

## From Constraints to Creativity: Musical Inventions through Cantonese Contours in Hong Kong Contemporary Music<sup>1</sup>

**Abstract.** When hearing a song for the first time, listeners could find its lyrics difficult to discern due to discrepancies between the verbal language and its musical setting. Compared to the Romance languages, tonal languages present a particular challenge to composers and listeners. Since tones are used to differentiate word meanings, tonal languages are inherently musical; yet, ironically, their musical expression is often constrained by the pitch structure of the language. With more linguistic tones than standard Chinese, Cantonese poses still greater challenges for musical perception and composition. While there is already research on the tone-melody interface in Cantonese opera (Yung 1989) and Canto-pop (Ho 2010; Wong and Diehl 2002), no one to date has mapped out how Cantonese composers deal with text-setting constraints in contemporary classical compositions.

Drawing upon perception tests and musical analysis, this study renews the understanding of the Cantonese text-setting constraints by identifying the optimal intervals for all tone successions and delineates how the constraints function as creative resources in Hong Kong contemporary music. With the analyses of Hing-yan Chan's choral work *A Poet's Four Season*, Doming Lam's Chinese orchestral piece *Autumn Execution*, and my orchestral work *Times of Prospering and Perishing*, I demonstrate the potentialities of the tonal Cantonese language when combined with speech and text to produce unique melodic, harmonic, and textural effects in both vocal-choral works and instrumental music containing unsung texts. This study illustrates how Hong Kong composers work within the constraints instead of against them to create new music that paves new ways for the audience to appreciate the language and culture imbued within the music.

**Keywords:** tonal language, Cantonese, Hong Kong, constraints, creativity.

### Introduction

Tonal languages depend on variations in pitch and inflection to differentiate word meanings. Since the same sound may carry very different or even conflicting meanings at different pitch levels, the perception of pitches as high or low in a musical melody fundamentally affects the perception of the corresponding text. Research on the tone-melody interface in Cantonese opera (Yung 1989) and Canto-pop (Ho 2010; Wong and Diehl 2002) has revealed that Cantonese texts are only intelligible in a musical setting if the pitches of successive syllables are appropriately distanced. However, no one to date has mapped out the manifold possibilities in contemporary Cantonese compositions to understand how composers deal with text-setting constraints. This study fills the gap by investigating the tone-melody relationship in Cantonese text settings as exemplified in the creative praxes of Hong Kong composers in their choral and instrumental works.

In Cantonese, there are nine tones at six distinct pitch levels. Chao's (1930) numerical system expresses pitch levels from 1 (lowest pitch) to 5 (highest pitch), the six distinct pitch levels in Cantonese can be represented as follows: tone one (T1) /55/, tone two (T2) /25/, tone three (T3) /33/, tone four (T4) /21/, tone five (T5) /23/, and tone six (T6) /22/. The two numbers correspond to the pitch level at the onset and the end of the tone respectively. For instance, tone two /25/ indicates an upward inflection that begins at the mid-low-level and ends at the high level. The first six tones alone cover all pitch levels in Cantonese. Tones seven through nine are entering tones, which change the ending consonant of a sound to one of the unreleased plosive consonants -p, -t, and -k. Tonally, the pitch levels of these tones are the same as tones one, three, and six, and they shall be treated as the same tones in a musical setting.

Table 1 illustrates how the same sound “fan” corresponds to the characters of different meanings when it is spoken with nine tones. From a musical perspective, it is worth noting that T2 and T5 are rising tones with an inherent upward glissando from a lower pitch. The upward scoop arising from these tones is an important feature in sung Cantonese. Even when the scoop is not recorded in the score, native Cantonese performers will naturally incorporate it into the melody to avoid misunderstandings (Schellenberg 2011: 1754), leading to a distinctive melodic feature in Cantonese vocal music.

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Tone number	Category	Relative pitch value	Example
1	High-level	55	分 / fan / “divide”
2	High-rising	25	粉 / fan / “powder”
3	Mid-level	33	訓 / fan / “teach”
4	Low-falling	21	焚 / fan / “burn”
5	Low-rising	23	奮 / fan / “diligent”
6	Low-level	22	份 / fan / “portion”
7	High-entering	5	忽 / fat /
8	Mid-entering	3	-
9	Low-entering	2	佛 / fat / “buddha”

Table 1. Nine tones of Modern Cantonese

The text-setting issue is complicated by adjacent combinations of two or more characters because a phrase or word that contains two or more characters is only meaningful if it is sung with the correct relative contour (Ladd 2013: 6). For example, a combination of T1 /55/, and T4 /21/, as in “wilted vines” *fu1 teng4* (枯藤) creates a falling contour; and a combination of T4 /21/ and T2 /25/, as in “flowing water” *lau4 seoi2* (流水), creates a rising contour. For Cantonese lyrics in a melody to be correctly understood, at least two conditions must be met: 1) the direction of the intervals must match the lexical contours of tone combinations at different pitch levels, and 2) the distance between the intervals must be optimal. This linguistic property of Cantonese makes it especially challenging for composers to set pre-existing Cantonese speech or text to music. Otherwise, the interval would render the lyrics incomprehensible or misleading: “my lord” *zyu2* (主) could be perceived as “pig” *zyu1* (豬), and “school principal” *haau6 zoeng2* (校長) could be perceived as “flirty elephant” *haau4 zoeng6* (姣象). This phenomenon, also known as *daozi* “mismatched words” (倒字), is painstakingly avoided in the composition of Cantopop lyrics so that the appreciation of the lyrics is not compromised (Li 2021; Wong 1997: 6).

To date, is comprehensive investigation into optimal musical intervals for correct perception of each Cantonese tone combination. Studies by Wong and Diehl (2002) and Yiu (2013) have attempted to express the relative distance between the average fundamental frequencies of the speech tones in terms of musical intervals, but such descriptions are only helpful in generating melodies that sound as close to speech as possible. In practice, composers have used many more intelligible intervals that could fit each combination, but the degree of flexibility is insufficiently examined. Studies by Ho (2010) and Chow (2012) have identified some optimal intervals that are most frequently used in Cantonese songs, and Ho’s investigation (2009) into how mismatched intervals are perceived as alternative tones also offers valuable insights into text-setting constraints. While these findings are primarily applicable to understanding textual intelligibility within the context of the predominantly tonal musical language of popular music, the intervals that they have studied do not fully encompass the possibilities of intelligible intervals.

Due to the constraining nature of Cantonese text setting, some scholars see musicality and tone-melody correspondence as opposing forces, implying that to uphold one means sacrificing the other (Wong and Diehl 2002: 202; Agawu 1988: 128). Indeed, the Cantonese language and the expectations of native audiences have likely created a level of text-setting restriction unmatched by other tonal languages (Ho 2010: 116). As a result of such constraints, it is especially difficult to compose music in Cantonese that maintains textual intelligibility, even for native speakers. It is my contention, however, that these limitations can serve as powerful catalyst for musical innovation. Composers throughout history have drawn inspiration from physical, musical, and cultural constraints (Magnusson 2010; Pearce and Wiggins 2002; Norman 1999; Ebcioğlu 1992; Boden 1990). As Stravinsky put it, “The more constraints one imposes, the more one frees one’s self of the chains that shackle the spirit.” (Stravinsky 1947: 65) By conducting a thorough,

close-to-the-text investigation into linguistic constraints and freedom in the tone-melody interactions in Cantonese contemporary works by Hong Kong composers, I will demonstrate how the constraints imposed by the tonal language can unleash musical creativity not only in the melodic aspect but also in other parameters such as harmony, texture, and timbre organization.

### Methods

This study of Cantonese contemporary music by Hong Kong composers comprises two stages. Firstly, perception tests are carried out to refine the understanding of the text-setting constraints by finding all intelligible intervals for each tone combination in Cantonese. These results are then applied to the analyses of text-setting strategies and tone-melody relationships in contemporary repertoire.

### Perception Test of Intelligible Intervals

To establish a model for analytical study, I have performed perception tests to identify the optimal musical intervals for each successive combination of Cantonese linguistic tones, so that the Chinese text remains intelligible in the melody. These perception tests examined all 36 combinations resulting from the six tones at different pitch levels, covering combinations of falling and rising contours as well as level combinations of the same tones.

