yano describes the *yonanuki* scales as having been "deliberately created" (1998, 248), a description with which I have no disagreement. While she and Wajima (2010) emphasize discontinuity and I continuity, these are mostly differences of framing: we would all probably agree that the *yonanuki* minor scale, as consciously created by early-twentieth-century composers like Koga Masao (古賀政男, 1904–1978), resonated as strongly as it did with its Japanese listeners because of its not-at-all-coincidental similarities to what had already existed in Japan before the arrival of Western harmony.

been reconceived as an unambiguous tonic. Manabe's argument for melodic behavior as an essential characteristic to consider when attempting modal classification[64] would seem to suggest that the vocal part of *Ryūhyō hatoba* could perhaps be considered not only an instance of the Western key of A♭ minor, but also simultaneously a later stage in the life of the *miyakobushi* scale, with its *kyū* on E♭. Because of Western influences absorbed over the past century and a half, someone wanting to preserve the *gosei* names might suggest reassigning them in accordance with the *gagaku* principle that *kyū* is always the tonic and/or final. But to keep the messy family tree of *gosei* history in full view, I will call notes like the final A♭ of the *Ryūhyō hatoba* melody the *kaku*-tonic.

Some listeners may understandably feel that even though a few *miyakobushi min'yō* do end on *kaku*, it does not make sense to keep calling this note *kaku* in *enka* when almost every single song of this type in the genre does so. To use the name *kaku* as I am here may indicate

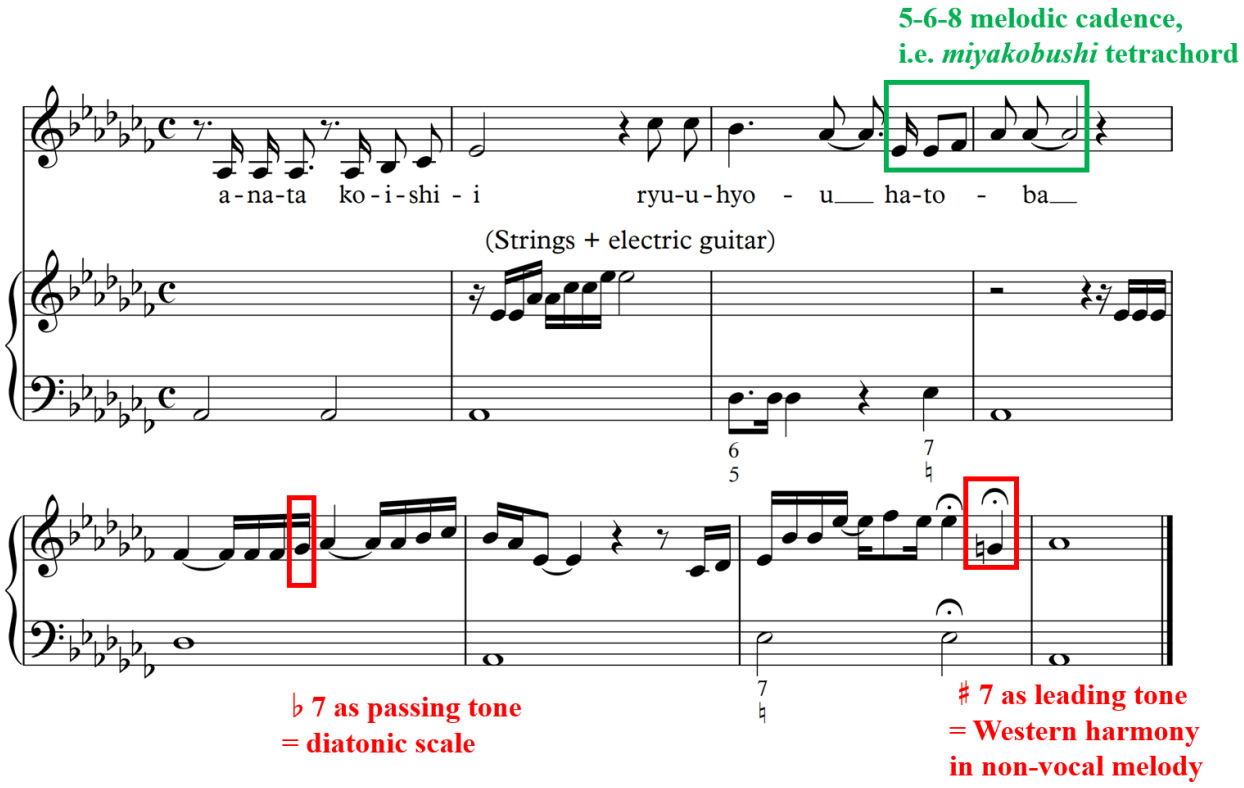

Figure 14. Ichikawa Yukino, *Ryūhyō hatoba*, ending (my transcription).

64. Specifically, I refer here again to her criticism of Isawa's classification of Shiba's *Yamato Nadeshiko* as *sōjō ryo* on the grounds of its melodic behavior, especially at its Western-style 3-2-1 closing descent (Manabe 2009, 129–31). The minor-mode 5-6-1 melodic cadence is so common in the *enka* genre that it can also be observed in songs such as Konno Hiromi's *Misoji Misaki*, which is intended as a parody of the genre; and Misora Hibari's *Midaregami*, which uses much more of a Western-style diatonic palette for its melody and yet still makes its final cadence by rising through the *miyakobushi* tetrachord, 5-6-1.

the completion of a bizarre four-step process:[65]

(0) In Chinese theory, any solfège name can be a modal final, including *jué* (which in Japan would come to be pronounced *kaku*).

(1) *Kyū* changes from indicating pentatonic position, as in Chinese theory, to indicating the final of multiple modes in *gagaku* theory. None of the other four names can be finals anymore.

(2) Uehara allows the notion of ending on *chi* in order to keep the number of modes at two while accommodating *min'yō* that do not end on *gagaku* finals, even while insisting that *kyū* is conceptually the same as the Western tonic.

(3) Koizumi extends the range of notes that can be ended on to include *kaku* in a few cases.

(4) I apply Koizumi's theory to a repertory in which this type of *in*-scale *kaku* becomes the only possible *in*-scale tonic and final (meanwhile, two different tonics exist in the *yō* scale in modern *enka* practice[66]).

I do not actually mean to argue too vehemently for the use of *gosei* solfège in analyzing *enka*. I, like almost anyone else, am more likely to call the final A♭ of *Ryūhyō hatoba* its tonic, final, or first scale degree than its *kaku* (I would even entertain calling it a new type of *kyū*, as explained above). What I do want to argue, however, is that it is not wrong to call it *kaku*, even if it does cast the music in an unintuitive light—sometimes, that might be precisely the light that is needed when discussing the music. *Enka* may not be "true *min'yō*," if by that we mean only Japanese folk songs that predate the Meiji Restoration and were originally conceived without Western harmony in mind, but *enka*'s use of *miyakobushi* melodic patterns do come directly from *min'yō*, and even the way these melodic patterns are supported by Western harmonic structures represent traditions that date back to decades before *enka* came into style, as Motoori's *Kazoeuta* variations make clear.

In other words, these songs' persistent use of *kaku* as tonic and final is indeed a result of what Shibata (1978, 16) wittily calls both an awakening and a contamination. It is also, however, a possibility that was latent and even occasionally realized in pre-Meiji *min'yō* all along,

65. Processes more bizarre than this are well-attested in the history of music theory, such as the above-described mutations of the meanings of the Greek mode names in the history of Western music theory, as well as the changes in the meaning of solfège syllable names as they passed from Guido to the Renaissance to shape-note singers in America and experienced the fixed/movable schism. In my case, I can say that at least the process is being carried out in the interests of respecting a genre's mixed history.

