THE CONVERSION OF THAI CLASSICAL MUSIC NOTATION INTO WESTERN MUSIC NOTATION

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ABSTRACT

This research aims to study the concepts and explain the conversion of Thai classical music notation into Western music notation. This is qualitative research by studying the document and analyzing the link between the Thai classical music notation and Western music notation as follows: 1) History and significance of Thai music notation recording; 2) Introduction to Thai music notation; 3) Introduction to Western music notation, and 4) conversion of Thai classical music notation into Western music notation. It applies a content analysis and writes descriptive research. The results showed that the conversion of Thai classical music notation into Western music notation, the translator must understand the symbols of Thai music, Thai music bars, various rhythms and must understand the symbols of Western music notation, note value, metronome, notes duration, five lines, the position of the notes in the five lines. When the translator understood them well, then he or she can compare the different notes, notes duration, the rhythm, the combination of the note value, the tail of the note for easy reading.

Keywords: Thai music notation recording, Western notation recording, conversion of Thai classical music notation into Western music notation

I. INTRODUCTION

Inheritance of Thai music in the early days is the transfer of knowledge in the oral form that is a teaching method by showing and practicing, memorizing the melody without having written records for learners to study in the next generation. However, when the music teachers died, the songs disappeared too because the songs were not recorded. The learning places or centers of knowledge are at three sources or three lines: houses, temples, and palaces. When Western educational institutions have begun to play a role in education society, people seek knowledge and apply knowledge to improve their lives. Pieces of knowledge are poured into the educational centers in both public and private institutions. Then the role of temple and palace reduced the role from musician producers to consumers of different forms of music (UdomArunrat, 1983).

The history of the Thai music notation recording system that appears in the history of Thai music was found since the Ayutthaya period (183-1767) by La Loubert, a French ambassador who came to develop friendship during the reign of King Narai the Great. Later, when it came to the Rattanakosin period (1782 - present), there was the following notation recording systems:

1. the Western notation recording system was appeared in the reign of King King Rama V, by Prince ParipatSukhumphanKromPhra Nakhon SawanWorapinit.

2. the notation recording system of the Thai alphabets of PhraAphaiphonrob (Letter Notation) appeared in the reign of King Rama V.

3. Numeral notation system of nine Thai numbers by LuangPraditPhairoh (SornSilapabanleng) appeared in the reign of King Rama V.

4. Numeral notation system for music appeared in the reign of King Rama VI.
5. Cheve notation recording system in the school textbook of PhraJenduriyang (PitiVathayakon) appeared in the reign of King Rama VII.

6. The recording of Thai songs by the Western notation system was done by SomdetKrom Phraya Damrongrachanupap in 1930, during the reign of King Rama VII.

7. The current character notation recording system appeared in the reign of King Rama VII to the present (PiphatSonyai, 2018).

From the history of Thai music notation recording, in the beginning, it was recorded with Western musical notations, which first occurred during the reign of King Narai the Great. The French ambassador named La Loubert recorded one Thai song with a Western notation system. Later in the reign of King V, Thai songs have recorded accompanying the brass band for the march of soldiers by the British Captain Impay and Captain Knox Then, KromPhra Nakhon Sawan Worapinit has recorded Thai songs with the Western notation system and also assigned his friend, Mr. Paul Serick to record a lot of Thai songs. Subsequently, Lieutenant Colonel PhraAphaiphonlob has come up with a Thai notation system based on Mr. Paul, based on the Western notation system by using Thai letters instead of pitch. Later, LuangPraditPhairoh (SornSilpaBanleng) invented a nine-digit Thai numeral notation system. Around the same time, the numeral notation system of the Durayangban shop was born, which was very popular in that era. Next, the Royal Academy has assigned PhraJaneduriyang to record Thai songs with the Western notation system, and the Fine Arts Department also started recording Thai songs with the Western notation system which can be published in two copies, namely the Hom Rong Yen set and the Tham Kwan set. After that, PhraJaneduriyang introduced the Cheve notation recording system to record Thai songs. Later, the Fine Arts Department has issued a journal to publish Thai songs with a Western notation system, as “Thai music notation volumes one, two, and three”. Later, Mr. SudjaiSriphenja presented the Thai music recording with the Western notation system which has a slightly different recording method from that of the Fine Arts Department known as the Do Re Me Fa (C D E F) system, which is widely used today. Next, the occasion of the Golden Year of The Fine Arts Department has reprinted all three volumes of Thai music notation by recording Western notation with a computer system (BoonsuebBoonkerd and SurasakPetchkongthong, 2016).