Twelve participants (6 female and 6 male) took part in the test. They are all native Cantonese speakers, aged 18 to 26, and are students at The Chinese University of Hong Kong with musical training. Participants are asked to listen to recordings of two-character Chinese words set to musical intervals within 14 semitones. For example, the word *zing1 san4* “spirit” (精神) was used to study the intelligible interval for the T1-T4 succession. As this combination consists of a high-level tone followed by a low-level tone, participants will listen to the text being sung in unison and descending intervals ranging from a minor second (one semitone) to a major ninth (fourteen semitones), then identify intervals that allow them to perceive the word *zing1 san4*. The intervals are sung at different transpositions within a diatonic scale to examine how the perceived scale degree in tonal settings affects intelligibility. For instance, to study the intelligibility of the descending minor 3rd when matched with a certain tone progression, participants would first hear a C major chord progression before listening to recordings of the text set to descending intervals of C-A, D-B, F-D, and G-E, which would be perceived as “do-la”, “re-ti”, “fa-re”, and “so-mi” respectively. They would then choose one of the following options to determine its intelligibility: 1) intelligible; 2) intelligible but potentially misleading; or 3) unintelligible. Additionally, they are invited to provide alternative texts or linguistic tones they may have perceived in the mismatched intervals so that I can examine the patterns and outcomes of undesirable tone-melody matching.

The result indicates that the intelligibility of musical intervals is not entirely clear-cut. As expected, there are intervals that all participants find intelligible for each tone succession, and these would be intervals closest to the distance between the tones in natural speech; conversely, there are also intervals that no participant finds intelligible. There are also intervals between these two ends that are intelligible to varying portions of participants, thus forming a spectrum of intelligible intervals. Thus, the concept of intelligibility is more fluid than it is understood at present. For the analytical part of this study, an interval is considered intelligible if there is at least one subset of pitch succession considered to be intelligible by 75% or more participants. These intervals are summarized in tables 2a, 2b, and 2c [see on pages 44–47].

The results show that for each tone succession, intervals of the same width could indeed lead to varying results of intelligibility when they are perceived as different scale degrees. The cases involving scale degrees “mi”, “fa”, “ti”, and “do” deserve closer examination. For T2-T1 (*se2 sang1* “sketch” [寫生]), while most unison intervals are intelligible for the ascending contour, pitch successions F-F (“fa-fa”) and C-C (“do-do”) are noticeably missing. The same is true when the tones are reversed, as in T1-T2 (*fung1 ging2* “scenery” [風景]). In the case of T3-T2 (*siu3 waa2* “joke” [笑話]), most participants find the augmented 4th F-B (“fa-ti”) intelligible, but not the diminished 5th B-F (“ti-fa”). Six participants reported that they perceived the first character as *siu6* (兆) instead of *siu3* (笑) when hearing the word set to “ti-fa”. In the reverse contour T2-T3, the diminished 5th F-B (“fa-ti”) is also missing. For both T4-T3 (*jau4 hei3* “game” [遊戲]) and T4-T5 (*hon4 laang5* “cold” [寒冷]), most pitch subsets of perfect 4th are considered intelligible, except that B-E (“ti-mi”) was ruled out by the majority; when hearing the words sung to “ti-mi” in T4-T3, four participants reported hearing

the first character as *jau6* (又); in T4-T5, three participants reported that they perceived the first character as *hon6* (汗) instead of *hon4* (寒). B-E (“ti-mi”) is also missing in their reversals, T3-T4 and T5-T4. For T6-T1 (*zi6 si1* “selfish” [自私]), only E-G (“mi-so”) and B-D (“ti-re”) are considered intelligible by the majority, while D-F (“re-fa”) and A-C (“la-do”) are not, with four participants reported hearing the latter character as *si3* (試). Likewise, when the tones are reversed in T1-T6 (*jam1 ngok6* “music” [音樂]), the same pairs “fa-re” and “do-la” did not make an intelligible list, and four participants reported hearing the first character as *jam3* (蔭) in those pairs.

The above cases suggest that some scale degrees, especially those forming semitones in the diatonic scale, may have a stronger affinity with certain tones in Cantonese; in particular, when T1 or T2 is matched to “do” and “fa”, they tend to be identified as T3 or T5 respectively; when T3 or T4 is matched to “ti” and “mi”, they tend to be identified as T6. The affinity is so strong that the presence of these scale degrees could render a pitch succession unintelligible even though the correct tones can be perceived at other transpositions of the same interval in the diatonic scale. Similar findings were reported by Ho (2010: 88), who suggested that a mismatch would be perceived for an optimal interval when T3 or T5 is not matched with “do” and “fa” in the diatonic scale. However, my perception tests indicate that her theory does not always hold, since a number of participants would still find some of the pitch successions concerned intelligible. In particular, cases involving T5 tend to have more intelligible results, and I postulate that the upward glide in this tone can help listeners narrow down the perceived text as either T2 or T5, thus preventing some cases of perceptual mismatch. Despite this, we may still conclude that when these scale degrees are present in a pitch succession, they could affect the intelligibility of words involving specific linguistic tones.

Table 2a. Intelligible intervals for tone successions (TS) with an ascending contour

Con-tour	TS	Exam-ple	Inter-val	Semi-tones	Pitches (Percentage)																						
					DD (100.00%)	EE (91.67%)	GG (100.00%)	AA (83.33%)	BB (83.33%)	CD (100.00%)	DE (100.00%)	FG (83.33%)	GA (100.00%)	AB (100.00%)													
A s c e n d i n g	T2-T1	寫生	Unis.	±0	DD (100.00%)	EE (91.67%)	GG (100.00%)	AA (83.33%)	BB (83.33%)																		
			M2	+2	CD (100.00%)	DE (100.00%)	FG (83.33%)	GA (100.00%)	AB (100.00%)																		
	T3-T1	信心	M2	+2	CD (100.00%)	DE (100.00%)	FG (100.00%)	GA (100.00%)	AB (100.00%)																		
			M3	+4	CE (100.00%)	FA (100.00%)	GB (100.00%)																				
	T3-T2	笑話	M2	+2	CD (100.00%)	DE (100.00%)	FG (100.00%)	GA (100.00%)	AB (100.00%)																		
			M3	+4	CE (100.00%)	FA (100.00%)	GB (100.00%)																				
			TT	+6	FB (91.67%)																						
			P5	+7	CG (75.00%)																						
	T4-T1	沉思	M6	+9	CA (100.00%)	DB (100.00%)	FD (100.00%)	GE (100.00%)																			
			m7	+10	AG (100.00%)	BA (100.00%)	DC (83.33%)	ED (100.00%)	GF (75.00%)																		
			M7	+11	CB (100.00%)	FE (100.00%)																					
			8ve	+12	GG (100.00%)	AA (100.00%)	BB (100.00%)	CC (100.00%)	DD (100.00%)	EE (100.00%)	FF (100.00%)																
			M9	+14	GA (100.00%)	AB (100.00%)	CD (91.67%)	DE (100.00%)	FG (100.00%)																		
			P4	+5	DG (83.33%)	EA (75.00%)	AD (83.33%)	BE (83.33%)																			
			P5	+7	AE (100.00%)	CG (100.00%)	DA (100.00%)	EB (100.00%)	FC (100.00%)	GD (100.00%)																	
	T4-T2	流水	m6	+8	BG (91.67%)																						
			M6	+9	CA (100.00%)	DB (100.00%)	FD (100.00%)	GE (100.00%)																			
			m7	+10	AG (100.00%)	BA (100.00%)	DC (75.00%)	ED (91.67%)	GF (75.00%)																		
			M7	+11	CB (100.00%)	FE (100.00%)																					
			8ve	+12	GG (100.00%)	AA (100.00%)	BB (91.67%)	CC (100.00%)	DD (100.00%)	EE (100.00%)	FF (100.00%)																
			M9	+14	GA (100.00%)	AB (100.00%)	CD (100.00%)	DE (100.00%)	FG (100.00%)																		
			P5	+7	AE (100.00%)	CG (100.00%)	DA (100.00%)	EB (100.00%)	FC (100.00%)	GD (100.00%)																	