66. How to *gosei*-solmize them depends on whose *kyū* we accept. Rather than Uehara's problematic *ritsu*-based *yō* scale, the most sensible solution, if one must be chosen, would also seem to be the oldest, namely that from ancient China in which *kyū* is the tonic of the *yonanuki* major (i.e., the major scale without scale degrees 4 and 7) and *u* the tonic of the *nironuki* minor (i.e., the minor scale without scale degrees 2 and 6). The question is not of grave import because the *gosei* syllables have much less practical pedagogical use, especially now, than do Western solfège syllables, but they can help a theorist or analyst to orient their view of these pieces in a particular way.

recognized as such by Uehara and Koizumi, and which interaction with Western harmony drew to the fore, in the process changing but by no means obliterating the traditions of tetrachordal *in*-scale melodic construction that had already existed. These recent *enka* songs and Motoori's *Kazoeuta* variations both demonstrate cases in which, despite pre-Meiji melodic *in*-scale patterns being evident, the Western minor tonic (or *kaku* if one likes) is ultimately confirmed as a clear tonic in the end. It is just as important, however, to examine cases in which this is not so—that is, *miyakobushi* pieces that end on one of the more traditional finals,[67] even while other evidence of Western harmony is evident.

One such piece we can turn to is *Tōryanse*, a *warabeuta* that is now mostly known through an influential arrangement made by Motoori in 1921. Among other channels of dissemination, Motoori's arrangement became so well known because for many decades it was played at Japanese crosswalks to signify that it was safe for pedestrians to cross. Though it did and perhaps still does exist in Kyoto as a *yō*-scale song (Manabe 2009, 191), Motoori's arrangement, and thus the best-known version, is *in*-scale, usually notated with A as *kyū* and with E, *chi*, as the final note (this is the same tonal world as that of the variations on *Kazoeuta* that Motoori wrote about a decade earlier). His setting of *Tōryanse*'s ending is shown in Figure 15. Motoori's arrangement was not simply a process of adding a piano accompaniment and a few Italian performance directions to a traditional melody: it is also clear that he made several changes to the original melody, despite advertising it as one of a pair of "melodies of children's songs as they were [*sono mama ni*] in the Edo period with accompaniment appended" (Kojima 2004, 65–66). Manabe (2009, 191–98) describes Motoori's changes in detail, but perhaps his most significant change was to rework the final phrase, starting in m. 31, such that it includes stepwise motion from F to G. Under Uehara's model, these are the descending and ascending forms of the fifth step of the *miyakobushi* scale, which in traditional music do not occur in succession ([1895] [1927] 1992, 89).[68] Koizumi, though holding some reservations about the way Uehara's binary collapses "scale" and "mode" (respectively *onkai* and *senpō*) onto each other, still supports Uehara's claim about the alternate forms of the fifth scale step, and even discusses *Tōryanse* specifically in this context ([1958] 1977, 236–237).

It is Motoori's willingness to "emancipate" these two notes, turning them into independent scale degrees on equal footing with the rest, while still steadfastly avoiding C or C♯ in the melody, that creates what Kojima Tomiko has called the "Motoori-style scale" (Kindaichi 1983, 348), which the final phrase of *Tōryanse* makes most evident. Despite this concession to Western scalar structure, however, Motoori does not treat the ending of his *Tōryanse* arrangement as he did his earlier *Kazoeuta* variations. Rather, he allows *Tōryanse*'s ending on *chi* to hang in the air, harmonizing it with an A major chord[69] and thus treating it

67. For example, E or B if the scale's *kyū* is E—that is, the lower members of each tetrachord.
68. Uehara in this citation is writing specifically about the *yō* scale rather than the *in*, but for him the logic is understood to transfer because of the importance of *in–yō* parallelism to him.
69. Manabe (2009, 196) notes that some more recent recordings omit the C♯ to leave only an open fifth between A and E, suggesting that Motoori's original full triad has come to sound too audibly reliant on Western harmony.

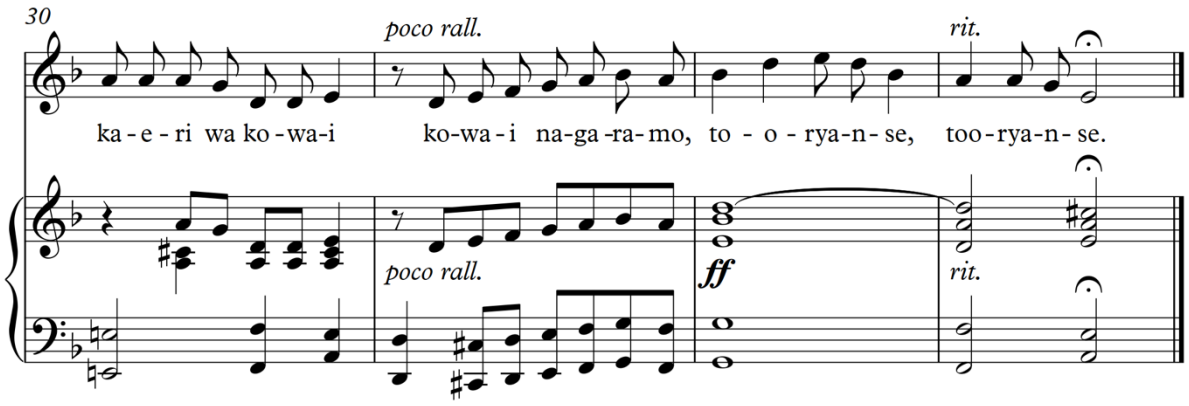

Figure 15. *Tōryanse*, arr. Motoori, ending.

unambiguously as part of a dominant harmony in D minor that never resolves. Here Uehara's mapping of theoretical terms is turned on its head, with *kyū* being explicitly linked with the dominant rather than the tonic, unless one is prepared to call the final A major chord of Motoori's *Tōryanse* arrangement a Phrygian-mode final and ascribe to that final all the characteristics of "tonic" that Uehara ascribed to "tonic" and *kyū*.[70]

Another song that similarly negotiates the gap between the *miyakobushi kyū* and the Western tonic is *Nangoku Tosa o ato ni shite* (南国土佐を後にして, "Leaving behind *Nangoku Tosa*"), which derives some of its curious qualities from its multilayered history. It appears to have arisen anonymously from the members of a Japanese army battalion stationed in China during the Second World War (Nishida 2013). These soldiers were mostly, perhaps entirely, from Japan's Kōchi Prefecture, and so they grafted their own new song onto *Yosakoi-bushi*, a *min'yō* from the Kōchi region. After the war, the composer Takemasa Eisaku (武政英策, 1907–1982) transcribed the soldiers' song[71] and arranged it, likely doing some editing of his own in the process.[72] It gained popularity swiftly, being recorded by quite a few singers in the 1950s,

70. On the notion of a major triad functioning as the Phrygian mode's final, see McClary (2004, 208–11), who discusses to what degree this is the norm in high-Renaissance music. The possibility of ending a piece on a minor triad seems to have vanished entirely by the age of Willaert in the early sixteenth century, and did not return until the high baroque, at which point the Phrygian was already moribund. Thus it is the major-chord-ending version of the Phrygian mode that continued on in the memory of Western musicians, and ultimately influenced harmonizations like Motoori's. I give a fuller account of the history of the Picardy third and how it intertwines with that of the Phrygian mode in my dissertation (Hynes-Tawa 2020).

