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Where does the music come from? A comparison case-study of the compositional processes of a high school and a collegiate composer

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This comparison case-study examines the compositional processes of a high school and a collegiate composer engaged in a similar task. Procedures included interviews with the composers, observations, and the collection of compositional sketches and 'audio-journals'. Analysis involved the preparation of field-notes and interview transcripts, document analysis and study of the field note/interview text. Two professional composers and the researcher analysed the compositions to locate similarities and differences.

Important similarities were the use of an exploratory phase at the piano and the acknowledgement of both inspiration and revision as components of the composition process. Differences were found in the uses of time and structure.

Introduction

'You ask me where I obtain my ideas [for a theme]. I cannot answer this with certainty: they come unbidden' (Hamburger, 1952). This comment by Beethoven is one of several composer's statements quoted by Sloboda (1985) to illustrate the elusive nature of compositional processes. Sloboda goes on to say that 'composition is the least studied and least well understood of all musical processes and [notes that] . . . there is no substantial literature to review' (p. 103).

Yet, many writers have argued that the ability to compose is a universal attribute (Bjorkvold, 1992; Brinkman, 1995; Creston, 1971; Czikszentmihalyi, 1996; Elliott, 1995; Gardner, 1993; Hargreaves, 1986; Kratus, 1989; Reimer, 1997; Swanwick & Tillman, 1986). Further, many curricular efforts in the US such as the Contemporary Music Project, the Tanglewood Symposium, the Manhattanville Music Curriculum Program, and, most recently, the National Standards for Arts Education (Music Educators National Conference, 1994) have stressed the importance of fostering creativity, and specifically composition, in music classrooms.

So how do we proceed? How can we gain a deeper understanding of the creative processes in composition? Brinkman (1995) argues that, for teachers to emphasise creative activities in their classrooms, they need to be provided with effective strategies for structuring such learning. Observing composers at work is one way to glean more understanding of the compositional process and a fuller understanding of the compositional process will assist music teachers in facilitating composition activities in their classrooms.

Perspectives from the literature

Wallas's (1926) four stages of compositional process – preparation, incubation, illumination and verification – have been quoted often in the literature (Hargreaves,

1986; Kratus, 1989; Sloboda, 1985), and Webster (1990) has used Wallas's four stages in the construction of his model of creativity. Sloboda (1985) mentions two stages – inspiration and execution – and contends that both of these employ the use of conscious and unconscious operations.

Bennett (1976) interviewed eight professional composers on their processes of musical creation. He identified the following stages – germinal idea, first sketch, first draft, elaboration and refinement, completion of final draft, and score copying – while Fulmer (1995) discussed twelve contemporary composers' reported approaches to composition.

Research into compositional processes has been plentiful. Although some similarities are to be found, essential differences exist, supporting Sloboda's claim of the elusive nature of the art, and prompting further research.

Assessment of compositional products has been largely confined to educational settings (Webster & Hickey, 1995). Bunting (1987) tackled the job of assessing high school students' compositions by asking pointed questions relating to the pupil's development of skills, craftsmanship and personal voice, and the pupil's ability to incorporate effective strategies into composing experiences (p. 52). Swanwick (1988) proposed General Certificate of Secondary Education grade-related criteria for composing/improvising (pp. 152–3) which parallel the eight stages (sensory, manipulative, personal expressiveness, vernacular, speculative, idiomatic and symbolic) of his Spiral of Musical Development.

Reed (1990) and Reinders (1992) claim that creation is initiated by the experience of a perceived lack. The artist's creation speaks to that lack. Reinders also mentions the importance of paradoxical attitudes – i.e., 'purposive playfulness' – in the creative process. Czikszentmihalyi (1996) agrees and describes ten such paradoxes (pp. 58–76).

Kinney (1990), in his study of fourteen eminent living American composers, found that major enabling factors for composers were private encounters with respected music teachers and personality characteristics which reflect the literature descriptors of creative persons. Lysaught (1993) detailed four enabling conditions – ideas, fascination with a medium, competency, and the right milieu – while Bennett's (1976) study of eight professional composers stressed the importance of tranquillity, security and relaxation in setting the stage for composition.

Study of the compositional work of high school students has been infrequent (Brinkman, 1995; Bunting, 1987; Kaschub, 1997; Ladanyi, 1996; Moore, 1986; Smith, 1998; Swanwick & Tillman, 1986; Younker & Smith, 1996). All but one of the studies (Kaschub, 1997) concern individual projects.

Swanwick & Tillman reported on the compositional efforts of fourteen- to fifteen-year-olds. Referring to their spiral of processes of musical development (p. 331), they placed these compositions squarely in the third developmental level (ages ten to fifteen) hovering between the 'speculative' and 'idiomatic' stages. An important conclusion was that adolescents' compositions are often characterised by a strong identification with a favourite idiom, i.e., pop, rock, new age (p. 327), a finding of Bunting (1987) also. Bunting's study charted the composition progress of two sixteen-year-old boys and described his model of the composition process as follows: 'initial impulse, strategic decisions, exploration of materials, and rounding off' (p. 28).

Three studies (Ladanyi, 1995; Smith, 1998; Younker & Smith, 1996) used digital music equipment and qualitative techniques to achieve a better understanding of the processes, patterns, structures and outcomes which emerge during musical composi-

tion. Ladanyi (1995) found that the students' compositional processes resembled those described by numerous professional composers. Younker & Smith (1996), in comparing the thought processes of expert and novice high school and adult composers, found that there was a 'gradual progression from the high school novice's approach using an atomistic "note-to-note progression" without any overall perspective of the composition, to that of the adult expert, who approached the task in a gestalt-like, whole-part-whole manner' (p. 31).

Research has investigated the processes of and contexts for composition and the compositional products themselves. Study of the composition efforts of high school students has been undertaken, though infrequently. While various authors have suggested a relationship between the compositions of students and professional composers (Bamberger, 1977; Kratus, 1989; Ladanyi, 1996) research involving direct comparisons is limited (Younker & Smith, 1996).

The purpose of the proposed study, therefore, is to compare directly the compositional processes used by high school and collegiate composers through the observation of two of them at work on a similar task. It is hoped that, through this study, more information will be gathered on compositional processes, thus facilitating the increased use of creative activities at the high school level.

Guiding questions for the study concerned the topics of process, product and context. What similarities and differences will be observed in the composers' strategies and procedures? How will the available time be utilised? Will time be seen as a constraining factor? How will the resulting pieces differ with respect to structure? What will be learned about the backgrounds of the two composers? What has motivated the composers to engage in the act of musical creation? These and other questions that emerged during the course of the study formed the framework for the investigation and subsequent interpretation.

Method

Two composers participated in the study – one, a high school music student with an interest/background in composition, and the other, a university graduate composition major. In order to answer the guiding questions, I chose a qualitative collective case-study design (Stake, 1994). Data collection techniques consisted of semi-structured interviews (Fontana & Frey, 1994), observation (Adler & Adler, 1994) and document analysis (Hodder, 1994).

Specific procedures included initial interviews with each participant, presentation of the composition task, two progress/observation sessions, the collection of material culture – compositional sketches, 'audio journals' (cassette tapes documenting the composer's working sessions) and the completed compositions – and a final sharing session where the two composers and their respective teachers listened to and discussed performances of their pieces given by the researcher and a colleague.

Analysis consisted of reading and re-reading the field note/interview text, making marginal notes, sorting and coding. Following this stage, examination of the 'audio-journal', sketches and compositions was undertaken. Triangulation was effected through the cross-referencing of composer interview statements and evidence from the material culture. Two professional composers and the researcher analysed the compositions to locate similarities and differences.

Interpretation

Common task

Setting a two-stanza poem by Robert Frost (see Appendix A) for voice and piano was chosen as the common task. The rationale for this was three-fold. First, sizeable support for task parameters exists in the literature (Bunting, 1987; Gromko, 1996; Howard & Martin, 1997; Kaschub, 1997; Scripp, Meynard, & Davidson, 1988; Wiggins, 1994). Second, real-world composition commissions are typically accompanied by boundaries. Third, consultation with professional composers convinced me of the suitability of setting a poem for voice and piano for the two composers.