It can be seen that the Thai music notation recording in the first stage is a Western music style due to the recording system has no symbols for taking notation. Later, Thai alphabets were used, such as Do Re Me Fa Sol La Ti system, which is called Letter Notation. It is a system of writing in Thai characters which is a combination of the style of Lieutenant Colonel PhraAphaiphonrob and the style of KhunDontriCharoenkarn (PipachSonyai, 2018) to replace the Western music notes and is so popular nowadays. Apart from Thai music uses Thai characters to write song recording, regional music in Thailand: Northern music, northeastern region, and southern region, Thai characters were popular in music recording. This is the wisdom of Thai music teachers who have created the notation system for use today, but it is still controversial about the symbols and concepts of recording. It is not Western or homogeneous, but it has similar characteristics in the form of rhythm notation, music bars, so if musicians want details that are Western to publishing works requires Western musical notation in order to be recognized internationally. Broadcasting Thai music is necessary to study the theory of Thai music and Western music in-depth because they are clearly different, such as the Thai pitch system, Thai music song, playing system, and the composting system of various songs (KritwitPhumthavorn, 2019).

In the dissemination of Thai music and folk music at present, both domestically and internationally, it is necessary to compare Thai music notation to Western music notation for those who never study the Thai music notation recording that they can understand well. It can be compared to studying Thai translation into English or other languages for better communication and more consistent understanding. Even teaching in the classroom, some students who study Thai music neither is able to understand Western music notation nor learners of Western music can understand the Thai music notation. This research article will present the results of the conversion of Thai classical music notation into Western music notation or the conversion of Western music notation into Thai classical music notation. Learners must understand and learn the symbols in Thai and Western music notation and then compare, interpret the meaning of the notation, and apply them for the benefit of playing and continue to study music.

Thai Notation Recording

1. Rhythm or time is the subdivision of the melody which proceeds with a consistent time of this part is the rhythm. Rhythms used in Thai music can be divided into three types: 1) Ordinary rhythm refers to the general
rhythm that must be adhered to as the main principle of singing and playing. Even though there is no signal instrument, the rhythm signal must be felt in the mind of musicians all the time. 2) The small cymbal rhythm is a breaking rhythm with a great sound to know light beats and heavy beats by alternating "Ching" which is a light tempo and "Chub" which is a heavy beat to match nature of the song. 3) Rhythmic pattern means that when musicians play the rhythmic pattern through the end at the first time that is counted as one beat, then the second time, it is two beats (PipachSonyai, 2018). The examples given above tell the name of a beat in various ways of Thai music rhythm but Thai music notation recording has the following symbols:

1.1 Bar: The music bar of Thai music notation is a vertical line. The number of music bars depends on the nature of the song. Most of them use notations that have eight bars, each of the bars is equal to four sub-rhythms. Rhythms are often seen in two styles.

The first type is it has a grid-style or has lines around it in one bar.

The second type is there is only a bar divider.

In a song bar, there will be “-“ represented fourequal rhythms. Each subsection is equal to one part four rhythms of each bar. The heavy rhythm of Thai music is on the fourth note of the bar.

In normal rhythms, there is a rhythmic percussion with the rhythm of the down-beat and up-beat that is general rhythm characteristics of all musical styles.

Up Beat      Up Beat
Down Beat    Down Beat

If sub-rhythms are divided into a basic Thai music recording in 1 beat, you will get 4 sub-beats or 4 notes, that is, the Down-beat will get 2 notes, and the Up-beat will get 2 notes.

Up Beat
1   4
2   3

Down Beat

In counting the percussion of Thai music notes in 1 bar, the strong beat is on the fourth note of the bar.

So, if the notes match the up and down rhythms, the first note is on the last note of the bar, and notes 1, 2 are in the down rhythm, and notes 3,4 are in the up rhythm as shown below.
1.2 Note value is the nature of the duration of the sound. In representing the symbol, the author uses the letter “x” to describe the duration of the sound instead of the Thai alphabet.

The long note value of 4 sub beats is X ---

--- X --- X --- X --- X ---

The long note value of 3 sub beats, the beat is X –

-- X -- X -- X -- X --

The long note value of 2 sub-beats is X –

-- X -- X -- X -- X --

The long note value of 1 sub-beat, the beat is X.

X X X X X X X X X X X X X X

From the note value as shown in the example, “–” represents the duration. If it is after the note X, it has the following value (X ---), the note X equals 4 sub beats, (X - -), the note X equals 3 sub beats, (X-), X equals 2 sub beats, (X), the note X equals 1 beat, and if “–” precedes the note, the note X is not a value to represent the duration of a note. but only tells the duration of the beat.