71. The notion of a *miyakobushi* song made up by Japanese soldiers occupying China may call translated imperialism to readers' minds again, but songs like *Nangoku Tosa o ato ni shite*, written in the wake of the American occupation following Japan's defeat in the war, have more to do with recuperating some sense of Japanese identity than with creating anything either prestigious on Western terms or exportable to other nations. Yano, for example, describes *enka* as excluded from Japan's list of "cultural ambassadors," and as "small performances of the heart meant to play primarily, though not exclusively, to a home audience" (Yano 2002, 8).

72. Takemasa was closely involved with other new uses of the *Yosakoi-bushi min'yō* as well. For example, the *Yosakoi Matsuri* began in 1954, and for its annual celebration Takemasa wrote the song *Yosakoi Naruko Odori*, which is similar to *Nangoku Tosa* in the way Takemasa attaches *Yosakoi-bushi* to other material. In this case, however, the style is much simpler overall, lending itself to repetitive communal performance at the festival, rather than as a song to be recorded by a solo singer. Takemasa's combination of material in *Yosakoi Naruko Odori*

most famously Peggy Hayama in 1959.

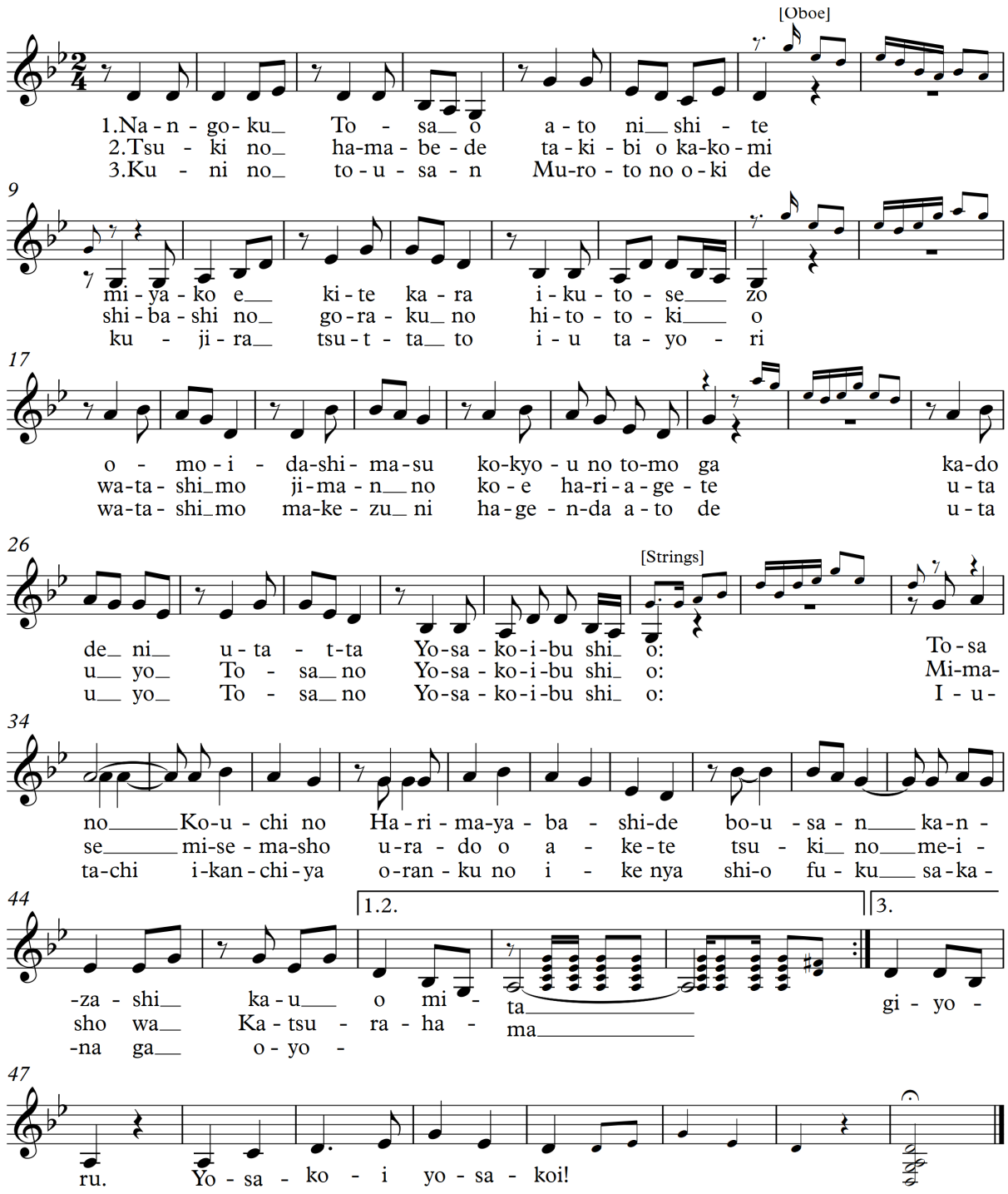

Figure 16. *Nangoku Tosa o ato ni shite*, as sung by Peggy Hayama.

represents a case of sudden modulation between the *yō* and *in* scales, without any of the light-to-dark, major-to-minor associations that Uehara would have associated with that move.

The melody of *Nangoku Tosa o*, shown in Figure 16, is a nearly pure example of the *yonanuki* minor. Speaking in terms of G minor, the key in which Hayama sings it, it almost entirely restricts itself to G, A, B♭, D, and E♭, thus being in some sense closer to the pre-Meiji *miyakobushi* than to Motoori's six-note scale as seen at the end of his arrangement of *Tōryanse*. Its two uses of C (mm. 6 and 48) occur in precisely the ascending capacity that Uehara granted it, and it never features B♭ and C in succession. Its only concession to Western influence is the way the first part of the melody (mm. 1–31), which originated in wartime, so clearly marks out *kaku*, here G, as its tonic. This part of the melody falls into four phrases of roughly equal length, and all but the first end on *kaku*. As if to emphasize the Western-derived importance of the octave over that of the tetrachord, the third phrase ends an octave above the *kaku* on which the entire first part ends. Though the third and fourth phrases' beginnings on high A could be heard as a gesture to the *miyakobushi*'s *chi*, both ultimately capitulate to the Western tonic below them, in the case of the fourth and final phrase finding its way down a major ninth to the tonic in the lower octave. Only the first of the four phrases seems to pay respects to the idea of the *miyakobushi*'s traditional *kyū*, by both beginning and ending on D, and emphasizing the melodic semitone between D and E♭.

The song unfolds in three verses, each of which is nearly musically identical, aside from an important closing tag added onto the end of the last. The lyrics of the final phrase of the soldiers' part of every verse end with a reference to *Yosakoi-bushi* (mm. 29–31), and the nostalgia for hometown Tosa that it brings. Then, as if naming the folk music of the *furusato* has called it back into being, each verse finds itself followed by a literal quotation of the *Yosakoi-bushi* melody, unaltered except in rhythm, beginning at m. 33. In contrast to the part of the song that originated during the war, the *Yosakoi-bushi* melody refuses to submit to tonal closure on Western terms: its first phrase ends on the *kyū* D, and its second on the *chi* A, leaving the end of the first two verses suspended on scale degree 2. The original folk tune typically follows these two phrases with calls of *Yosakoi, yosakoi!* that end back on the *kyū* D. In the first two verses of this incarnation of the song, however, these iconic *Yosakoi* calls are omitted, and it is unclear whether this was the product of the soldiers' consensus or of Takemasa's arrangement. What these verses do instead is to pick up on the high tension that scale degree 2 holds in the Western tonal system. Takemasa harmonizes it with a long and rhythmically propulsive ii$^{\emptyset 7}$ chord, which leads via a momentary V chord back around to the next verse.[73] Thus, just as in Motoori's *Kazoeuta* variations, the non-tonic quality from the perspective of Western harmony on the *miyakobushi*'s *chi* is harnessed as momentum to push forward to the next verse and, one might assume, an eventual *kaku*-tonic ending.