The high school composer: Donna, the song writer

Donna is a seventeen-year-old high school senior. She began piano early on and added flute at grade five. Oboe was added during her high school years as were theory lessons and jazz piano instruction. Donna comes from a musical home, although she speaks of her dad, an amateur flutist, as being 'rhythm deaf'. Donna was able to recall clearly pieces she had composed previously, delineating them as 'the third-grade piano piece for the Reflections contest' or the sixth-grade piece she wasn't very happy with because she 'kinda threw it together'. Upon completion of her senior year, Donna is heading to a large east-coast American university to pursue her musical studies in flute. When asked whether composition would be a part of her program, she replied: 'I would definitely like to take composition classes'.

Speckled throughout the interviews with Donna were references to factors which had influenced her and prodded her to compose. These enabling conditions were mentoring relationships, optimum times, the right state of mind, and composing strategies. With respect to mentors, Donna mentioned one of her piano teachers – 'I could bring stuff in and we could talk about it' – and her parents who gave her a 'lot of encouragement'. Optimum times for composing are late at night – 'that's a very inspiring time' – or other times when the house is quiet. She elaborated: 'A lack of quietness can often break the mood . . . that makes me have all those ideas and want to compose'. Smith (1998) observed that his three high school subjects preferred to work in quiet also. Considering the right state of mind, Donna spoke of the importance of relaxation, a mood akin to Czikszentmihalyi's (1996) 'flow'. She told also of times when 'I'm feeling something [and] I really, really want to write it down [and] I just can't think of anything . . . I realise . . . it's because I'm trying to force it'. The most important enabling strategy for Donna is 'doodling' at the piano. This doodling often generates ideas and themes for her pieces. As she explained, 'Usually I start by accident . . . [I spend time] at the piano, just kind of fooling around, . . . and then all of a sudden I hear two chords that I really like next to each other. And I think, well, where is this leading, and so I play the next chord'. Both Kratus (1989) and Swanwick (1988) refer to the exploratory stage in the process of composition. Donna's doodling corresponds neatly with this phase.

Donna provided me with an audio-journal cassette, a one-page manuscript sketch, and a copy of her finished song professionally produced with a computer music-writing program (see Appendix B). She told me that she had worked on the composition on two successive days, after school 'when it was quiet' and that she had the synthesiser hooked up to the computer.

Donna spoke of the first line of the poem as being 'lullabyish' which had prompted

her to think up a 'sweet melody'. Upon reading the poem further, she came to the realisation that the overall mood was sad. However, in the end, she retained the original tune. Donna did, though, begin the song in G major and end in B minor, influenced perhaps by the melancholy flavour of the words.

Donna's self-reported strategies were authenticated by her audio-journal. She hummed phrases to herself and subsequently searched for the corresponding notes on the piano. In addition to this strategy, Donna would interpolate exploratory phases where she experimented with harmonic progressions, and rhythmic figurations. Occasionally, she would play a standard common-practice chord progression as if to 'clear the air'. These phases were followed by a return to the song phrase she had been working on previously. Periodic blank spots on the tape represented the transcribing process.

In tackling the composition of the song, Donna began with the opening two phrases, seemed to experience difficulty, and so jumped to the B section where she 'heard' the melody. The pivotal D♯, which closes section A, eluded her until the very end of working session one. Session two involved a review of what she had accomplished the preceding day, a revision of notes where needed, and a refining of the song which consisted of settling on accompaniment figurations, melody, rhythms, and composing an introduction. Little revision was done during week two. Donna worked at the bothersome transition between the A and B sections, finally settling on the interpolation of one bar to solidify the modulation from G major to B major.

Donna spent parts of three days actually composing at the keyboard, but additional time was utilised in thinking and reflecting. She felt that the experience of the time constraint and the commission (her first) had been 'different, not bad' and that there had been 'a little worrisome pressure'.

Donna's piece epitomises the contemporary popular song in both style and form. It has an eight-bar introduction leading into the seventeen-bar G major A section. The fourth phrase is elongated (the interpolated transition bar) and ends on D♯ which effects the modulation to B major. The sixteen-bar B section meanders through several minor keys to cadence in B minor. Donna has identified with a particular genre, in this case, 'new age music' as Swanwick & Tillman (1986) observed is common with adolescents, and her composition exhibits traits of the 'idiomatic' phase of musical development. However, Donna is well on her way to developing her own voice as a composer, as there are elements of sophistication and cohesion in her piece that impressed both the researcher and the professional composers.

The graduate composition major: Laura and her Lied

Laura is twenty-five and in her second year of doctoral work in composition at a large American university. She remembers improvising on a child's electric organ at about age four or five. 'A lot of times I'd just sit there and hold down the chord buttons . . . a bunch of keys, just not one at a time . . . [and] for a really long time I'd just improvise'. Laura began taking flute lessons at a local music store in grade five, adding saxophone two years later. Laura's high school years were filled with music – 'I was one of those band "geeks"' – perhaps making up for the lack of music in her home. Concert, jazz, and pep band, small ensemble work and conducting were all part of her musical diet. In recalling early composition work, Laura spoke of 'jottings' of notes rather than completed pieces. 'It was hearing five notes in my head and stretching that to ten', she explained. Her first complete efforts were the three short pieces she composed for her university audition with 'stems backwards and facing the wrong direction'. Since

then, Laura has composed a number of works for different instruments and instrument combinations. Each piece takes her 'at least five months' and teaches her something new about her craft.

With regard to enabling conditions for composition, Laura conceded that perhaps the most influential was the 'stifling environment' of her home 'where there was ... almost a fear just to breathe'. She continued: 'Writing music was something I had complete control over and could do whatever I wanted with it'. She referred to music as being 'a very close friend' and 'a great comfort', and concluded that 'after a while I knew it was something I was going to do [for the rest of my life]'. This inner motivation has led Laura to become a very disciplined composer. She has trained herself to get over the 'fear of a blank sheet of manuscript paper' and affirmed that composition is 'more perspiration than inspiration'. However, Laura did mention an optimum state of mind – being 'not too busy' – and several composing strategies that help her to get started. Earlier, she used to spend a lot of time 'doodling' at the piano, but explained that 'nowadays, when I'm just starting out a piece, I sit down at the keyboard just to hear a few chords really ... how they sound ... and work together'. She keeps a 'little file, a little orchestra in my head', and uses this aural knowledge of orchestral timbres and ranges to assist her in writing effective instrumental lines. Laura likes to use some structural or organisational principle to 'hang my hat on'. It might be a mood, a texture, a mathematical formula, or a series of intervals – she is partial to minor ninths. In his discussion of contemporary composers, Fulmer (1995) found that all twelve reported using some organisational principle also. With respect to mentors, Laura did mention a sympathetic flute teacher who, she said, 'could have helped me if I'd wanted to be helped more'. However, Laura's strongest motivational factor was her own inner self driven to composition as a way to handle her 'wacky and in a way not so great childhood'.

Laura gave me a copy of the poem, peppered with marginal notes and rhythmic scribbles, two pages of preliminary sketches, a first draft on manuscript paper, a second draft which was a combination of computer and hand-written notation, and, two days after the final interview, a completed score (see Appendix B). She worked on the piece sporadically throughout the two weeks when she had time. Laura has learned from experience that a portion of the compositional process involves the subconscious, cf. Wallas's (1926) 'incubation' stage and Sloboda's (1985) 'unconscious' process. She began by reading and re-reading the poem and 'walked around with the mood floating in my head'. Late in the first week, she spent an hour of exploratory work at the piano generating musical material consisting of chord progressions and a pitch collection. She spoke of hearing 'a germ of a melody' (Bennett, 1976, a 'germinal idea') that came into being 'sort of magically' and of thinking of a certain texture – 'low piano sound' – for one part of the poem. During the second week, Laura went through several stages. She considered the rhythmic stress of the words, the contour of the melody, and where the climax should occur. Laura sang as she wrote, feeling that this 'probably kept me from going too high'. Explaining the evolution of the score, she said: 'I just went through and wrote in all my rhythms and words underneath the notes ... and then I went back and started filling out the piano part'. She had no set metre at first. Laura came to the final interview with draft two of her song. It was 'basically done' but she hadn't entered it all in FINALE. She elaborated: 'The notation [is] really a drag ... because I'm so sure of what I want on the page before I put it ... that putting it on the page is a pain'. She submitted the completed score two days later.