T4-T3	遊戲	m3	+3	DF (100.00%)	AC (83.33%)		
		P4	+5	CF (100.00%)	DG (83.33%)	EA (75.00%)	GC (100.00%)
		TT	+6	BF (91.67%)			
		P5	+7	CG (100.00%)	FC (100.00%)		
		m6	+8	AF (100.00%)	BG (100.00%)	EC (100.00%)	
		m7	+10	AG (75.00%)	DC (91.67%)	GF (91.67%)	
		8ve	+12	GG (100.00%)	CC (100.00%)	FF (100.00%)	
		m9	+13	BC (83.33%)			
T4-T5	寒冷	m3	+3	DF (100.00%)	EG (83.33%)	AC (100.00%)	
		P4	+5	CF (100.00%)	DG (100.00%)	EA (91.67%)	GC (100.00%) AD (91.67%)
		TT	+6	BF (100.00%)			
		P5	+7	CG (100.00%)	EB (75.00%)	FC (100.00%)	GD (100.00%)
		m6	+8	AF (100.00%)	BG (100.00%)	EC (100.00%)	
		M6	+9	FD (75.00%)			
		m7	+10	AG (100.00%)	DC (100.00%)	ED (75.00%)	GF (100.00%)
		M7	+11	CB 33,33%	FE 33,33%		
		8ve	+12	GG (100.00%)	BB (75.00%)	CC (100.00%)	DD (100.00%) FF (100.00%)
		m9	+13	BC (75.00%)			
T4-T6	然後	M2	+2	CD (100.00%)	DE (100.00%)	GA (100.00%)	AB (100.00%)
		M3	+4	CE (100.00%)	FA (91.67%)	GB (91.67%)	
T5-T1	眼睛	M2	+2	CD (100.00%)	DE (100.00%)	FG (100.00%)	GA (100.00%) AB (100.00%)
		M3	+4	CE (100.00%)	FA (100.00%)	GB (100.00%)	
		P4	+5	DG (83.33%)	GC (91.67%)		
		TT	+6	FB (75.00%)			
		P5	+7	CG (91.67%)	FC (91.67%)		
		M6	+9	CA (75.00%)			
T5-T2	也許	M2	+2	CD (100.00%)	DE (100.00%)	FG (100.00%)	GA (100.00%) AB (100.00%)
		M3	+4	CE (91.67%)	FA (100.00%)	GB (100.00%)	
		TT	+6	FB (83.33%)			
		M6	+9	FD (83.33%)			
T5-T3	滿意	Unis.	+0	CC (91.67%)	DD (100.00%)	FF (91.67%)	GG (91.67%) AA (100.00%)
T6-T1	自私	m3	+3	EG (91.67%)	BD (100.00%)		
		P4	+5	DG (91.67%)	EA (91.67%)	AD (100.00%)	BE (100.00%)
		P5	+7	AE (91.67%)	DA (75.00%)	EB (91.67%)	
		m6	+8	BG (91.67%)	EC (75.00%)		
		m7	+10	BA (75.00%)	ED (83.33%)		
		8ve	+12	EE (75.00%)			
T6-T2	預感	m3	+3	EG (91.67%)	AC (75.00%)	BD (100.00%)	
		M3	+4	FA (91.67%)	GB (91.67%)		
		P4	+5	DG (91.67%)	EA (91.67%)	AD (100.00%)	BE (100.00%)
		P5	+7	AE (83.33%)			
		m6	+8	BG (100.00%)	EC (75.00%)		
		m7	+10	AG (100.00%)	BA (75.00%)	ED (75.00%)	
T6-T3	面對	m2	+1	EF (100.00%)	BC (100.00%)		
		m3	+3	DF (100.00%)	EG (100.00%)	AC (100.00%)	BD (75.00%)
		TT	+6	BF (75.00%)			
		m6	+8	EC (75.00%)			
T6-T5	父母	m2	+1	EF (100.00%)	BC (100.00%)		
		m3	+3	DF (100.00%)	EG (100.00%)	AC (100.00%)	BD (75.00%)
		TT	+6	BF (83.33%)			
		m6	+8	AF (83.33%)	BG (83.33%)	EC (91.67%)	

Table 2b. Intelligible intervals for tone successions (TS) with a descending contour

Con-tour	TS	Exam-ple	Inter-val	Semi-tones	Pitches (Percentage)						
					DD (83.33%)	EE (100.00%)	GG (100.00%)	AA (100.00%)	BB (100.00%)		
Descending	T1-T2	風景	Unis.	±0	DD (83.33%)	EE (100.00%)	GG (100.00%)	AA (100.00%)	BB (100.00%)		
			m2	-1	FE (91.67%)	CB (100.00%)					
			M2	-2	DC (83.33%)	ED (100.00%)	GF (83.33%)	AG (100.00%)	BA (100.00%)		
			m3	-3	FD (75.00%)	GE (75.00%)	CA (91.67%)	DB (91.67%)			
			P4	-5	GD (91.67%)	AE (83.33%)	CG (91.67%)	DA (91.67%)			
	T1-T3	方法	M2	-2	DC (100.00%)	ED (100.00%)	GF (100.00%)	AG (100.00%)	BA (100.00%)		
			M3	-4	EC (100.00%)	AF (100.00%)	BG (100.00%)				
			P4	-5	FC (75.00%)	GD (91.67%)	CG (91.67%)	DA (75.00%)			
			TT	-6	BF (100.00%)						
			P5	-7	GC (91.67%)	CF (100.00%)	DG (91.67%)				
			M6	-9	AC (83.33%)	DF (91.67%)	EG (91.67%)				
			m7	-10	FG (83.33%)						
			M7	-11	BC (83.33%)	EF (91.67%)					
			8ve	-12	CC (83.33%)	FF (75.00%)					
			P4	-5	GD (100.00%)						
	T1-T4	精神	P5	-7	EA (100.00%)	GC (100.00%)	AD (100.00%)	BE (91.67%)	CF (100.00%)	DG (100.00%)	
			m6	-8	FA (83.33%)	GB (75.00%)					
			M6	-9	AC (100.00%)	BD (100.00%)	EG (100.00%)				
			m7	-10	GA (100.00%)	CD (75.00%)	DE (100.00%)	FG (100.00%)			
			M7	-11	BC (100.00%)	EF (75.00%)					
			8ve	-12	GG (100.00%)	AA (91.67%)	BB (100.00%)	CC (100.00%)	DD (100.00%)	EE (91.67%)	FF (75.00%)
			M9	-14	AG (100.00%)	BA (100.00%)	DC (91.67%)	ED (91.67%)	GF (83.33%)		
			P4	-5	GD (100.00%)						
			M2	-2	DC (91.67%)	ED (100.00%)	GF (100.00%)	AG (100.00%)	BA (100.00%)		
	T1-T5	分秒	M3	-4	EC (100.00%)	AF (100.00%)	BG (100.00%)				
			P4	-5	FC (91.67%)	GD (100.00%)	CG (91.67%)	DA (100.00%)			
			TT	-6	BF (91.67%)						
			P5	-7	GC (100.00%)	AD (91.67%)	CF (100.00%)	DG (100.00%)			
			M6	-9	AC (100.00%)	BD (83.33%)	DF (83.33%)	EG (91.67%)			
			m7	-10	CD (75.00%)	FG (83.33%)					
			M7	-11	BC (91.67%)	EF (91.67%)					
			8ve	-12	CC (91.67%)	DD (83.33%)	FF (91.67%)				
			M9	-14	DC (83.33%)	GF (75.00%)					
			P4	-5	GD (91.67%)	AE (100.00%)	DA (100.00%)	EB (100.00%)			
	T1-T6	音樂	TT	-6	FB (100.00%)						
			P5	-7	EA (83.33%)	GC (75.00%)	AD (83.33%)	BE (91.67%)			
			m6	-8	FA (100.00%)	GB (100.00%)	CE (100.00%)				
			M6	-9	BD (91.67%)						
			m7	-10	GA (100.00%)	AB (100.00%)	DE (91.67%)				
			8ve	-12	AA (100.00%)	BB (91.67%)	DD (91.67%)	EE (91.67%)			
			m9	-13	CB (75.00%)						
			M2	-2	DC (91.67%)	ED (91.67%)	GF (100.00%)	AG (100.00%)	BA (100.00%)		
			M3	-4	EC (91.67%)	AF (100.00%)	BG (100.00%)				
	T2-T3	可怕	P4	-5	GD (75.00%)	CG (100.00%)					
			TT	-6	BF (91.67%)						
			P5	-7	GC (83.33%)	CF (100.00%)	DG (91.67%)				
			M6	-9	AC (83.33%)	DF (75.00%)	EG (91.67%)				
			M7	-11	BC (75.00%)	EF (83.33%)					
			8ve	-12	CC (83.33%)	FF (75.00%)					
			P4	-5	GD (91.67%)	AE (75.00%)	CG (75.00%)	DA (91.67%)			
P5			-7	EA (100.00%)	GC (100.00%)	AD (100.00%)	BE (100.00%)	CF (83.33%)	DG (100.00%)		
T2-T4	彩虹	m6	-8	FA (75.00%)	GB (75.00%)	CE (75.00%)					
		M6	-9	AC (91.67%)	BD (100.00%)	DF 66,67%	EG (91.67%)				
		m7	-10	GA (100.00%)	AB (83.33%)	CD (83.33%)	DE (91.67%)	FG (100.00%)			
		M7	-11	BC (100.00%)	EF (100.00%)						
		8ve	-12	GG (100.00%)	AA (100.00%)	BB (100.00%)	CC (100.00%)	DD (100.00%)	EE (100.00%)	FF (100.00%)	
		M9	-14	AG (91.67%)	BA (91.67%)	DC (75.00%)	ED (91.67%)				