But at the end of his third and final verse, unlike in Motoori's variations, Takemasa refuses the Western tonic. Instead he gives us something else long denied: the final *Yosakoi, yosakoi!* refrain of the *Yosakoi-bushi min'yō*, *kyū* ending and all. Even the harmony does not

73. The briefness of the V chord calls to mind Pacun's (2006, 94) account of the common *miyakobushi* harmonization of ii$^{\emptyset 7}$ going straight to i, and in the *Kujira butai*'s early recording, there is in fact no V chord in this retransition at all.

cooperate with Western norms: we end on a thirdless V chord with a never-to-be-resolved suspended fourth, and the song is over. Not only have the melody and bass chosen the *miyakobushi kyū* over the Western tonic, but even the inner voices have chosen to represent a tetrachordal frame (D-G and A-D) over a triadic one (like the full major dominant chord on which Motoori's *Tōryanse* ends). There is no evidence that Takemasa was directly familiar with Koizumi's theory, but similar cultural forces were likely at work, Koizumi's seminal work on tetrachordal structure having been published only five years after the first recording of *Nangoku Tosa o ato ni shite* by Oka Kyōko in 1953. While clearly still a compromise between Western tonality and that of pre-Meiji *min'yō*, it appears that Takemasa was trying for something slightly closer to the latter than the work that Motoori had become most famous for.

Ultimately, however, Takemasa's experiments did not become a new norm, despite *Nangoku Tosa o ato ni shite*'s popularity. The *enka* genre that was taking hold at the same time enforced a privileging of the Western *kaku*-tonic even while retaining melodic patterns that trace out the *miyakobushi* tetrachord, as we have seen above with *Ryūhyō hatoba*. This prevalence of the *kaku*-tonic is even demonstrated in several recordings of *Nangoku Tosa o ato ni shite* that come later than Hayama's. For example, Mori Masako's 1977 recording tacks on an instrumental V-i resolution after the vocal ending *kyū*, complete with the very non-*miyakobushi* leading tone in the soprano, just as in the ending of *Ryūhyō hatoba*. Meanwhile, the recording by Fuji Keiko (1976) follows the final vocal *kyū* with simply a rest and a lone *kaku*-tonic minor chord. The more traditional ending on the tetrachordal V chord, however, did not fade entirely from practice, as Mizumori Kaori's recording from as recently as 2007 shows.

One final example that is not even a decade old will demonstrate that the *in*-versus-*yō* dichotomy is being used to new creative ends in Japan, and continues to bring with it all of the puzzling questions about tonicity that have haunted it since the arrival of the black ships. *The Tale of Princess Kaguya* (かぐや姫の物語, *Kaguya-hime no monogatari*, 2013), a faithful if embellished retelling of a well-known millennium-old story, was anime director Takahata Isao's (高畑勲, 1935–2018) final creation with Studio Ghibli. Though Hisaishi Joe (久石譲, b. 1950) took the helm of the soundtrack for *Princess Kaguya* as he had for so many other Studio Ghibli films, two pieces of music on the soundtrack—*Warabeuta* and *Tennyo no uta*—are listed as compositions by Takahata himself. The two are essentially different performances of the same song, and it is a song that is important diegetically as well as non-diegetically. In fact, it ends up being one of the strongest clues as to the titular character's lunar origins. For reference, its lyrics may be seen in Figure 17.

The song makes its first appearance early in the film, as the children who grow up as Kaguya's neighbors sing it together while playing outside. Its first line encapsulates its lyrics' thematic material, being as they are (and as the whole movie may be seen to be) a celebration of the life cycles of night and day, the seasons, birth and death, and joy and sorrow that

Warabeuta (yō, known to all*):*

Mawaru, mawaru, mawaru-yo,	Go around, go around, go around,
Mizuguruma, mawaru.	Waterwheel, go around.
Mawatte o-hi-san yonde koi.	Go around and call the sun.
Mawatte o-hi-san yonde koi.	Go around and call the sun.
Tori, mushi, kemono,	Birds, bugs, beasts,
Kusa, ki, hana,	Grass, trees, flowers,
Haru, natsu, aki, fuyu tsurete koi.	Bring spring, summer, autumn, and winter.
Haru, natsu, aki, fuyu tsurete koi.	Bring spring, summer, autumn, and winter.

Tennyo no uta (in, Kaguya alone*):*

Mawaru, meguru, meguru-yo,	Go around, come back, come back,
Haruka na toki yo.	O faraway time.
Megutte kokoro o yobikaese.	Come back and call back my heart.
Megutte kokoro o yobikaese.	Come back and call back my heart.
Tori, mushi, kemono,	Birds, bugs, beasts,
Kusa, ki, hana,	Grass, trees, flowers,
Hito no nasake o hagukumite.	Foster a person's compassion.
Matsu toshi kikaba,	If I hear that you pine for me,
Ima kaerikomu.	I will return to you.

Figure 17. *Warabeuta* and *Tennyo no uta*, from *The Tale of Princess Kaguya*, lyrics.[74]

characterize existence on earth. It is a classic *yō*-scale song, using Koizumi's *min'yō* mode with no complications from outside its pentatonic scale. Its only peculiarity is that its final phrase ends an octave above the tonic note on which it had been focusing before the final phrase. This curious trait aside, it could pass easily for a traditional centuries-old *warabeuta*.

After a verse and a half, the children start the song all over again, but the young Kaguya—at this age still going by the name *Takenoko* ("bamboo shoot," referring to how quickly she grows and matures)—diverges from them, seemingly unconsciously, and the jarring cross-relation between G and G♭, heralding her modulating to the *in* scale, quickly shocks the other children into silence. This arresting turn is shown in Figure 18. After Kaguya reaches the end of her *in*-scale verse, which she alone among the children knows (and she does not even know why she knows it), the other children remain silent for another moment

74. A more accurate translation of *matsu* in the penultimate line might be "wait," but these last two lines, *matsu toshi kikaba / ima kaerikomu*, come directly out of the sixteenth poem from the *Ogura Hyakunin Isshu*, a collection of a hundred poems by a hundred poets, compiled in the thirteenth century and containing some poems ascribed to authors much older than that. In the original poem, attributed to the Heian-period courtier Ariwara no Yukihira, the word *matsu* is quite explicitly being punned on for its double meaning as "to wait" (待つ) and "pine tree" (松). Though Kaguya's song lyrics do not make the latter meaning evident in themselves, the cinematography strongly suggests that Takahata knew his source material, as the camera switches to a view of a pine tree both times that Kaguya sings the word *matsu*. It is surely for this reason that it is translated thus not only by me here, but also by the official subtitle track in the film, and in most translations of the original *Hyakunin Isshu* poem.