2. Pitch for Thai music notation recording, the symbols used to represent low and high pitches are defined by seven letters, the abbreviation is from the pitches of different notes in Western music as follows:

2.1 ด = Do(Do)

2.2 ร = Re(Re)

2.3 ม = Me(Me)

2.4 ฝ = Fa (Fa)

2.5 ษ = Sol (Sol)

2.6 สะ = La (La)

2.7 น = Ti (Si)

In the case of a higher note than a normal note, dots are used on the note, for example, ด’ = Do, high. In the case of a lower than a normal, dots are used below the notes, such as ด = Do, low.

If the note is substituted for the X value in the example of the note value, the duration of this sound is obtained as follows.

Example of recording notes in each bar

In the case of 1 note in each bar

```
- - - ด - ทร - ม - - ฟ - - - - - ช - ล - - ก - - ต - - -
```

In the case of 2 notes in each bar

```
- - ด ร - ม - ม ฟ - - ฟ - ช - ล - - ก - - ต - - -
```

In the case of 3 notes in each bar

```
- - ด ร - ม - ม ฟ - - ฟ - ช - ล - - ก - - ต - - -
```

In the case of 4 notes in each bar

```
- - ด ร - ม - ม ฟ - - ฟ - ช - ล - - ก - - ต - - -
```

In addition to recording basic notes in 4 sub beats, Thai music notation recording also has more than 4 notes in the music bar which is special. It has begun to gain real recognition in recent times because playing Thai music is music that relies on the main theme of the song. Each musician is free to change the variations that are decorated to suit the instrument he is playing at that time, known as the way of Thai musicians. Musical notes are not popular to watch while musicians are playing. For this reason, the development of the Thai music notation system is not as advanced as it should be. The sound symbols that are popular in Thai musicians often appear only as the sound level symbol. The symbol for the short duration of the sound is mentioned above. However, special symbols, that are used to record in order to ensure the accuracy of the melody in general, are the “stop sound symbol” and the “flick sound symbol” (PipachSonyai, 2018).

**Western Notation recording**

In Western musical notation recording, there are clear symbols and marks in the recording and are accepted all over the world. In this article, some Western notation recordings will be used in basic Thai music notation conversion into Western music notation. If all were mentioned, this article would be hundreds of pages long. Therefore, the researcher gives examples related to basic notation conversion.

1. Time or Rhythm

1.1 Note is a musical symbol recorded on five lines to indicate pitch and display the duration of the sound. It looks like semi-oval circle and is slightly tilted to the right. Here are examples

<table>
<thead>
<tr>
<th>Note Character</th>
<th>American system name</th>
<th>Thai system Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>⚪️</td>
<td>Whole note</td>
<td>Klom</td>
</tr>
<tr>
<td>⚫️</td>
<td>Half note</td>
<td>Khao</td>
</tr>
<tr>
<td>⚫️</td>
<td>Quarter note</td>
<td>Dam</td>
</tr>
<tr>
<td>⚫️</td>
<td>Eighth note</td>
<td>Khabit Nueng-chan</td>
</tr>
<tr>
<td>⚫️</td>
<td>Sixteenth note</td>
<td>Khabit Song-chan</td>
</tr>
</tbody>
</table>
It is the same size as the five lines duration, each adjacent pair is equal to the width of the line. If the lines are far apart, the notes are large. On the contrary, if the distance between the lines is narrow, notes are proportionally smaller. Writing notes - half note, quarter note, an eighth note, the stem or tail of the up note will be on the right, but if the stem or the tail of the down note will be on the left. The duration of the note stem is always equal to the three spaces of the five lines. If the note is below or above the line, the less stem of the note is drawn to the third line of the five lines. The note is up or down, musicians must look at the third line of the five lines. For the note that overlaps the third line or lower, the tail of the note must point up. For the note that overlaps the third line or higher, the tail of the note must point down. For the note that overlaps the third line, the tail of the note points up or down to hold the notes in the bar or adjacent notes.

1.2 Rest or Stopper

It is a musical symbol that sets the tone for silence or as a deduction mark for a period of time according to the stopper value, but the rhythm still continues. There are several types of rest or stoppers that correspond to the characteristic notes as follows.