	T2-T5	所有	M2	-2	DC (91.67%)	ED (91.67%)	GF (100.00%)	AG (100.00%)	BA (100.00%)
			m3	-3	FD (75.00%)	CA (83.33%)			
			M3	-4	EC (100.00%)	AF (100.00%)	BG (100.00%)		
			P4	-5	FC (91.67%)	GD (91.67%)	CG (91.67%)		
			TT	-6	BF (91.67%)				
			P5	-7	EA (75.00%)	GC (100.00%)	AD (100.00%)	CF (91.67%)	DG (91.67%)
			M6	-9	AC (91.67%)	BD (75.00%)	DF (100.00%)	EG (91.67%)	
			m7	-10	FG (100.00%)				
			M7	-11	BC (100.00%)	EF (100.00%)			
			8ve	-12	CC (91.67%)	DD (83.33%)	FF (91.67%)		
	M9	-14	AG (75.00%)	DC (91.67%)	GF (75.00%)				
	T2-T6	討論	m3	-3	GE (100.00%)	CA (91.67%)	DB (100.00%)		
			P4	-5	GD (100.00%)	AE (100.00%)	DA (100.00%)	EB (100.00%)	
			TT	-6	FB (91.67%)				
			P5	-7	EA (100.00%)	AD (100.00%)	BE (100.00%)		
			m6	-8	FA (100.00%)	GB (100.00%)	CE (100.00%)		
			m7	-10	GA (100.00%)	AB (100.00%)	CD (75.00%)	DE (100.00%)	
			8ve	-12	AA (91.67%)	BB (75.00%)	DD (100.00%)	EE (100.00%)	
			T3-T4	愛情	m3	-3	FD (100.00%)	CA (100.00%)	
	P4	-5			FC (100.00%)	GD (100.00%)	CG (100.00%)	DA (100.00%)	
	TT	-6			FB (75.00%)				
	P5	-7			GC (91.67%)	CF (100.00%)			
	m6	-8			FA (100.00%)	CE (83.33%)			
	m7	-10			FG (100.00%)				
	T3-T5	少女	Unis.	±0	CC (100.00%)	DD (100.00%)	FF (100.00%)	GG (100.00%)	AA (100.00%)
			m2	-1	FE (100.00%)	CB (91.67%)			
	T3-T6	發現	m3	-3	FD (91.67%)	GE (100.00%)	CA (100.00%)	DB (100.00%)	
			TT	-6	FB (91.67%)				
m3			-3	FD (91.67%)	CA (100.00%)				
T5-T4	旅行	P4	-5	FC (100.00%)	GD (100.00%)	AE (75.00%)	CG (100.00%)	DA (100.00%)	
		TT	-6	FB (83.33%)					
		P5	-7	GC (100.00%)	CF (100.00%)	DG (100.00%)			
		m6	-8	FA (100.00%)	CE (75.00%)				
		m7	-10	GA (75.00%)	CD (100.00%)	FG (100.00%)	DE 58,33%		
		8ve	-12	GG (83.33%)	CC (91.67%)	DD (91.67%)	FF (91.67%)		
		T5-T6	努力	m2	-1	FE (100.00%)	CB (100.00%)		
M2	-2			ED (91.67%)	BA (83.33%)				
m3	-3			FD (100.00%)	GE (100.00%)	CA (100.00%)	DB (100.00%)		
TT	-5			FB (100.00%)					
m6	-8			FA (83.33%)	CE (75.00%)				
T6-T4	未來	M2	-2	DC (100.00%)	ED (100.00%)	AG (100.00%)	BA (100.00%)		
		M3	-4	EC (100.00%)	AF (75.00%)	BG (100.00%)			

Table 2c. Intelligible intervals for tone successions (TS) with a level contour

Con- tour	TS	Exam- ple	Inter- val	Semi- tones	Pitches (Percentage)						
L e v e l	T1-T1	東京	Unis.	±0	DD (100.00%)	EE (100.00%)	FF (75.00%)	GG (100.00%)	AA (100.00%)	BB (100.00%)	
			Unis.	±0	DD (100.00%)	EE (100.00%)	FF (75.00%)	GG (100.00%)	AA (100.00%)	BB (100.00%)	
	T2-T2	影響	M2	-2	ED (83.33%)	AG (83.33%)	BA (91.67%)				
			m3	-3	FD (75.00%)	CA (75.00%)					
	T3-T3	過去	Unis.	±0	CC (100.00%)	DD (100.00%)	FF (91.67%)	GG (91.67%)	AA (100.00%)	BB (75.00%)	
	T4-T4	麻煩	Unis.	±0	CC (100.00%)	GG (75.00%)	AA (83.33%)				
	T5-T5	永遠	Unis.	±0	CC (100.00%)	DD (100.00%)	EE (91.67%)	FF (100.00%)	GG (100.00%)	AA (100.00%)	BB (91.67%)
	T6-T6	命運	Unis.	±0	DD (100.00%)	EE (100.00%)	AA (100.00%)	BB (100.00%)			

### Cantonese Contemporary Works

The second part of the research focuses on how Hong Kong composers work within the confines of these intelligible intervals to create musical materials. Using the data collected from the perception test, the works are analyzed phrase by phrase to identify instances of intelligible and unintelligible text-setting. A melodic line is considered intelligible when its lexical contour matches the melodic direction and when intelligible intervals are used for each tone succession.<sup>2</sup> The works are drawn from two bodies of Cantonese contemporary works: choral works and instrumental works with hidden text.

Cantonese choral works need to be addressed because text-setting constraints and other performance challenges have historically undermined its development. Hong Kong has an active choral music scene, and community choirs of the territory have been performing locally and internationally since the 1970s (Hong Kong Schools Music and Speech Association, n.d.). On the other hand, the Cantonese choral repertoire, be it sacred or secular, remains very small compared to other languages. Prior to the handover of Hong Kong in 1997, most local composers wrote pieces in English or Mandarin. To date, only a few volumes of original Cantonese choral works have been published, and most of them are written for children. Many of those works have only a single melodic line, hence avoiding the challenge of writing intelligible lines for choral textures. In addition, compositions that successfully balance musicality and textual integrity within the constraints are especially rare.

Hong Kong composers of concert music have also incorporated Cantonese into instrumental works besides choral compositions. Hidden texts of all genres, including classical and modern literature, phrases heard in local games, and chanting from different cultural customs, can be found in instrumentations including solo works, chamber pieces, and orchestral music. As of yet, no study has examined how the Cantonese text-setting constraints have contributed to the musical creativity in these works. By encompassing a broad range of compositional practices, from the conventional to the avant-garde, this medium opens unforeseen avenues for examining the interactions between text-setting constraints and different parameters of music. Within the scope of this paper, I will discuss three works that best showcase the diverse compositional strategies found across a wide range of Hong Kong contemporary music.