Laura was involved in the composition process throughout the two-week time

period and beyond. She enjoyed the experience of composing in a defined time frame, but conceded that she hadn't had time to 'go through and listen and really do fine-tooth-combing things' which she considers 'the most important part of writing a piece'.

Laura's piece resembles the Romantic Lied in that it is a duet for voice and piano, with many instances of word-painting in both parts. The song begins with an eleven-bar introduction which presents much of the musical material and includes the favoured minor ninths. The first stanza is set in fifteen bars followed by an eight-bar interlude. Stanza two is longer – twenty-five bars – and includes a wailing climax on the line 'so close the windows and not hear the wind' which has the singer peak at high C. Laura spoke of 'finding her voice' as a composer and this piece provides ample evidence. It rests solidly in Swanwick's (1988) 'symbolic' stage where 'technical mastery serves musical communication. The listener's attention is focused on formal relationships and expressive character which are fused together in an impressive, coherent, and original musical statement, made with commitment' (p. 153).

Comparisons and contrasts

Comparing the compositional strategies and procedures of the two composers, one uncovers many similarities. Both employed an exploratory phase of 'doodling' at the piano to generate musical material, although Donna relied on this strategy throughout the process whereas Laura used it only to get started. Both referred to inspiration as being a significant component. Donna thought up a 'sweet melody' while Laura heard a 'germ of a melody'. However, both were aware of the need to manipulate their materials in order to complete the piece. Both composers used their voices as an aid to composition. Donna hummed phrases and Laura sang as she composed. Both felt the need for revisions; however, Laura wasn't able to complete this part of the process during the time allotment. Both composers used computer music-writing programs to notate their scores, Donna hooking up her synthesiser to the computer, and Laura inputting her score using FINALE. Both spoke of conscious and unconscious phases in the composition process, Laura being more eloquent on this subject than Donna.

Ladanyi (1996), in her study of the compositional processes of high school students, found that, while the high school students appeared to illustrate three different types of compositions enterprise, the processes employed by all four subjects greatly resembled those described by numerous professional composers. The data from this study confirm Ladanyi's findings. The processes employed by Donna are strikingly similar to those used by Laura. The main difference lies in the manipulation of musical materials. Here Laura's years of composition training provide her with a higher degree of craftsmanship. Kratus (1989) suggested this eventuality when he claimed that 'the difference between adult composers and children is that adult composers possess a higher degree of enabling skills, which allow them to shape their musical materials in a more sophisticated manner' (p. 17).

Both composers were able to complete the task within the time frame, although differences in craftsmanship and compositional development led to differences in time use. Donna was all but finished in one week whereas Laura took the full time and then some more to produce her second draft. Both, however, claimed that the time constraint had not affected them adversely. In fact, Laura was quite anxious to write a piece within a specified time frame as she said 'when there's no deadline, you get really picky'.

With respect to structure, there were stylistic differences of course. One of the

professional composers judged Donna's piece to be 'sensitive' and not at all 'cheesey' as Donna herself had felt, with echoes of the airs of Thomas Campion, particularly in her use of the D♯. Linda's piece, he felt, was more 'expansive', a 'realization of the text' with 'piano introspection'. The second composer-critic agreed, stating that the style of Donna's piece was 'essentially that of a folk-song or simple popular song' whereas Laura's piece was a 'more highly individualistic art song with internal complexity'. She continued by commenting on the differences in pitch and harmonic vocabulary pointing out that Donna's piece was tonal/modal while Laura's was atonal. These differences are evidence of the gradual progression from novice to expert composer noted by Younker & Smith (1996) in their study. It would seem that Donna is 'right on track' as a high school senior, straddled as she is between Swanwick's (1988) 'idiomatic' and 'symbolic' phases. Laura, on the other hand, has found her own voice as a composer and has reached the stage of a professional.

Implications for music education

Ruminating on the impact of these findings for the music education profession, I find the issues of background and enabling conditions to be the most important. Donna and Laura confessed to very different home backgrounds, yet both began experimenting with composition or, in Laura's case, improvising at an early age. For these two cases at least, an enriched cultural milieu at home did not make a significant difference. That being said, however, what did seem to matter was an active engagement with music during adolescence. Both composers related their heavy involvement with music at high school. Significantly, this music instruction, varied though it was, did not involve composition training *per se*, but it did provide the composers with the experiences and skills necessary to catapult them into the realm of composition.

So what, then, prompts people to express their creative impulses by writing music? Both Donna and Laura feel that anyone can compose music, but that, according to Donna, 'you have to try!' Donna also felt that exposure and support were helpful, while Laura claimed that a 'necessary interest' and 'hard work' were requirements for the endeavour. Both demonstrated the process of composing as a solitary affair, practised in a state of quiet repose, and both confessed to taking extended time to complete their compositions, although they rose to the challenge of the time constraint.

As music educators interested in cultivating the art of composition in adolescents, we can learn much from the stories of Donna and Laura. We can take heart from their claims that 'anyone can compose', yet we should be careful to provide the garden plot of space and the varied plants of musical experiences rather than try to 'grow the garden' ourselves. Many modern high schools are constructed with a large music room surrounded by several smaller practice rooms, often containing pianos and/or keyboards. This would seem to be an ideal environment for nurturing high school composers. Students could work alone in the various practice rooms, taping their composing sessions if notational skills are not well-developed, while the teacher circulated to assist or offer suggestions when needed. I would even venture to suggest that students without keyboard skills be encouraged to hum their melodies into a microphone so as not to interrupt the flow of musical material. Notation can be taught and the ear can be developed. What is most important is to keep the creative spark alight.

Both Donna and Laura made reference to the therapeutic quality of composing

music. Donna suggested that it created meaning for her, helping her to 'put emotions in perspective'. Laura agreed and stated that 'making music was a way to deal with my wide emotional spectrum constructively without going crazy'. We know that adolescence is a turbulent time for most teens, with emotional highs and lows being the norm rather than the exception. By providing the space and time for our students to compose, we can not only coax the development of their creative spark but also assist them in negotiating a safe passage through the tosses and turns of adolescence.

References

Adler, P. A. & Adler, P. (1994) 'Observational techniques', in Denzin & Lincoln (Eds), *Handbook of Qualitiative Research*, pp. 377–92. Thousand Oaks, CA: Sage Publications.

Bamberger, J. (1977) 'In search of a tune', in Perkins and Leondar (Eds), *The Arts and Cognition*, pp. 284–319. Baltimore, MA: Johns Hopkins University Press.

Bennett, S. (1976) 'The process of musical creation: Interviews with eight composers', *Journal of Research in Music Education*, **24**, pp. 3–13.

Bjorkvold, J. R. (1992) *The Muse Within: Creativity and Communication, Song, and Play from Childhood through Maturity* (W. H. Halverson, Trans.). New York: Harper Collins. (Original work published 1989)

Brinkman, D. J. (1995) 'The effect of problem-finding and creativity style on the musical compositions of high school students'. Unpublished doctoral dissertation, University of Nebraska, Lincoln.

Bunting, R. (1987) 'Composing music: Case studies in the teaching and learning process', *British Journal of Music Education*, **4** , pp. 25–52.

Creston, P. (1971) 'A composer's creed', *Music Educators Journal*, **47/7**, pp. 36–9, 91–3.

Czikszentmihalyi, M. (1996) *Creativity: Flow and the Psychology of Discovery and Invention*. New York: Harper Collins.