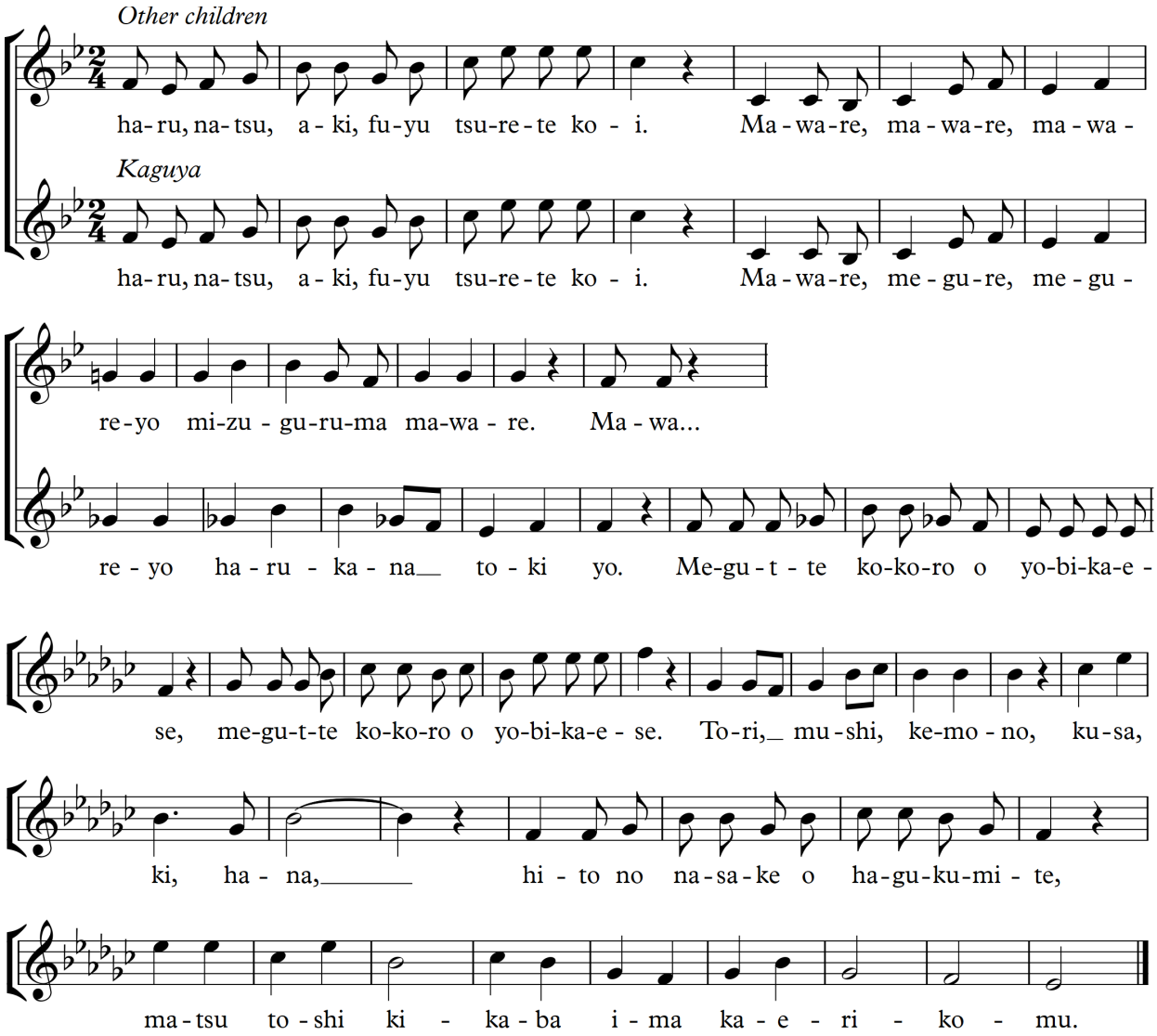

Figure 18. *Warabeuta,* from *The Tale of Princess Kaguya*. The non-alignment between the two staves in the second system of this example is intentional, because after the cross-relation at the beginning of the system, Kaguya slows down considerably, falling out of metric synch with the other children even before they have stopped singing.

as if still reeling from their surprise, and then the spell is broken by one of the children calling out "Weird song!" The children then go back to being rowdy children, teasing Kaguya for her strange verse and soon forgetting about it.

The contrast of *yō* and *in* scales here is striking, and appears to map onto the Western major and minor much as Uehara conceived of them doing, with an affective literalness that one does not find in pre-Meiji *min'yō* that mix the two scale types.[75] The *yō* verses known to

75. Such non-affect-linked mixture can be observed in, for example, *Zui zui zukkorobashi* and *Bō-san bō-san*. One does not even find such affective literalness in some postwar compositions that do this, such as Takemasa's

the children represent a carefree oneness with nature, not necessarily always happy, but content with the cycle they inhabit. Kaguya's *in* verse, on the other hand, bespeaks the hidden pain of her distance from her original home, which at this point is unknown both to the viewers and to Kaguya herself. If a major-minor shift had happened instead of a *yō–in* one, the affective states pointed to by each scale type would be at home in a song by Schubert or McCartney.

We hear Kaguya's *in* verse only one other time, much later in the movie, after Kaguya has discovered and told her mother that she was sent to Earth from the moon, and is about to be irrevocably taken back there in response to the unconscious call for help she made after being grabbed without consent by the emperor. In an effort to console her with the sweet memory of childhood nostalgia on one of her last days on Earth, her mother sings the *yō*-scale first verse of the by-now familiar *warabeuta*, with Kaguya joining in halfway through. After a brief pause, Kaguya then goes on to sing the *in*-scale second verse alone, accompanying herself sparsely on the *koto*.

What stands out so starkly about Takahata's Uehara-like binary opposition is that, especially because Takahata's *yō* mode is *min'yō* rather than *ritsu*, both verses of the song are, from a literal Western point of view, minor, since both end on tonics that are situated at the bottom of a minor third. The presence or absence of melodic half steps, however, causes the *yō*-scale first verse to end up coded as the "major-like minor," and the *in*-scale second verse as the "minor-like minor." The key relations between the two verses are slightly different the second time around, and can be seen in Figure 19. In the song's first appearance, the *yō* verse is in a C minor that lacks scale degrees 2 and 6 (i.e., *nironuki* minor), while the *in* verse is in an E♭ minor that lacks degrees 4 and 7 (i.e., *yonanuki* minor)—thus G and C must be flattened to achieve the modulation. The second time is somewhat milder: because Kaguya now begins her verse a fifth above her mother's tonic rather than directly on the first verse's tonic, there is only one note flattened, with the B of her mother's *yō* E minor becoming the B♭ of her *in* D minor.

These relations bring me to the two less obvious, though more unusual, points about Kaguya's *in*-scale verse. While the *yō*-versus-*in* distinction in itself may seem to be the most important expressive aspect of this song, there are two things about Kaguya's verse—its first and last notes—that mark it as strange, especially to a listener who is attuned to the norms of traditional *in*-scale melodies.

The *in* verse's first pitch class (C in its first incarnation, as shown in Figure 18), which is

Yosakoi naruko odori. On the other hand, Misora Hibari's *Ringo oiwake* offers a comparatively early example of exploiting a similar type of mixture. It is mostly in the *yō*-scale *min'yō* mode, with a jazzy accompaniment throughout. But in what may be considered the B section of its lyric-binary AABA form, Hibari rises to the as-yet-unsung scale degree 2, in this context electrifying for its *in*-scale-suggesting novelty, to recite a few lines over nearly static harmony before returning seamlessly to the *yō* scale and jazzy swing of the verses. Her *yō*-scale A sections speak only of natural wonders like apple blossoms and moonlight, while the recitative-like *in*-scale B section reveals the weeping pain of the narrator that is under wraps during the *yō*-scale sections.