### Cantonese Choral Works

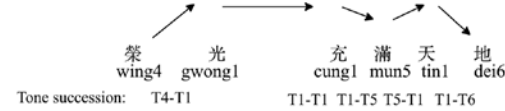
The existing choral repertoire in Hong Kong can be divided into two categories based on how composers address the issue of intelligibility for multiple voice parts. The first approach, which is more straightforward for many, is to make the melody in the foreground the only intelligible line. The majority of Cantonese choral works fall into this first category. The intelligible melody is usually placed in the highest voice part, with homorhythmic accompaniment found in the other voices, which sing contrapuntal lines typical of western classical choral traditions. Although all voice parts would sing of the same Chinese character, the results for the lower and inner voices would be mostly unintelligible since their melodic contours disagree with the lexical contours. This musical treatment can be found, for instance, in Victor Wai-kwong Chan's Sanctus from *Holy Communion* (E.g. 1a), the first Communion setting in Cantonese commissioned by the Hong Kong Anglican Church (Hong Kong Sheng Kung Hui). Example 1b shows a comparison between the lexical contour of the phrase with the direction and size of interval changes in the musical setting, which determines the intelligibility of individual lines.

Example 1a. Victor Wai-kwong Chan's Sanctus in *Holy Communion Mass*, choral excerpt

<sup>2</sup> For works using non-tonal idioms, the perceived scale degrees are not considered in the assessment of intelligibility.



**Lexical Contour of the Phrase**



**Melodic Intervals of the Phrase (intelligible intervals are in bold)**

S — Intelligible  
 Change of semitones: +7    ±0    -3    +2    -7

A — Unintelligible  
 Change of semitones: +5    ±0    +0    +0    -1

T — Unintelligible  
 Change of semitones: +0    ±0    +3    -1    +0

B — Unintelligible  
 Change of semitones: +0    ±0    +5    +0    -7

Example 1b. Musical setting of “May his glory fill the earth and heavens”  
 wing4 gwong1 cung1 mun5 tin1 dei6 (榮光充滿天地) compared to the lexical contour

With a well-balanced performance in which the intelligible vocal line is heard in the foreground, the overall effect will still be intelligible. In Sanctus, since the melody in the soprano would be joined by the congregation, the intelligible line will easily dominate the texture and allow the music to be comprehensible on the whole. However, if composers wish to explore contrapuntal writing with an intelligible text, they will need to seek alternate ways to set the text to music. The challenge of maintaining intelligibility is sometimes avoided by having the non-foreground parts sing nonsense syllables when they are providing harmonic support. Example 2, Cheuk-Yin Ng’s “Under the Lion Rock” from the choral suite *Victoria Has No Secrets* (2019), is a case in point.

**A1**  
 S. Ooh ooh ooh ooh  
 A. 人生 總有歡喜 總有樂趣 有繽紛 點綴 難免 都有淚印 都有塵去 塵來  
 T. Ooh ooh ooh ooh  
 B. Ooh ooh ooh ooh

4  
 S. ooh 同舟 跟你 幸運 遇上 共處 起居 獅山 相對 落絮  
 tung4 zau1 gan1 nei5 hang6 wan6 jyue6 soeng6 gung6 cyu5 hei geoi1 sii1 saan1 soeng1 deoi3 lok6 seoi5  
 A. 的 苦水 ooh ooh ooh ooh  
 T. ooh ooh ooh ooh  
 B. ooh ooh ooh ooh

Example 2. Cheuk-yin Ng. *Victoria Has No Secrets Suite* (2019), “Under the Lion Rock”, mm. 1–6

Another category of work emerged in the last decade. Some Hong Kong composers endeavored to write Cantonese choral works in which all vocal parts can sing intelligible lines. The conventional chorale style in western classical music would not work in this setting; in order for all lines to be intelligible, the melody needs to follow the lexical contour of the text, hence sacrificing the independence of the voices. In response to the challenge, these composers came up with different strategies to maintain contrapuntal and harmonic interests for all vocal parts even though the contour of the melodies was predetermined by the text. These strategies include, but are not limited to 1) using varying intelligible intervals in parallel contours, 2) setting the same text to different rhythms across the voice parts, 3) displacing entries of the same text, and 4) staggered entries of characters in a semantic unit singing sustained notes.

*A Poet's Four Seasons* (2019) by Hing-Yan Chan illustrates how these strategies may be combined in a single work. This work is a four-movement choral piece written for a mixed choir and a Chinese instrument ensemble consisting of dizi, sheng, pipa, erhu, and percussion. All movements are set to lyric poems by the Song Dynasty poet Xin Qiji from the 9th century. Example 3 shows a passage from the movement “Summer – A Midsummer Night’s Walk” where the representative strategies are implemented.

The musical score for Example 3 shows four vocal parts: Soprano (S.), Alto (A.), Tenor (T.), and Bass (B.). Each part has lyrics in Chinese characters and pinyin. The Soprano and Alto parts sing the same text: 外 (ngo1), 山前 (saan1 cin4), 舊時茅店 (gau6 si4 mau4 dim3), 社林邊 (se5 lam4 bin1). The Tenor part has a different text: 兩三點雨山前 (loeng5 saam1 dim2 jyu5 saan1 cin4) and 舊時茅店社林邊 (gau6 si4 mau4 dim3 se5 lam4 bin1). The Bass part has the text: 山前 (saan1 cin4), 舊時茅店 (gau6 si4 mau4 dim3), 社林邊 (se5 lam4 bin1), 社林邊 (se5 lam4 bin1). The score includes dynamic markings like *mp*, *f*, *unis.*, and *mf*, and performance instructions like *div.* and *sempre*.

Example 3. Hing-yan Chan. *A Poet's Four Seasons*, “Summer – A Midsummer Night’s Walk”, Rehearsal Number 3, choral parts

The first of these strategies is to use varying intelligible intervals for the melody when different voice parts sing the same text, which necessitates parallel melodic contours for an intelligible setting. In Example 3, the tenors are assigned to two melodic versions of the line “Two or three drops of rain on the hill” *loeng5 saam1 dim2 jyu5 saan1 cin4* (兩三點雨山前), each beginning at different pitches and unfolded with different intervallic structures. Example 4 illustrates how different intelligible versions are created by the same lexical contour.

**Lexical Contour of the Phrase**

兩 三 點 雨 山 前  
 loeng5 saam1 dim2 jyu5 saan1 cin4

Tone succession: T5-T1 T1-T2 T2-T5 T5-T1 T1-T4

**Melodic Intervals of the Phrase (intelligible intervals are in bold)**

T1

Change of semitones: +2 ±0 -2 +4 -10

T2

Change of semitones: +2 ±0 -2 +2 -9

Example 4. Musical setting of “Two or three drops of rain on the hill” *loeng5 saam1 dim2 jyu5 saan1 cin4* (兩三點雨山前) compared to the lexical contour

Towards the end of the phrases, different intelligible intervals are used between the characters *jyu5* “rain” (雨) and *saan1* “hill” (山), matching the ascending major 2nd and major 3rd to the T5-T1 succession. The same strategy is applied to the musical setting of *saan1* “hill” (前) and its succeeding character, *cin4* “fore” (前), using descending minor 7th and major 6th among the optimal intervals of the T1-T4 succession. The result is a harmonized phrase that remains intelligible without resorting to fixed parallel intervals, hence retaining some degree of independence among the voices. This semantic unit formed by *saan1* and *cin4* is excerpted and repeated by the bass part with descending major 6th on different pitches.

The next phrase in Example 3, “Thatched inn next to the village god’s house”, illustrates two other strategies to create harmony and hetero-rhythmic motion: displaced entries of the same line, and setting the same text to varying rhythms. Initially, the line is introduced in unison in the bass part, with the semantic unit *gau6 si4* “old-time” (舊時) set to a major 2nd. The soprano and alto parts imitate the line one beat later, beginning the phrase on a different pitch and singing *gau6 si4* in major 3rd, another intelligible interval. The lexical contour of the phrase allows for contrapuntal writing by having the descending intervals of the soprano and alto voices coincide with the ascending motion of the bass. Another instance of hetero-rhythmic motion occurs in the last five characters, which refer to “thatched inn” and “village god’s house”. As a result, even when the melodic line is restricted by the lexical contour, the composer can still achieve contrapuntal writing intelligibly.