Elliott, D. J. (1995) *Music Matters*. New York: Oxford University Press.

Fontana, A. & Frey, J. (1994) 'Interviewing', in Denzin & Lincoln (Eds), *Handbook of Qualitative Research*, pp. 361–76. Thousand Oaks, CA: Sage Publications.

Fulmer, D. (1995) 'Composition as a generative process'. Unpublished paper, University of Miami.

Gall, M. D., Borg, W. R., & Gall, J. P. (1996) *Educational Research: An Introduction* (6th ed.). White Plains, NY: Longman.

Gardner, H. (1993) *Creating Minds*. New York: Harper Collins.

Gromko, J. E. (1996) 'In a child's voice: An Interpretive interaction with young composers', *Bulletin for the Council for Research in Music Education*, **128**, pp. 37–58.

Hamburger, M. (1952) *Beethoven: Letters, Journals, and Conversations*. New York: Pantheon Books.

Hargreaves, D. J. (1986) *The Developmental Psychology of Music*. Cambridge: Cambridge University Press.

Hodder, I. (1994) 'The interpretation of documents and material culture', in Denzin & Lincoln (Eds), *Handbook of Qualitative Research*, pp. 393–402. Thousand Oaks, CA: Sage Publications.

Howard, J. & Martin, J. (1997) 'Developing musical creativity: The Singapore young composers' project as a case-study', *Research Studies in Music Education*, **8**, pp. 71–80.

Kaschub, M. (1997) 'A comparison of two composer-guided large group composition projects', *Research Studies in Music Education*, **8**, pp. 15–28.

Kinney, M. (1990) 'Perceptions of developmental influences as contributing factors to the motivation for musical creativity of eminent 20th century living composers'. Unpublished doctoral dissertation, University of Syracuse.

Kratus, J. (1989) 'A time analysis of the compositional processes used by children ages 7–11', *Journal of Research in Music Education*, **37**, pp. 5–20.

Ladanyi, K. S. (1996) 'Processes of musical composition facilitated by digital music equipment'. Unpublished doctoral dissertation, University of Illinois, Urbana-Champaign.

Lysaught, J. P. (1993) 'Creativity and composition: Contextual facilitators and inhibitators in the lives of eight composers'. (Doctoral dissertation, University of Rochester, 1993). *Dissertation Abstracts International*, 54, 1718A.

Moore, B. R. (1986) 'Music composition and learning style: The relationship between curriculum and learner'. (Doctoral dissertation, University of Wisconsin, 1986). *Dissertation Abstracts International*, 47, 2071A.

National Standards for Arts Education (1994) Reston, VA: Music Educators National Conference.

Reed, A. (1990) 'How a composer works', *The Instrumentalist*, **44/11**, pp. 48–9.

Reimer, B. (1997) 'Music education in the twenty-first century', *Music Educators Journal*, **84/3**, pp. 33–8.

Reinders, S. (1992) 'The experience of artistic creativity: A phenomenological psychological analysis (painting, dance, music)'. (Doctoral dissertation, Saybrook Institute, 1991). *Dissertation Abstracts International*, 52, 4512B.

Sloboda, J. A. (1985) *The Musical Mind: The Cognitive Psychology of Music*. Oxford: Clarendon Press.

Scripp, L., Meyaard, J. & Davidson, L. (1988) 'Discerning musical development: Using computers to discover what we know', *Journal of Aesthetic Education*, **22**, pp. 75–88.

Smith, W. H.. (1998) 'A process analysis of high school novice musicians' initial composing experience'. Unpublished paper presented at the Poster Presentation, MENC, Phoenix, April 1998.

Stake, R. E. (1994) 'Case-study', in Denzin & Lincoln (Eds), *Handbook of Qualitative Research*, pp. 236–48. Thousand Oaks, CA: Sage Publications.

Swanwick, K. & Tillman, J. (1986) 'The sequence of musical development: A study of children's composition', *British Journal of Music Education*, **3**, pp. 305–39.

Swanwick, K. (1988) *Music, Mind, and Education*. London: Routledge.

Wallas, G. (1926) *The Art of Thought*. New York: Harcourt Bruce & Co.

Webster, P. (1990) 'Creative thinking', *Music Educators Journal*, **76/9**, pp. 21–37.

Webster, P. & Hickey, M. (1995) 'Rating scales and their use in assessing children's music compositions', *The Quarterly Journal of Music Teaching and Learning*, **6/4**, pp. 28–44.

Wiggins, J. H. (1994) 'Children's strategies for solving compositional problems with peers', *Journal of Research in Music Education*, **42**, pp. 232–52.

Younker, B. & Smith, W. (1996) 'Comparing and modeling musical thought processes of expert and novice composers', *Bulletin for the Council of Research in Music Education*, **128**, pp. 25–36.

Appendix A: 'Now Close the Windows' by Robert Frost

Now close all the windows and hush all the fields
If the trees must let them silently toss;
No bird is singing now, and if there is,
Be it my loss

It will be long ere the marshes resume,
It will be long ere the earliest bird:
So close the windows and not hear the wind
And see all wind stirred.

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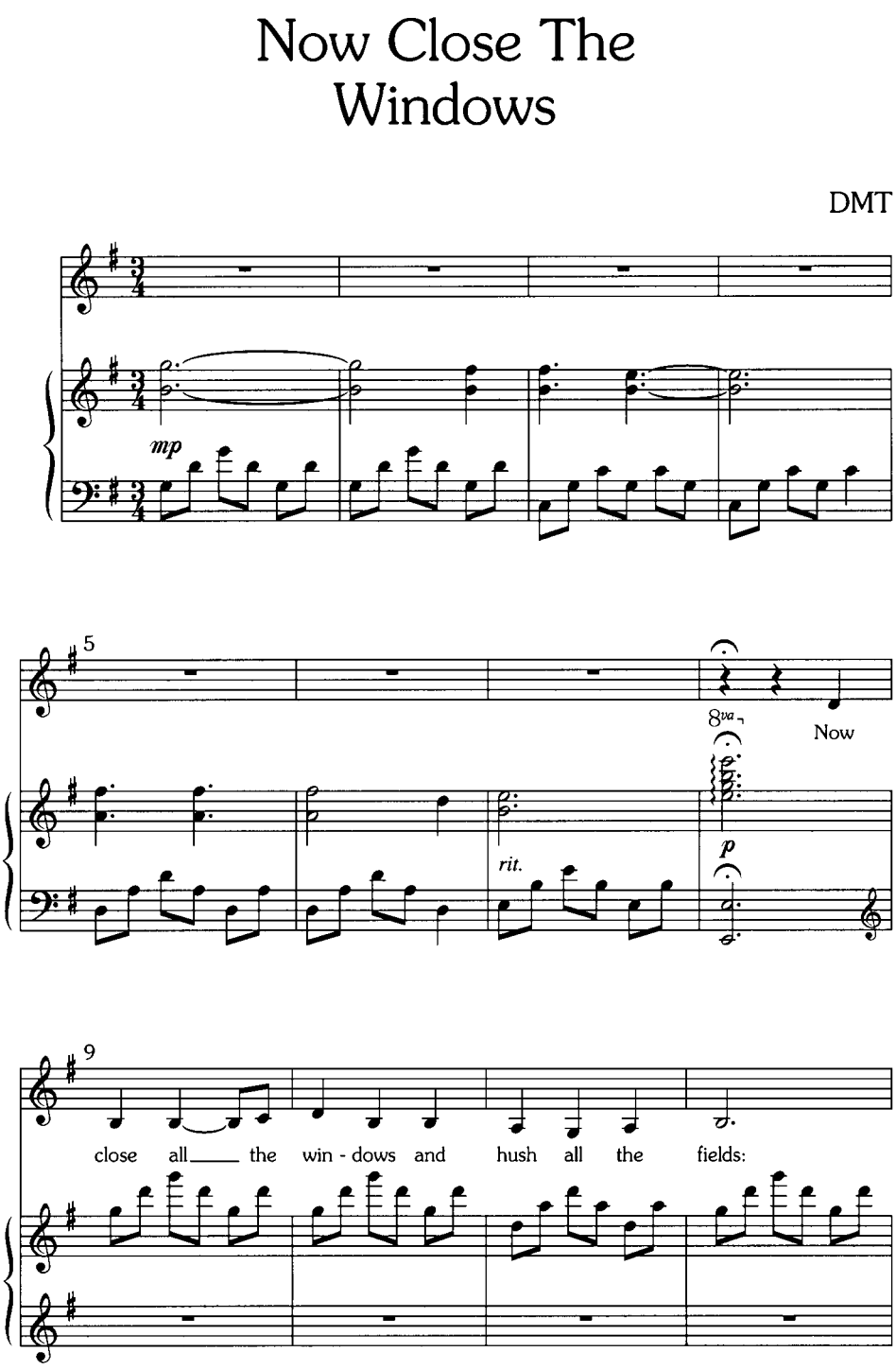
Appendix B: Musical scores