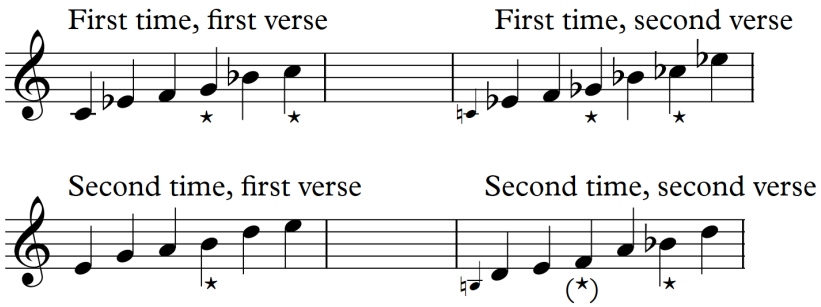

Figure 19. Comparison of the scales used for each of the two singings of the *Warabeuta/Tennyo no uta* in Princess Kaguya. Asterisks represent notes that change from verse to verse, and the grace notes represent the starting (otherwise out-of-scale) note of the second verse.

also its second and fourth, never appears again once Kaguya has risen away from it for her fifth note (an E♭). It is the major sixth scale degree with reference to the coming *in* verse's tonic (here E♭), whereas the remainder of the verse uses the minor sixth (here C♭). The effect, in both instances of the song, is to have the switch to the *in* scale occur not directly at the outset of Kaguya's verse, but rather a few notes afterward. In the first instance, in childhood, this is effective because it allows the children to sing together for a few notes before they realize that Kaguya is singing something different, more shadowy and melancholic than what they thought they were singing. When she sings with her mother later in the movie, there is no need for such a device, but the effect remains: we are reminded of Kaguya's alterity only after we have had a moment to accustom ourselves to the idea and sound of her singing alone.

The delayed arrival of the *in* scale matches the delayed change in lyrics. The first verse begins, as stated above, *Maware, maware, maware-yo*. Kaguya's verse begins *Maware, megure, megure-yo*: a curious change, considering that the verbs *mawaru* and *meguru* are near-synonyms, and can even both be written with the same *kanji* as 回る, though *meguru* is more likely to be 巡る. The second *megure* is where the audible shift to the *in* scale occurs, and after that the verses' lyrics diverge almost completely. It is only then that we realize that in singing *megure*, she was not so much saying "go around" as rather something closer to "come back" (a meaning that is less associated with *mawaru*), just as we realize only in retrospect how foreign to the *in* scale her verse's opening notes were. The verse also may suggest the effect of Kaguya trying to live like an ordinary human, but being swiftly unmasked as special and alien soon after she has begun to try to sing.

The song's last note, on the other hand, would not be surprising to many listeners, and may not have been intended as a marked gesture by Takahata either; see Figure 20. This final note is simply the minor *kaku*-tonic, which Kaguya reaches by realizing a slow Western-style 3-2-1 stepwise descent, precisely the gesture for which Manabe disqualified Shiba's *Yamato Nadeshiko* from a classification in the *ryo* mode. In the song's second appearance, this closing

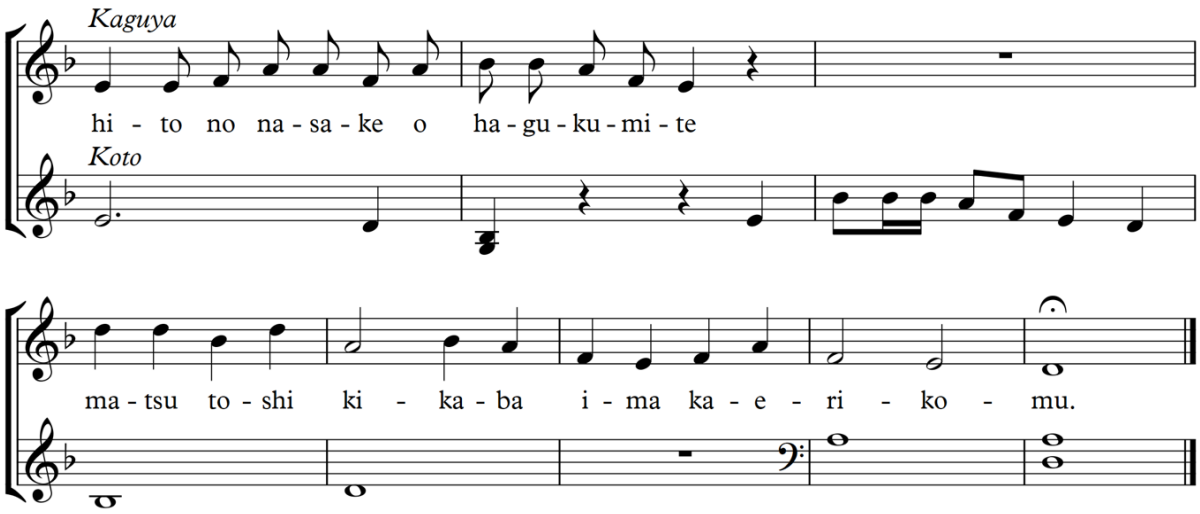

Figure 20. *Tennyo no uta,* from *The Tale of Princess Kaguya*, ending.

gesture is even accompanied by a bass-register 5-1 leap in Kaguya's *koto* accompaniment.[76] This Western-style ending codes as unusual not only because traditional *in*-scale songs do not usually end on *kaku*—it is also internally unusual in that no phrase of the song before it had ended there. Every preceding phrase of Kaguya's *in*-scale verse ends on either Uehara's *kyū* or *chi*; in other words, on Koizumi's two highest-level defaults for terminations as the two *miyakobushi* tetrachords' lower bounds—or, if one prefers, on notes that in Western tonality most easily suggest dominant harmony. *Chi* is more prominent in this role than is *kyū*, stressing even further the non-Western-tonic aspect of all of Kaguya's phrase endings but the last. In this light, the ending takes on a rarefied aura, a linear finality doomed to the "inevitable" type of tonic ending so prized in Western music whose absence from the rest of both verses of the song makes its presence at the end a strongly marked event, rather than anything conventional or assumed.[77]

Takahata was not inexperienced in working with music. He was, for instance, the music producer for Miyazaki's much earlier *Kiki's Delivery Service* (魔女の宅急便, *Majo no takkyūbin*, 1989), and the turn to the *in* scale in Kaguya's verse of her movie's *warabeuta* is too clear and deliberate for it to have come from anyone who did not have conscious knowledge about the *yō* and *in* scales. At the same time, Takahata was never a career composer, performer, or music theorist, and his choice to end Kaguya's verse on the Western minor *kaku*-tonic, complete with 3-2-1 descent, might well be the unconscious product of simple cross-influence from Western music. But this gesture's restriction to the very end of the song, especially tied in as it is with the words *ima kaerikomu* ("I will now return to you") and with a foreboding slowing of rhythm

76. It is perhaps ironic that the ending of this song could be its most "Western" part, since in the case of its lyrics, it is precisely this part that is the most traditionally Japanese, thanks to its *Hyakunin Isshu* source.
77. The fateful descent at the end of Kaguya's verse may go some way towards explaining why the earlier *yō*-scale verse, known to the whole community, ends in the upper octave: it paints them as comparatively carefree, able to float in a timeless world of earthly rises and falls, whereas Kaguya remains chained to her singular fate.

on the final cadential notes, suggests that even if it was an unconscious accident caused by Western "contamination," Takahata found in this song a way to grant the *kaku*-tonic a unique role that simultaneously draws on its rarity in traditional Japanese music compared with the other *miyakobushi* nuclear tones and on its gravitational field within Western music. Pre-Meiji music uses it in only the former way, and most *enka* only in the latter way. Kaguya's final cadence re-alienates the Western *kaku*-tonic while keeping the power it gained from Western music, just as Kaguya finds herself re-alienated from Earth despite retaining some sense of subconscious pain in relation to it. Having lost all memory of her life there, she still cannot help but steal a final backward glance at it as she rides away on the cloud-chariots of the celestial moon-dwellers, their interminably cheery major-mode *ciaconna*[78] doing its best to wipe away any hint of the *in–yō* subtleties that Kaguya once knew and loved.