Examples 5a and 5b demonstrate how the composer used staggered entries of sustained notes to create harmonies from intelligible successions of the text. At Rehearsal Number 4, the motifs *ming4 jyu6* “bright moon” (明月) and *cing1 fung1* “shrill cool” (清風) recur. The four characters form an intelligible phrase, which is typically performed by one voice part. In Chan’s setting, however, each of these characters is assigned to different voice parts. As illustrated in Figure 3, when performing the motif “bright moon”, the basses both begin on G<sup>b</sup> for *ming4*, but they move to the second character *jyu6* through different intelligible intervals of the T4-T6 tone succession, major 2nd and major 3rd, forming an A<sup>b</sup>-B<sup>b</sup> dyad. As the bass part sustains their notes on *jyu6*, the tenor parts enter with their first character *cing1* with D<sup>b</sup> and E<sup>b</sup>, again forming intelligible intervals for the T6-T1 succession. The tenors then sustains the dyad above the basses, resulting in a chord with interlocking perfect fourths placed a major 2nd apart, which is a sonority to be picked up and developed by the other parts in the piece. The same pitch succession is echoed by the solo pipa, which unexpectedly harmonizes the last melodic note with a dissonant chord using three of its open strings. Since recurring melodic and rhythmic contours are not always available throughout a text, it is common for Hong Kong composers to repeat vocal motives in the instrumental part to maintain musical coherence in Cantonese works.

4 插指

Pipa

S. *mf*  
路轉溪橋忽見  
lou6 zyun3 kai1 kiu4 fat1 gin3

A. *mf*  
路轉溪橋忽見  
lou6 zyun3 kai1 kiu4 fat1 gin3

T. *p sempre*  
清風  
cing1 fung1

B. *p sempre*  
明月  
ming4 jyu6

Example 5a. Hing-yan Chan. *A Poet's Four Seasons*, “Summer – A Midsummer Night’s Walk”, Rehearsal Number 4, choral and pipa parts

Example 5b. Harmony created through intelligible settings of “Bright Moon, ShriII Cool”  
ming4 jyut6 cing1 fung1 (明月清風)

### Instrumental Work with Hidden Text

#### Doming Lam’s *Autumn Execution* (1987)

Outside of choral settings, Hong Kong composers of concert music have also utilized the musicality of the language in non-vocal works. Doming Lam’s *Autumn Execution*, written for a Chinese orchestra, is an exemplary work that illustrates how a wide range of musical material can be created by utilizing just one short phrase with three characters. First premiered by the Hong Kong Chinese Orchestra in 1987, *Autumn Execution* is a landmark piece that became a cornerstone of symphonic writing for Chinese instruments (Hong Kong Chinese Orchestra, 2022). It is also believed to be the first example of a Hong Kong contemporary classical work using linguistic contours of unsung text to develop musical materials for an instrumental piece. Some passages in the piece specifically require musicians to mimic the speech and theatrical styles of the text written in the score.

The work was inspired by *The Injustice to Dou E* (竇娥冤), a play by Yuan dynasty author Guan Hanqin in the 13th century. The passage concerned is found in the third movement titled “Chapter 3. The cry of injustice – heaven and earth are shocked”. As depicted in the extra-musical narrative, Dou E would be taken to her execution because she was wrongly convicted of murdering her father. In Lam’s depiction of this scene, the protagonist would repeatedly and desperately exclaim “injustice!”, or *jyun1 wong2 aa3* (冤枉啊) in Cantonese, whose lexical contour was adapted to the motif for the movement. As seen in Example 6, the resulting motif closely resembles the lexical contour of the text, in which each tone is separated by roughly a major 2nd (matching the T1-T2 and T2-T3 successions respectively). This initial idea is then reconstructed into a longer phrase, with each component requiring a different type of expression, as indicated by the punctuation and the truncation of the tone particle *aa3*. The resulting phrase contains three hidden cries of “injustice”.

**The Injustice Motif**

冤 枉 啊  
jyun1 wong2 aa3  
injustice (particle)

→

Tone succession: T1-T2 T2-T3  
Change of semitone: -2 -2

**Expansion of the Injustice Motif, mm. 1a–1c**

solo leiqin

冤 枉 啊 ..... 冤 枉 ..... 冤 枉 啊!  
jyun1 wong2 aa3 jyun1 wong2 jyun1 wong2 aa3  
injustice... (particle) injustice... injustice! (particle)

Example 6. Doming Lam. *Autumn Execution*, III, mm. 1a–1c, the Injustice Motif and its expansion

In the music (E.g. 7), the phrase is first introduced by a solo two-stringed fiddle called *leiqin* (播琴), whose vocal quality makes it particularly eerie. The varied use of wide vibrato and glissandi effectively conveys the different emotions implied by the phrases. It should be noted that the second character in the phrase, *wong2*, is a rising tone that calls for an upward glide. While a glissando is not written in the score, the

Hong Kong musicians who understood the tones of the text have added the glissando in the performance so that it could more closely resemble the implied text. Other string instruments join in one by one as instructed by the conductor. After the motif is imitated by *haidi* (海笛), a solo wind instrument, the piece enters its improvised section where a variety of instruments would come in individually at the conductor's cue to play the Injustice Motif in imitation of crowds crying out in protest of Dou E's case. During the improvised section, a few aleatoric entries substituted half-steps for whole-steps, disrupting the whole-tone descending pattern. As the imitative texture thickens, the harmony becomes increasingly dissonant, with the lines being transposed, altered, and re-orchestrated in the improvised section. Germinating from the intelligible settings of a single phrase, the aleatoric passage results in a sound mass that superimposes a whole-tone collection with a secundal pentachord [D-E-F#-G#-A] (E.g. 8).

Individual parts gradually enter following conductor's cues to form a shocking sound mass, then moving onto "2" immediately.

(指揮逐漸引入其他聲部，造成一陣數十秒動地驚天的"音群"，即接[2])

Individual parts gradually enter following conductor's cues to form a sound mass.

(指揮逐漸引入其他個別加入，造成一陣"音群")

注意：二胡之低音部音程有如泣如訴之味，可多用幾次

Note: Like weeping sighs, the lower voices of erhu may repeat.

"2" is a tutti section in 4/4 time

第二個樂段是4/4拍子的全體大合奏。

Improvisation 約20餘秒

Improvisation 約20餘秒

逐漸消失

逐漸消失

逐漸消失

Example 7. Doming Lam. *Autumn Execution*, III, mm. 1a–5. (Translated instructions in the boxed text are mine)

**Whole-tone collection**  
(Gaohe, Erhu II, Zhonghu)
**Secundal pentachord**  
(Erhu I)

superimposed with

Example 8. Doming Lam. *Autumn Execution*, III, m. 1e, illustration of harmony formed by improvised phrases

The passage of controlled improvisation would then be abruptly interrupted by a rhythmic, polytonal passage at Rehearsal Number 2, where a regular pulse is first introduced. As shown in Example 9, the Injustice Motif would be transposed and imitated at different rhythmic values, highlighted by groups of plucked-string instruments and wind instruments. Building up toward the climactic conclusion, the wind instruments combine with the higher strings and perform polytonal renditions of the motif. This cohort plays in counterpoint with a group of gongs arranged in high, medium, and low pitches, which constitute an abstraction of the three-note speech motif. The two foreground elements are placed against the rhythmic drive of the sixteenth notes in the plucked strings and lower strings, derived also from the speech motif.

Ad lib imitation of the motif in winds part (m. 2)

2

*J* = ca. 78

Polytonal version of the motif (foreground)

(performed by *shengs* and *huqins* at m.8; imitated by *dizis*, *suonas*, *liuqin*, *yangqin*, and *pipa* at m.9)

Rhythmic version of the motif (background)

(performed by *ruans*, *gehu*, and *bass gehu*)

Abstraction of the motif as three-pitched gongs (middle ground)

小  
中鑼  
大  
Small  
Medium  
Large

Gongs

Example 9. Transformations of the Injustice Motif in Doming Lam's *Autumn Execution*, III, mm. 2–20

This short movement demonstrates how the lexical contour from a single short phrase can be transformed into melodic and harmonic ideas for a large orchestra, all the while bringing out extra-musical narratives through its timbre expressions. The lack of a sung or narrated text befittingly conveys the poetics of the narrative where the protagonist and the crowd are struggling to communicate the injustice of Dou E's case yet failing to do so.