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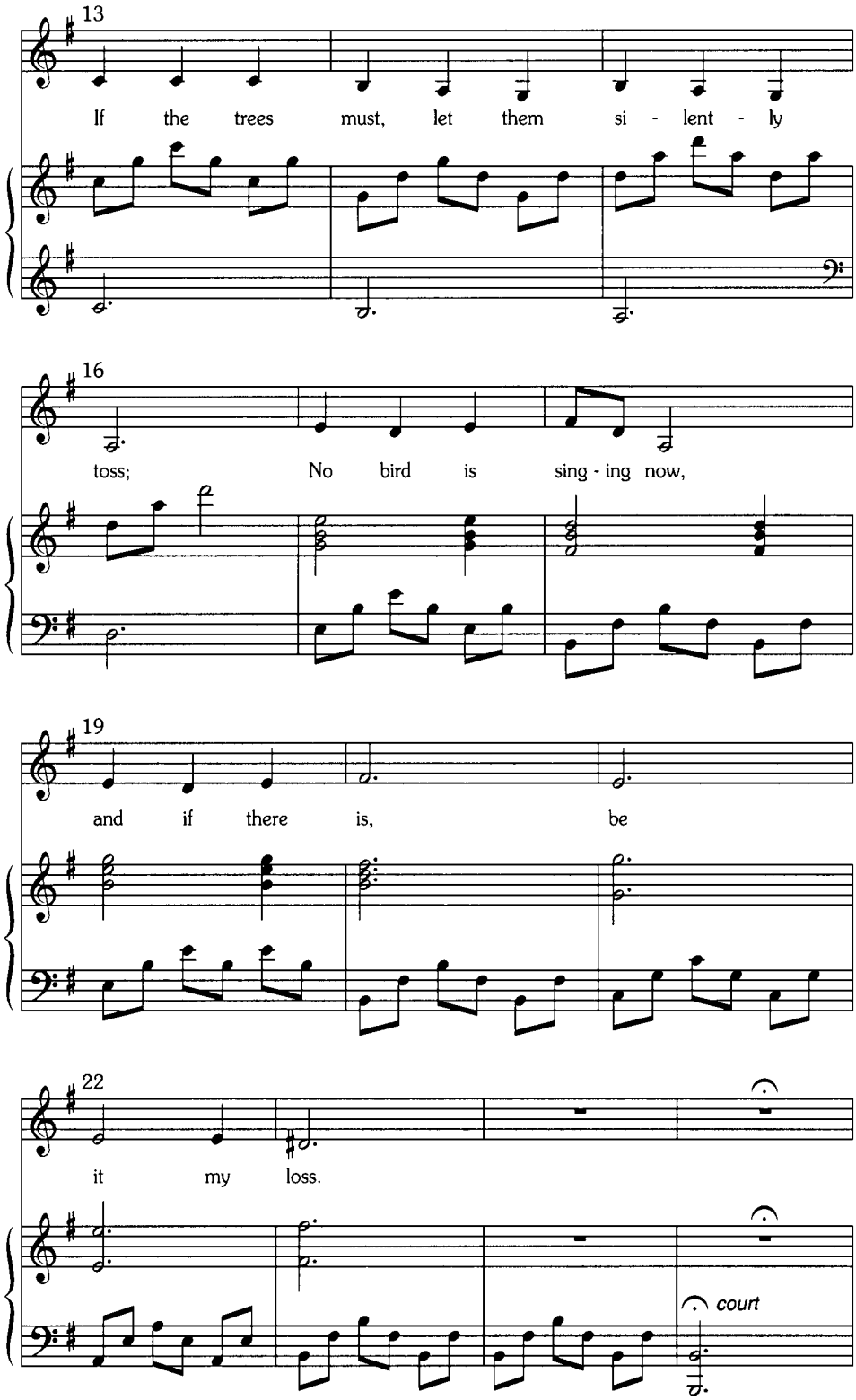

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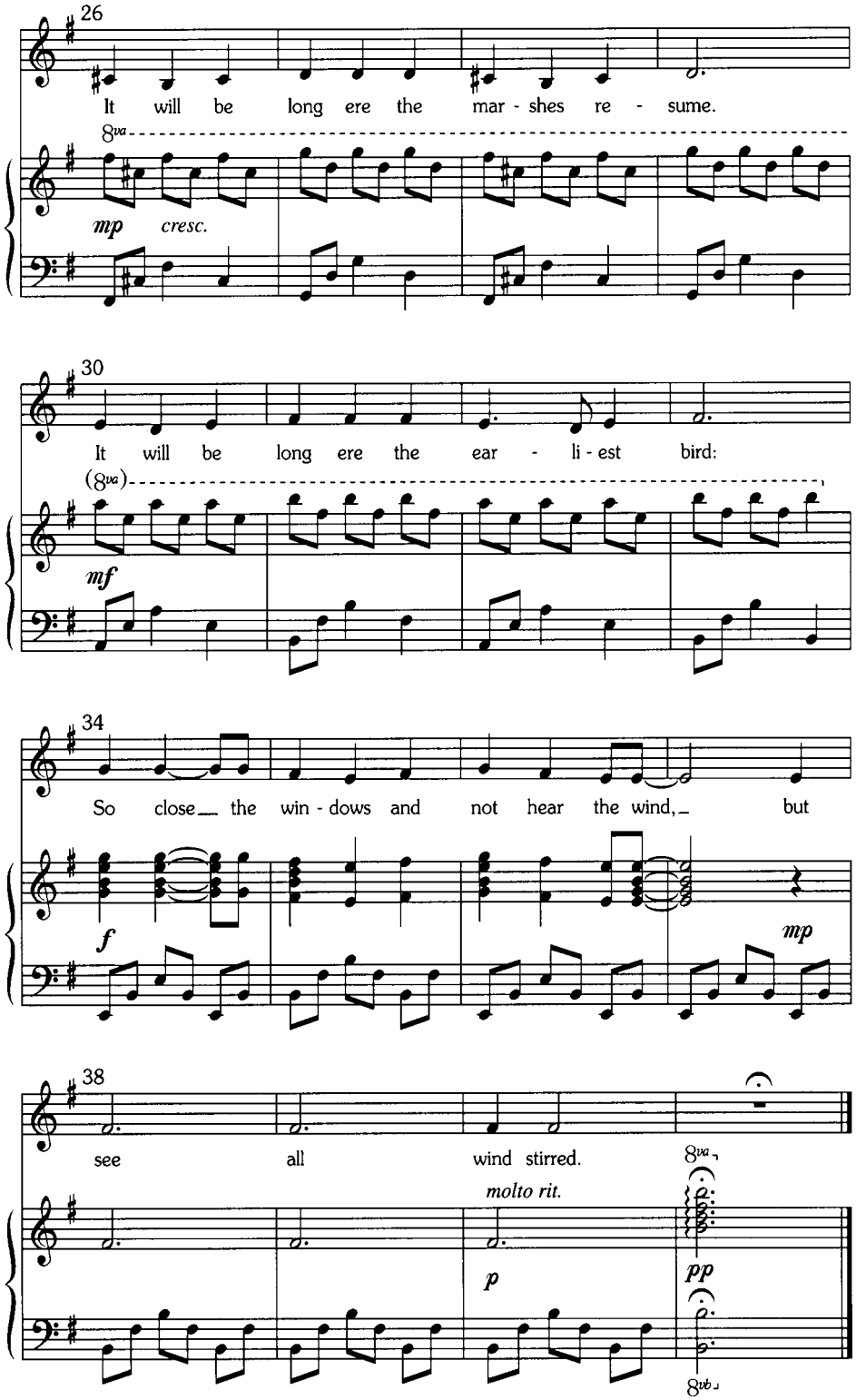
Where does the music come from? Mary A. Kennedy