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GLOSSARY

***enka* (演歌)** – literally "performance song": a style of music popular from the mid-twentieth century onward, mostly using Western harmony and *yonanuki* scales in the vocal part. Often full of nostalgia for rural hometowns, it is frequently thought of as the most deeply Japanese of Japanese musics (Yano 2002, 4).

***gagaku* (雅楽)** – literally "elegant music": court music, brought over from China in multiple waves spanning the fifth through tenth centuries CE, and adapted over time to Japanese sensibilities.

***gagaku* modes in the *Tōgaku* theory tradition (limitedly transposable):**

- *ritsu* (律) – a pentatonic scale of the form D-E-G-A-B-D. When made heptatonic, it matches the Dorian mode.
- *ryo* (呂) – a pentatonic scale of the form D-E-F♯-A-B-D. When made heptatonic, it matches

78. It may not be literally a *ciaconna*, but in both its outward signifiers and in its intentions, Hisaishi's piece resembles that part of Monteverdi's *Zefiro torna* that precedes the chromatic recitative sections: both mask earthly pain with comforting cyclic visions of a distant paradise.

the Mixolydian mode.

***gagaku* scales in the *Tōgaku* theory tradition:**
- *sōjō* (双調) – *ryo* on G
- *ichikotsuchō* (壱越調) – *ryo* on D
- *taishikichō* (太食調) – *ryo* on E
- *ōshikichō* (黄鐘調) – *ritsu* on A
- *hyōjō* (平調) – *ritsu* on E
- *banshikichō* (盤渉調) – *ritsu* on B

***gagaku* modes since 1878 (fully transposable):**
- *ritsu* (律) – heptatonically equivalent to the Dorian mode, with the third and seventh steps understood as insertions of the *ei* (嬰) type
- *ryo* (呂) – heptatonically equivalent to the Lydian mode, with the fourth and seventh steps understood as insertions of the *hen* (変) type

***gosei* (五声)** – see "solfège"

historical periods (*jidai* [時代]):
- *Heian* (平安) – 794 to 1185
- *Edo* (江戸) – 1603 to 1868
- *Meiji* (明治) – 1868 to 1912

***Hoiku shōka* (保育唱歌)** – songbooks prepared for the purpose of childhood education in the early Meiji period, before Isawa's songbook. Unlike Isawa's, they are in *gagaku* notation and entirely in the *ritsu* and *ryo* modes (mostly *ritsu*) as those modes were understood in the 1878 systematization.

***honkyoku* (本曲)** – the two most common modes in *shakuhachi* practice. Both feature the interval structure of the *in* scale, with the first *honkyoku* mode placing *chi* at the bottom, and the second placing *kyū* at the bottom.

***in* (陰)** – literally the *yīn* from the *yīn/yáng* pairing: another name for Uehara's *miyakobushi* scale, which contains semitones (E-F-A-B-D-E ascending, E-C-B-A-F-E descending). Unlike the traditional *gagaku* modes, it is conceived as fully transposable.

***inakabushi* (田舎節)** – literally "countryside way of singing": denotes one of Uehara's two scale types, also known as the *yō* scale, which does not contains semitones.

***junpachi gyakuroku* (順八逆六)** – literally "forward eight, back six": the Japanese way of conceiving of the Chinese *sānfēn sǔnyì*. The numbers eight and six refer to counts of semitones, inclusive on both ends.

***kanji* (漢字)** – Chinese characters: the source of the Japanese writing system and still an integral part thereof.

Meiji Restoration (明治維新, *Meiji ishin*) – the restoration of political power from the shogunate back to the emperor in 1868, simultaneously accompanied by a flood of Western culture into Japan.

***min'yō* (民謡)** – literally "folk song": (1) a Meiji-period term intended to be equivalent to "folk song" in the West; (2) a tetrachord of the form C-E♭-F in Koizumi's system; (3) an octave-bounded scale made of two disjunct *min'yō* tetrachords, e.g., C-E♭-F-G-B♭-C.

***miyakobushi* (都節)** – literally "capital-city way of singing": denotes (1) one of Uehara's two scale types, also known as the *in* scale, which contains semitones; (2) a tetrachord of the form C-D♭-F in Koizumi's system; (3) an octave-bounded scale made of two disjunct *miyakobushi* tetrachords, e.g., C-D♭-F-G-A♭-C.

***nironuki* (ニロ抜き)** – literally "2 and 6 removed": less commonly discussed than the *yonanuki* scales, but equally important as it describes what Koizumi would call the *min'yō* scale, i.e., C-E♭-F-G-B♭-C, a scale important to many musical traditions outside Japan as well.

***onkai* (音階)** – a Meiji-period term intended to be equivalent to "scale" in the West.

pitch-class names according to the *jūniritsu* (十二律, literally "twelve pitches"):
- *ichikotsu* (壱越) – D
- *tangin* (断金) – D♯/E♭
- *hyōjō* (平調) – E
- *shōzetsu* (勝絶) – F
- *shimomu* (下無) – F♯/G♭
- *sōjō* (双調) – G
- *fushō* (鳧鐘) – G♯/A♭
- *ōshiki* (黄鐘) – A
- *rankei* (鸞鏡) – A♯/B♭
- *banshiki* (盤渉) – B
- *shinsen* (神仙) – C
- *kamimu* (上無) – C♯/D♭

pitch-class names according to the *Iroha* (only since Isawa):
- *i* (イ) – A
- *ro* (ロ) – B
- *ha* (ハ) – C
- *ni* (ニ) – D
- *ho* (ホ) – E
- *he* (ヘ) – F
- *to* (ト) – G
- *ei* (嬰) – sharp: appended before the note to be sharped, e.g., *ei-he* is F♯
- *hen* (変) – flat: appended before the note to be flatted, e.g., *hen-ro* is B♭

***ritsu* (律)** – a word with many definitions, four of which are: (1) a semitone, (2) the Dorian-like mode in *gagaku*, (3) the tetrachord of the form C-D-F in Koizumi's system, (4) an octave-bounded scale made of two disjunct *ritsu* tetrachords, e.g., C-D-F-G-A-C.

***ryo* (呂)** – (1) a Mixolydian-like mode in *Tōgaku*; (2) a Lydian-like mode in *gagaku* as formalized after 1878.

***Ryūkyū* (琉球)** – the island chain to the south of "mainland" Japan, and in Koizumi's system a tetrachord of the form C-E-F, or an octave-bounded scale made of two disjunct *Ryūkyū* tetrachords, e.g., C-E-F-G-B-C.

***sānfēn sǔnyì* (三分損益)** – literally "three parts, lose profit": the ancient Chinese method of alternating 2:3 and 4:3 proportions to traverse through alternating rising fifths and falling fourths to arrive back at nearly the same pitch class only one octave above.