### Kai-Young Chan's *Times of Prospering and Perishing*

Thus far, the discussion has focused on the creation motifs, melodies, and harmony through Cantonese text-setting constraints. In my work *Times of Prospering and Perishing* (2018), written for a western orchestra, I have incorporated the text in the organization of musical texture and orchestration, extending the algorithmic procedure beyond pitch organization. Contrary to the third movement of *Autumn Execution*, which uses minimal text to create a variety of music materials, I use two ancient Chinese poems to create my music materials; the longer length of the text created more constraining conditions and challenges but also provided more creative opportunities.

The composition process began with creating contrasting thematic groups using the lexical contour of these poems. The goal was to create melodies that would have been intelligible if these poems had been sung in Cantonese. Nevertheless, these melodies should also be dynamic and musically interesting, and not simply mimic the natural contours of speech. An excerpt from a poem written by Tang Dynasty poet Bai Juyi provides the thematic materials in the "prospering" section; the materials of the "perishing" section are derived from the 13th-century poem *Autumn Thoughts* by Yuan dynasty poet Ma Zhiyuan. This paper will only discuss the perishing section since it presents different approaches to the use of Cantonese text-setting constraints than the works mentioned above. The text for the perishing section, along with its transcription and translation by myself, is as follows:

枯藤、老樹、昏鴉，	fu1 tang4, lou5 syu6, fan1 aa1,	Wilted vines, ancient trees, dusk crows.
小橋、流水、人家，	siu2 kiu4, lau4 sei2, jan4 gaa1,	A narrow bridge, a flowing stream, a homestead.
古道、西風、瘦馬。	gu2 dou6, sai1 fung1, sau3 maa5.	An old trail, the westerly wind, a bony horse.
夕陽西下，斷腸人在天涯。	zik6 joeng4 sai1 haa6,	The setting sun in the west,
	dyun6 coeng4 jan4 zoi6 tin1 ngaai4.	The heart-wrenched at the end of the world.

When the perishing theme is introduced in the work, the audiences are expected to experience a stark change of emotion from the hopeful to the devastated. This text is chosen because it aptly depicts the sense of desolation that is called for at this point in the music. The entire Cantonese contour is transformed into a succession of pitches, which is to be developed into a long theme comprising several melodic phrases (E.g. 10). Characters with tones 2 and 5 such as *lou5* "old", and *siu2* "small" had their upward inflections reflected by the upward glissandi, lending the melody a distinctive Cantonese flavor. These ornaments would also help Cantonese-speaking audiences trace the hidden text if they choose to listen intently for it.

枯 藤 老 樹 昏 鴉 小 橋 流 水 人 家  
fu1 tang4 lou5 syu6 fan1 aa1 siu2 kiu4 lau4 sei2 jan4 gaa1

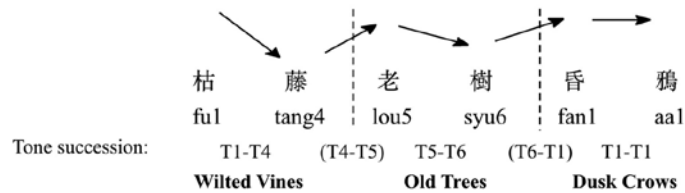
古 道 西 風 瘦 馬 夕 陽 西 下 斷 腸 人 在 天 涯  
gu2 dou6 sai1 fung1 sau3 maa5 zik6 joeng4 sai1 haa6 dyun6 coeng4 jan4 zoi6 tin1 ngaai4

Example 10. Pitch successions derived from the Cantonese lexical contour of *Autumn Thoughts*, Kai-Young Chan's *Times of Prospering and Perishing*

Beyond creating this initial pitch succession of the theme group for the poem, I have also created variations of its constituent melodies within the same lexical contour while ensuring that they can also be comprehensible when sung in Cantonese. These phrases are then placed in different sections of the piece in various

forms. By creating variations while maintaining melodic intelligibility, I was able to create coherently sounding new melodies with varying intervallic structures that would be fresh to listen to but still familiar to the audience. One of the instances that makes use of these variations is the climactic moment of the piece, where these phrases are combined in counterpoint. Musically, it is an emotionally charged tutti section in which the perishing theme group unfolds in its entirety for the first and final time. Example 11 shows additional versions of the first line of the poem, *fu1 tang4 lou5 syu6 fan1 aa1* “wilted vines, ancient trees, dusk crows,” which is used at the beginning of the climactic section.<sup>3</sup>

**Lexical Contour of the Phrase**



**Different Intelligible Versions of the Phrase at mm. 125–129**

The musical notation shows three versions of the phrase on a treble clef staff. The 'Theme' is a sequence of six notes. Below it, the 'change of semitones' is listed as -11, (+7), -2, (+3), and ±0. 'Var. 1' is a variation with a different intervallic structure, with semitone changes of -11, (+12), -2, (+4), and ±0. 'Var. 2' is another variation, with semitone changes of -12, (+15), -2, (+4), and ±0.

Example 11. Pitch variations derived from the Cantonese lexical contour of “Wilted vines, ancient trees, dusk crows” *fu1 tang4 lou5 syu6 fan1 aa1* (枯藤老樹昏鴉), Kai-Young Chan’s *Times of Prospering and Perishing*

The phrases are then juxtaposed or placed in counterpoint, so the variations will be heard either simultaneously or in succession. In addition, the orchestration decisions of these lines also are based on the phrases or semantic units of the poem. As shown in the reduction in Example 12, the first semantic unit of the poem *fu1 tang4* “wilted vines” is orchestrated by the oboe, clarinet, and first violins. The rest of the phrase *lou5 syu6 fan1 aa1* “ancient trees, dusk crows”, is orchestrated by the oboe, trombone, and first violins. The second line of the poem, *siu2 kiu4 lau4 seoi2 jan4 gaa1* “narrow bridge, flowing stream, homesteads”, is played by the oboe and clarinet. The first phrase then restarted, with *fu1 tang4* being orchestrated with another combination, flute, and first violins. Thus, the hidden text of this piece has contributed not only to the creation of motifs but also to the progression and changes of texture and orchestral timbre.

<sup>3</sup> It should be noted that the phrases are often truncated in the variations. For tone successions in brackets, they are only considered for intelligible intervals when the three semantic units are intended to be heard as a group; otherwise, only the characters within the semantic unit, such as “wilted vines”, are matched to an intelligible interval.



Note: instrumentation changes are marked with boxed text; direct translation marked in bold>.

125 **Wilted Vines** **Ancient Trees, Dusk Crows** **Wilted Vines, Ancient Trees, Dusk Crows**  
 [Ob., Cl., Vln I] [Ob., Tbn., Vln I] [Fl., Vln I]  
 枯 藤 老 樹 昏 鴉  
 fu1 tang4 lou5 syu6 fan1 aa1  
 小 橋 流 水 人 家  
 siu2 kiu4 lau4 seoi2 jan4 gaa1  
**Narrow Bridge, Flowing Stream, Homesteads** **Wilted Vines, Ancient Trees, Dusk Crows**  
 [Ob., Cl.] [Picc., Ob., Tpt., Vln II]

130 **Wilted Vines** **Wilted Vines** **Narrow Bridge** **Flowing Stream** **Ancient Trees**  
 [Picc., Fl, Ob., Vln.] [Vln. I, Cl.] [Fl., Ob., Vln. I] [Picc., Ob., Vln. I] [Fl., Ob., Vln. I]  
 枯 藤 枯 藤  
 fu1 tang4 fu1 tang4  
 小 橋 流 水 老 樹  
 siu2 kiu4 lau4 seoi2 lou5 syu6  
 夕 陽 西 下 老 樹  
 zik6 joeng4 sai1 haa6 lou5 syu6  
**Sunset in the West** **Ancient Trees** **Wilted Vines** **Ancient Trees**  
 [Vc.] [Picc.] [Vln. II] [Vln. II, Tpt.]  
 樹 夕 陽 西 下  
 syu6 zik6 joeng4 sai1 haa6  
**Sunset in the West**