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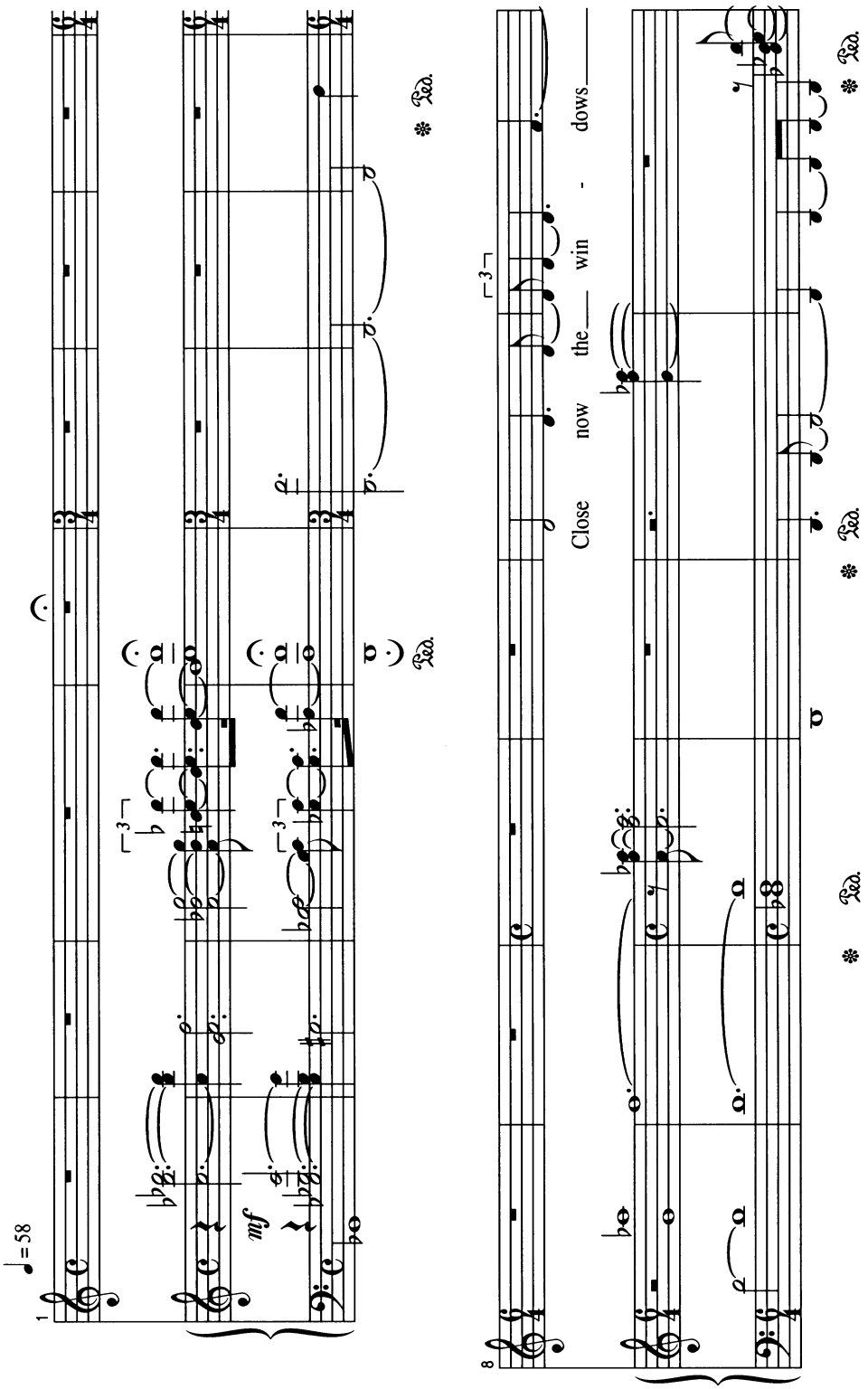

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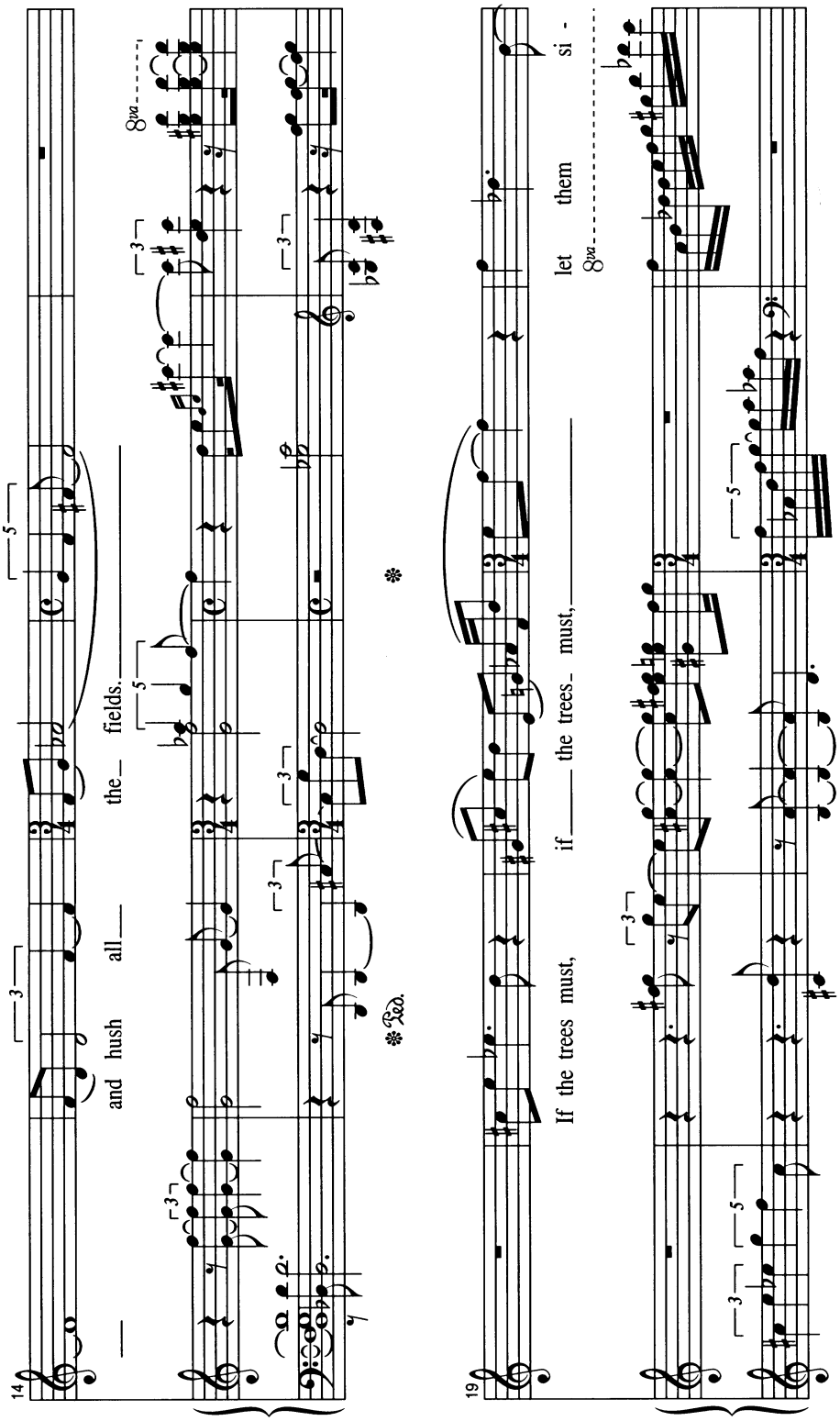