***senpō* (旋法)** – literally "melody law": a Meiji-period term intended to be equivalent to "mode" in the West.

solfège, Chinese (*wǔshēng*, 五聲, equivalent to 五声)

- *gōng* (宮) – most central note in the Chinese pentatonic system. Equivalent to *fa* in movable-*do* solfège with *la*-based minor in the *yǎyuè* scale, and *do* in *xīnyuè*.
- *shāng* (商) – Equivalent to *sol* in *yǎyuè* and *re* in *xīnyuè.*
- *jué* (角) – Equivalent to *la* in *yǎyuè* and *mi* in *xīnyuè.*
- *biàn zhī* (變徵, equivalent to 変徵) – A later insertion, theorized as an altered form of *zhī*. It is the note of contention between the *yǎyuè* and *xīnyuè* scales, because in *yǎyuè* it is a semitone higher than it is in *xīnyuè*: thus it is *si* in *yǎyuè* and *fa* in *xīnyuè*.
- *zhī* (徵) – Equivalent to *do* in *yǎyuè* and *sol* in *xīnyuè.*
- *yǔ* (羽) – Equivalent to *re* in *yǎyuè* and *la* in *xīnyuè.*
- *biàn gōng* (變宮, equivalent to 変宮) – A later insertion, theorized as an altered form of *gong*. Equivalent to *mi* in *yǎyuè* and *si* in *xīnyuè.*

solfège, Japanese (*gosei*, 五声)

- *kyū* (宮) – the first note of any Japanese pentatonic scale, regardless of interval structure. Equivalent to *do* in movable-*do* solfège with *do*-based minor.
- *shō* (商) – the second note of any Japanese pentatonic scale. Equivalences to *do*-based minor are impossible from here onward because of the combination of pentatonicism and the irrelevance of interval structure to syllable name.
- *kaku* (角) – the third note. In *gagaku* can be subdivided into *ritsu kaku* and *ryo kaku*, since this is the note that differs between those two modes.
- *chi* (徵) – the fourth note.
- *u* (羽) – the fifth note.
- *ei* (嬰) – used when creating heptatonic scales to indicate that the new note is a semitone above one of the preexisting *gosei* notes.

- *hen* (変) – used when creating heptatonic scales to indicate that the new note is a semitone below one of the preexisting *gosei* notes.

tetrachords according to Koizumi:
- *miyakobushi* (都節) – a minor second followed by a major third, e.g., C-D♭-F
- *ritsu* (律) – a major second followed by a minor third, e.g., C-D-F
- *min'yō* (民謡) – a minor third followed by a major second, e.g., C-E♭-F
- *Ryūkyū* (琉球) – a major third followed by a minor second, e.g., C-E-F

***Tōgaku* (唐楽)** – literally "Tang music": one early branch of *gagaku*.

***xīnyuè* (新樂)** – literally "new music": a style with a conception of the scale opposed to that of *yǎyuè* during the Sui dynasty.

***yǎyuè* (雅樂, equivalent to 雅楽)** – literally "elegant music": the Chinese court-music tradition from which Japanese *gagaku* derived.

***yō* (陽)** – literally the *yáng* from the *yīn/yáng* pairing: another name for Uehara's *inakabushi* scale, which does not contain semitones (E-F♯-A-B-D-E ascending, E-C♯-B-A-F♯-E descending). Unlike the traditional *gagaku* modes, it is conceived fully transposable.

***yonanuki* (ヨナ抜き)** – literally "4 and 7 removed," it is a way of describing two pentatonic scales common in Japan over the past several decades. The *yonanuki* major is equivalent to the pentatonic *ryo*, while the *yonanuki* minor is equivalent to the descending *miyakobushi* scale if its sense of tonicity is reconceived along Western lines.

***warabeuta* (童歌)** – children's song

***wǔshēng* (五聲, equivalent to 五声)** – see "solfège"

***zokugaku* (俗楽)** – literally "vulgar/common music," encompassing the traditions of instrumental, vocal, and theatre music in Japan that are not *gagaku*.

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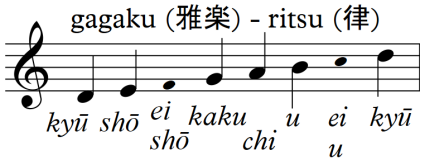
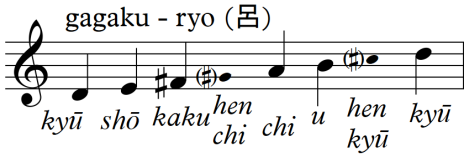
APPENDIX A

Scales discussed in this paper, all notated such that D is the tonic/final/*kyū* of each.

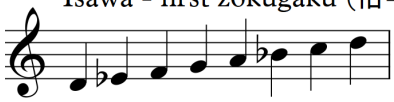
gagaku (雅楽) - ritsu (律)



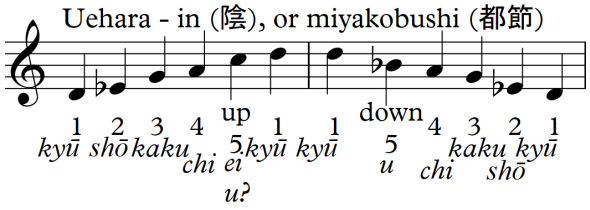
gagaku - ryo (呂)



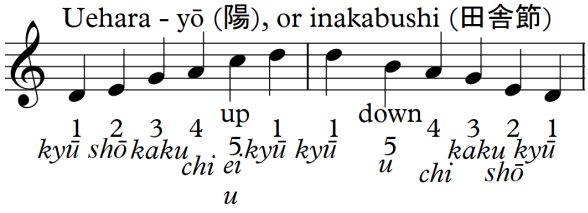
Isawa - first zokugaku (俗学) scale



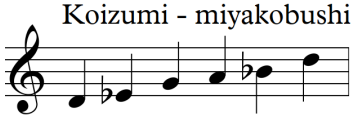
Uehara - in (陰), or miyakobushi (都節)



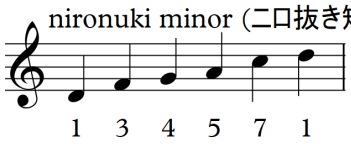
Uehara - yō (陽), or inakabushi (田舎節)



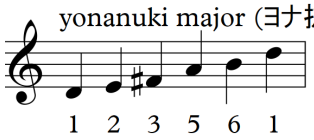
Koizumi - miyakobushi (都節)



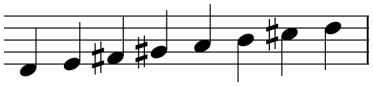
Koizumi - min'yō (民謡) *and*
nironuki minor (二ロ抜き短音階)



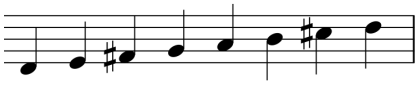
yonanuki major (ヨナ抜き長音階)



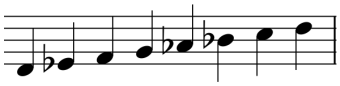
yǎyuè (雅樂), heptatonic



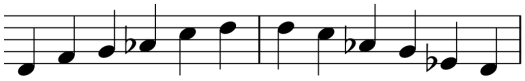
xīnyuè (新樂), heptatonic



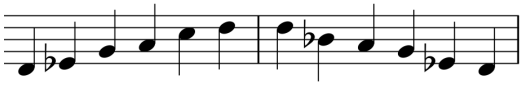
Isawa - second zokugaku scale



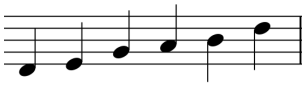
shakuhachi - first honkyoku (本曲) mode



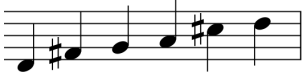
shakuhachi - second honkyoku mode



Koizumi - ritsu (律)



Koizumi - Ryūkyū (琉球)



yonanuki minor (ヨナ抜き短音階)