135 **Old path, Westery Wind, Bony Horse** **Sunset in the West** **Sun set in the West**  
 [Picc., Vln. I] [Vln.] [Ob., Cl., Vln.] [Picc., Fl., Vln.]  
 古 道 西 風 瘦 馬 夕 陽 西 下 夕 陽 西 下  
 gu2 dou6 sai1 fung1 sau3 maa5 zik6 joeng4 sai1 haa6 zik1 joeng4 sai1 haa6  
 夕 陽 西 下  
 zik6 joeng4 sai1 haa6  
**Sunset in the West**  
 [Tpt., Vla.]  
 夕 陽 西 下  
 zik6 joeng4 sai1 haa6  
**Sunset in the West**

139 **Heart-wrenched Person** **Heart-wrenched** **Ancient Trees, Dusk Crows**  
 [Vln I.] [Vln I.] [Vc. solo] [Vln. solo]  
 斷 腸 人 斷 腸 人 在 天 涯  
 dyun6 coeng4 jan4 dyun6 coeng4 jan1 zoi6 tin1 ngaai4  
**Person at the end of the world**  
 老 樹 昏 鴉  
 lou5 syu2 fan1 aa1

Example 12. Kai-Young Chan. *Times of Prospering and Perishing*, mm. 125–146, reduction of contrapuntal foreground and text-based orchestration created with hidden Cantonese text

In summary, the text-setting strategies presented in these two instrumental works open up possibilities for the musical setting of Cantonese texts beyond the limitations of the voice as an instrument. These works have demonstrated how melodic phrases are shaped based on the contours, expressions, and meanings of the words, how melodies can be varied within the intelligible setting, and how their superimposition in an orchestral context unleash potentialities in harmonies, textures, and orchestration. Alternatively, the instrumental works may also be re-envisioned as “vocal works” that can be “sung” by instruments.

## Conclusion

Drawing upon perception tests and music analyses, this study has refined the understanding of the Cantonese text-setting constraints and delineated how they function as creative resources in selected works written by Hong Kong composers. The research data on intelligible intervals for each tone succession is expected to help composers better navigate the process of musical text-setting in Cantonese, as they can know which intervals are more likely to lead to a correct understanding of the text. The works discussed in the analyses demonstrate how the constraints of Cantonese text setting can be utilized as a creative algorithm to generate materials across a range of musical elements. The procedures include creating melodies and motifs based on the contour and semantic units, composing variations using the lexical contour, orchestrating according to semantic units of the text, and engendering harmonic materials within the intelligible contours. While some of the procedures create musical interests that are more prominent other outcomes are more subtle suggesting the textual materials in the background.

Over the past decade, both vocal and instrumental works that incorporate Cantonese texts have been surging in numbers. Contemporary opera sung in Cantonese, for instance, is a relatively new genre.<sup>4</sup> Also on the rise are Cantonese choral works and instrumental works with hidden Cantonese text, which are often composed by younger composers, many of whom were born after the handover of Hong Kong to China in 1997. This emerging wave of Cantonese-inspired compositions represents an important effort to keep the language alive by including it in as many forms of contemporary art as possible, especially those that tell contemporary narratives. Collectively, they emphasize the artistic value of the Cantonese language and how it realizes the hidden musicality in classical and contemporary Chinese literature, daily speeches, and other textual genres. The works may also serve as a starting point for audiences unfamiliar with Cantonese to discover the characteristics of tonal languages, opening the door to different kinds of cultural exploration and conversations. Ultimately, these contemporary works offer not only a new pathway to appreciating the cultures and narratives imbued within the music but also an example of how constraints can become a source of creative expression.

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<sup>4</sup> This form of “opera-in-Cantonese” should be distinguished from traditional “Cantonese opera”, or *hei3 kuk1*. While *hei3 kuk1* is a descendant of the Chinese theatrical arts, these contemporary “operas-in-Cantonese” are more in line with the western tradition. Hing-yan Chan, Alain Chiu, Daniel Ting-cheung Lo, and Austin Ho-kwen Yip are known to have composed for the genre, believed to number no more than five works.

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## **Nuo suvaržymų iki kūrybiškumo: muzikiniai išradimai per Kantono kinų kalbos kontūrus Honkongo šiuolaikinėje muzikoje**

### **Santrauka**

Kantoniečių kalba, turėdama devynis tonus ir šešis skirtingus aukščio lygius, naudojamas žodžio reikšmei atskirti, yra iš prigimties muzikali, tačiau jos muzikinę išraišką neretai riboja kalbos aukščio struktūra. Jei norime, kad klausytojas suvoktų tikrąją reikšmę, Kantono kinų kalbos žodžiai turi būti dainuojami laikantis teisingo santykinio kontūro. Muzikinių intervalų kryptis turi atitikti leksinį tonų derinių kontūrą, patys intervalai turi būti atitinkamai vienas nuo kito nutolę. Mokslininkai teigia, kad kantoniečių kalba ir vietinių auditorijų lūkesčiai nustatė teksto darybos suvaržymų, kuriems neprilygsta jokios kitos toninės kalbos. Tačiau šie suvaržymai gali būti sukonstruoti į algoritminę procedūrą, padedančią išlaisvinti muzikinį kūrybiškumą.

Šis tyrimas, pagrįstas suvokimo testais ir muzikos analize, padeda naujai suprasti teksto darybos ypatumus pagal kantonietiškus suvaržymus ir nusakyti, kaip jie gali funkcionuoti kaip kūrybiniai šiuolaikinės Honkongo muzikos šaltiniai. Vykdamas tyrimą remiamasi straipsnio autoriaus atliktu suvokimo testu, kurio tikslas – nustatyti optimalius muzikinius intervalus, leidžiančius kantonietiškam tekstui išlikti suprantamam melodiniuose dariniuose. Dvylika dalyvių klausėsi dviem simboliais užrašomų kinų kalbos žodžių, kurie buvo sudėti į muzikinius intervalus per keturiolika pustonų, ir vertino jų suprantamumą. Tyrimo rezultatai atskleidžia, kad intervalų suprantamumas muzikoje nėra visiškai aiškus. Dalyvių, manančių, kad skirtingi intervalai suprantami ar, atvirkščiai, yra nesuprantami, procentas buvo labai įvairus, tad paaiškėjo, kad suprantamumo sąvoka yra kur kas abstraktesnė, nei iki šiol manyta. Šio tyrimo rezultatai naudojami analizuojant šiuolaikinių Honkongo kompozitorių kūrinius, siekiant nustatyti suprantamus teksto ir muzikinių intervalų junginius ir tai, kaip šie kompozitoriai kūrybiškai pažvelgia į lingvistinius suvaržymus. Kompozitoriaus Hing-yan Chano chorinis kūrinys *Keturi poeto metų laikai* (2019) iliustruoja, kaip kompozitoriai gali visas vokales linijas (atliekančias tiek melodinę, tiek harmoninę funkcijas, red. past.) paversti suprantamomis. Nors melodijų kontūrai nulemti teksto, kompozitorius naudoja skirtingas strategijas, siekdamas išlaikyti kontrapunktines ir harmonines visų vokalių partijų funkcijas. Tarp šių strategijų – skirtingų suprantamų intervalų naudojimas paraleliniuose kontūruose, skirtingo ritmo pritaikymas tam pačiam tekstui skirtinguose balsuose, nepilnų žodžių įterpimai ir vienas kitą išstumiantys to paties teksto įstojimai. Kito autoriaus Doming Lamo kūrinys kinų orkestrui *Rudens egzekucija* iliustruoja, kaip galima kurti įvairiausių muzikinę medžiagą, naudojant tik vieną trumpą frazę, sudarytą iš trijų simbolių. Visa trečioji kūrinio dalis paremta trijų natų motyvu, kuris prasideda kaip solo linija, o per imitacijas ir aleatorinę faktūrą išauga į garsinę masę, kuri transformuojasi į politonalią medžiagą, atliekamą kontrapunktiškai, su ritminėmis alteracijomis. Visa tai abstrahuojasi į vos girdimus gongo tonus. Dėl savo faktūros organizavimo ir orkestruotės mano kūrinys *Klestėjimo ir nykimo laikai* išplečia kūrybinį teksto darybos apribojimų naudojimą už garso aukščių dimensijos ribų ir koncentruojasi į faktūros bei tembro organizavimą.

Apibendrinant galima teigti, kad šis tyrimas parodo, kaip Honkongo kompozitoriai dirba su kantoniečių kalbos teksto darybos apribojimais, kad sukurtų naują muziką, atveriančią auditorijai naujų galimybių įvertinti kalbą ir muzikoje užkoduotą kultūrą.