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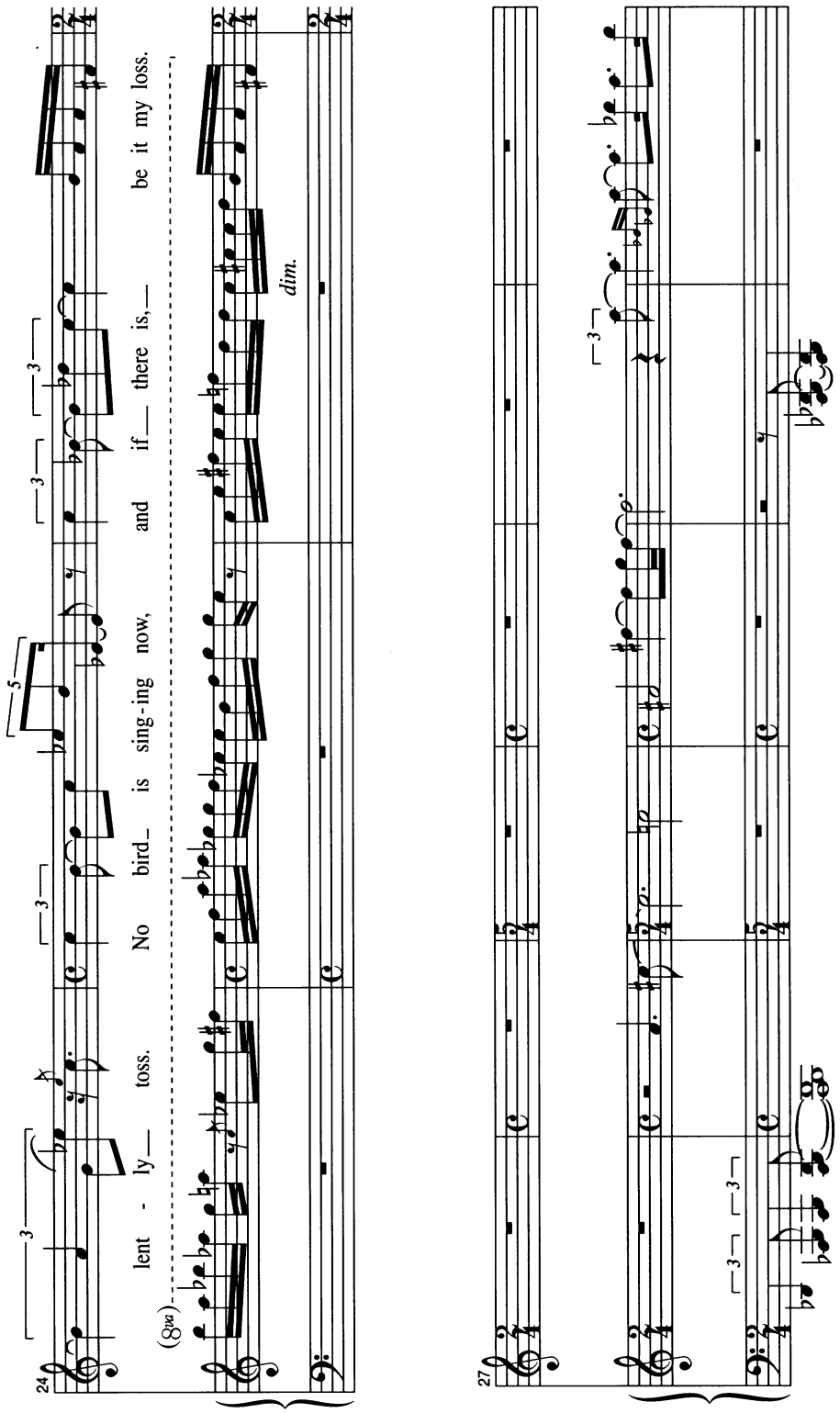

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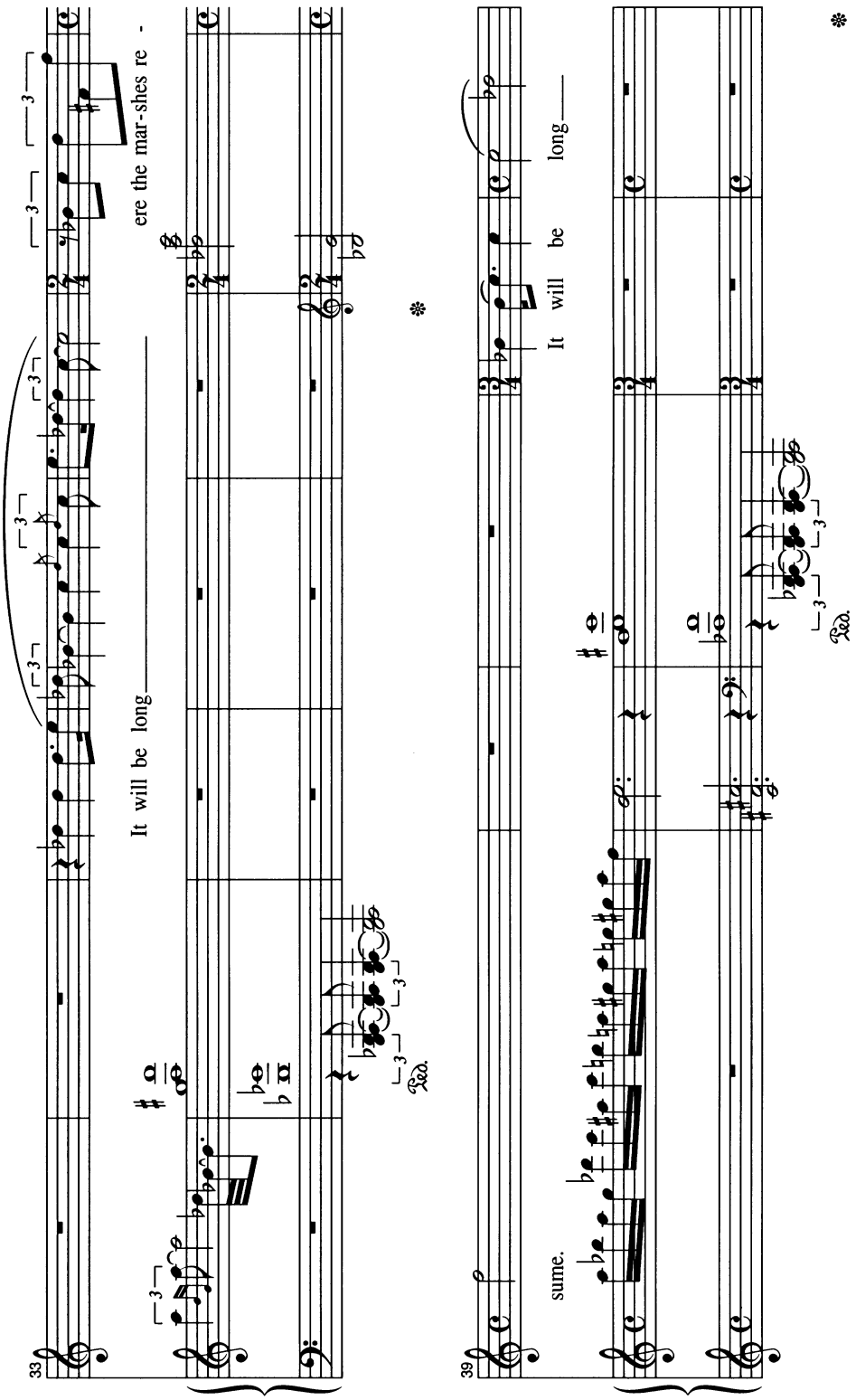

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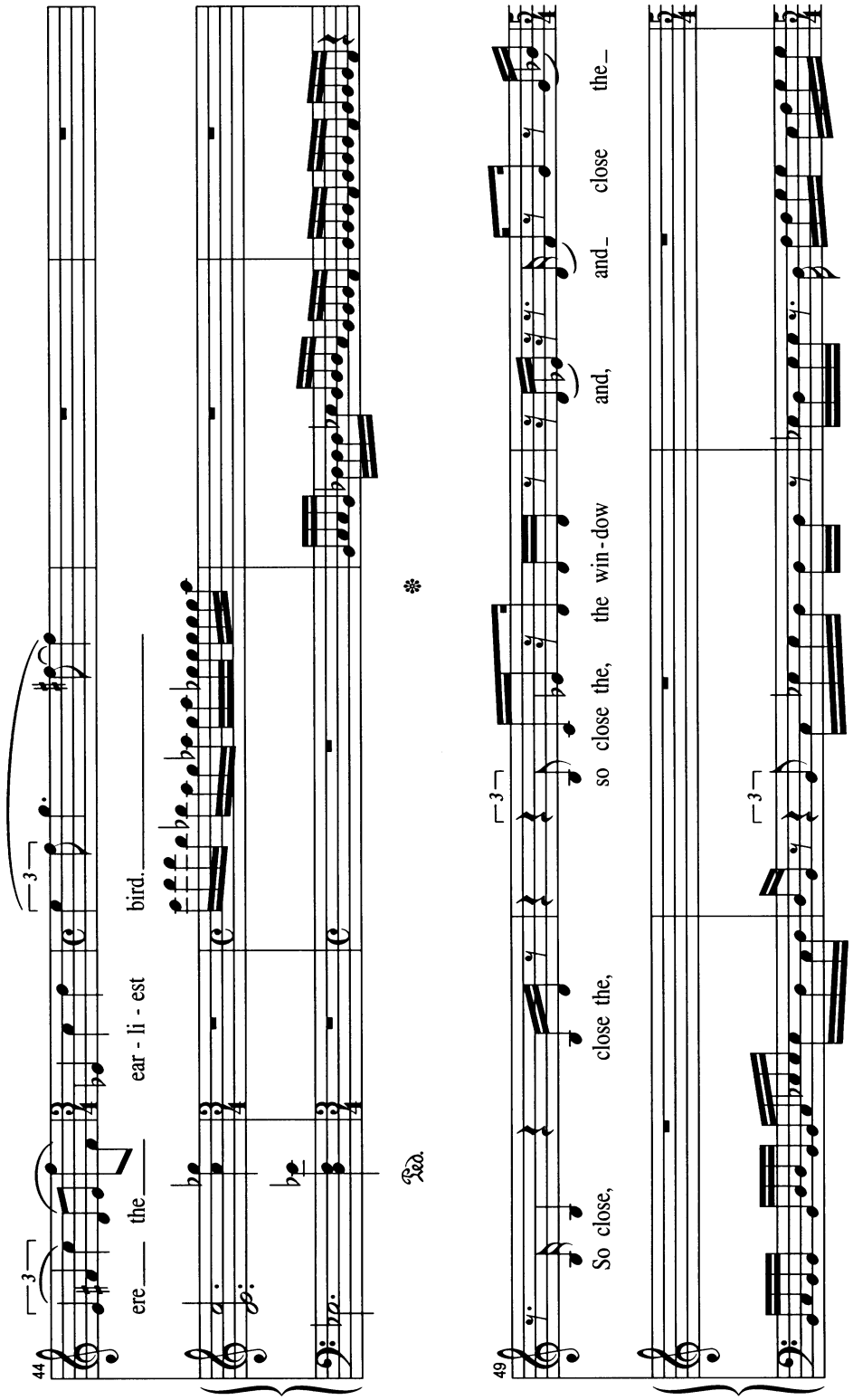

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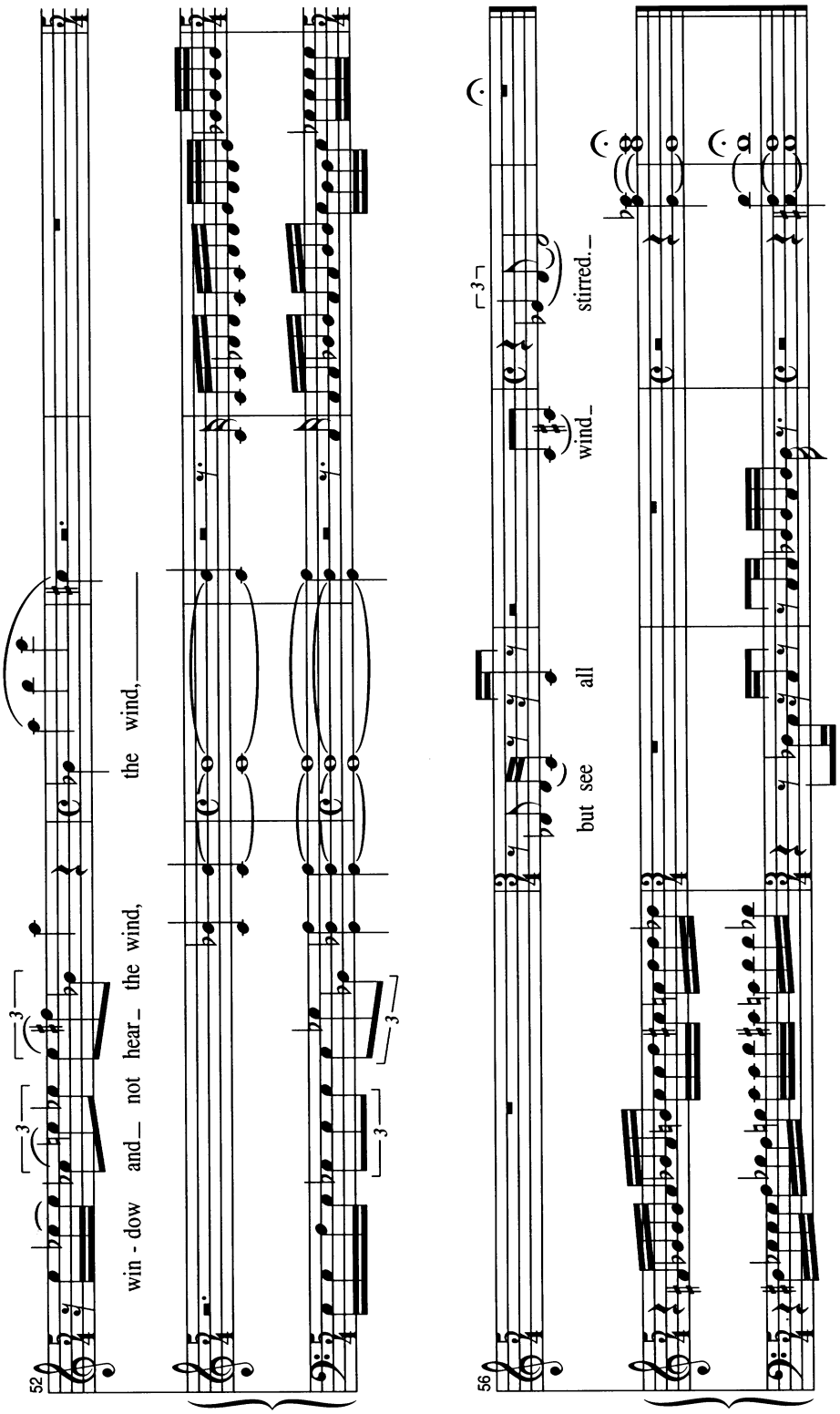

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