<table>
<thead>
<tr>
<th>Rest style</th>
<th>Rest name</th>
<th>Worth the note</th>
</tr>
</thead>
<tbody>
<tr>
<td>¯</td>
<td>Whole Rest</td>
<td>o</td>
</tr>
<tr>
<td>¯</td>
<td>Half Rest</td>
<td>‟</td>
</tr>
<tr>
<td>‿</td>
<td>Quarter Rest</td>
<td>′</td>
</tr>
<tr>
<td>‿</td>
<td>Eighth Rest</td>
<td>′</td>
</tr>
<tr>
<td>‿</td>
<td>Sixteenth Rest</td>
<td>′</td>
</tr>
</tbody>
</table>

The rest characteristics are written in five lines. The whole Rest recordings are located under the fourth Line in the third Slot. Haft Rest recordings are on the third line in the third Slot, and other rest recordings are to be placed in the middle between the second to fourth lines in of five lines that have different characteristics as follows:

1.3 Tie and Dot

A tie is a very curved line drawn to adjacent notes and has a similar voice. The note value will increase according to the time mark marked in the practice of playing the note. Musicians must count the beats according to the beat of the first and second combined notes. If there is an Accidentals (transponder mark), take the first note. If it is an Accidentals, the second note must be an Accidentals. The style of use applies to the notes only, the rest will not be used.

Dotted marks: Dotted notes have 2 types: 1 dotted mark and 2 dotted marks are recorded behind or to the right of the note and the rest. A 1-dotted mark give the additional value and the rest of the front note and the 2-dotted marks gives the additional value half of the first dot that have characteristics as follows:

<table>
<thead>
<tr>
<th>Dottednote</th>
<th>Dotted and Restnote</th>
</tr>
</thead>
<tbody>
<tr>
<td>. = . + ‟</td>
<td>. = . + ‟</td>
</tr>
<tr>
<td>′ = ′ + ‟</td>
<td>′ = ′ + ‟</td>
</tr>
<tr>
<td>‽ = ‽ + ‽</td>
<td>‽ = ‽ + ‽</td>
</tr>
<tr>
<td>‾ = ‾ + ‾</td>
<td>‾ = ‾ + ‾</td>
</tr>
<tr>
<td>7. = 7 + 7</td>
<td>7. = 7 + 7</td>
</tr>
</tbody>
</table>
Note & Rest Duration

The picture shows the distribution of the value of 1 note will be 2 times the next note, for example, 1 whole note is equal to 2 white notes, 1 half note is equal to 2 quarter notes, 1 quarter note is equal to two times of eighth notes. The other notes use the same way of thinking. The rest of the notes has also the same way of thinking.

Time Signature

A time signature is a number that marks the note to have a rhythm value and tells the number of beats in a song bar. The number has two positions: the top number and the bottom number, for example, the top number represents the number of beats in each bar, the bottom numbered represents the note that is equal to one rhythm, and the lower number is recorded as the note. It is consistent with the name of the American notation system, for example, Quarter note (black note), Quarter is 1/4 = number 4, Eight note (Note KhabetNueng Chan), Eight is 8 = number 8, and number symbols are shown below.

<table>
<thead>
<tr>
<th>The Numbers below</th>
<th>A note is equal to 1 beat.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

The time signature found in the early conversion of musical notes is normal time signatures such as $\frac{2}{4}$, $\frac{3}{4}$, in thinking the $\frac{2}{4}$ $\frac{3}{4}$ $\frac{4}{4}$ of such numbers, the time signature is $\frac{2}{4}$ which means the top number is 2 means there are 2 beats in a bar, the bottom number is 4 means the quarter note is equal to 1 beat.

Therefore, the time signature is important to the note. If there is only one note, it cannot be identified the rhythm of the different notes. It can be recorded in the music recording that should be marked with the time signature.

Pitch

1. Five lines
The Western music notation recording relies on five lines or staff as symbols and the details are recorded in five lines and the top-bottom of five lines are horizontally parallel. They have the distance between the lines equal to five lines consist of five lines and four spaces. The lines and the spaces of the line use the numbers in order from bottom to top. The bottom line is line 1, and so on until line 5 is the top line, and set the bottom line belongs to line 1 to line 4 that is the top space. This will clearly show the height of the sound, so learners can know the pitch or the difference of the exact sound.

The characteristics of the notation recording can be recorded in two positions which are in the line and overlap in the line.

When notation recordings that are above or beyond five lines, tiny lines are used in which to record one tiny line that has only one note.

In Western music notation recording, apart from the five lines, there are also eleven lines to indicate the pitch of a wide range of instruments such as a piano. In Thai music, eleven lines are not commonly used for recording.

2. Clef or Key of sound

The Clef is a musical symbol that indicates that the note is at which level of pitch. This must be used in conjunction with the five lines. If the note is not marked with a master key, it will not be able to tell the pitch of that note but only knows the difference in pitch of notes. The frequent examples are three keys as follow:

2.1 G Clef is a key that is widely used for recording the pitch of instruments or mid to high vocals. For the G Clef recording, the head of G Clef overlaps on the second of the fifth line. Every note that overlaps on the second of the fifth line will have a “G” sound, as in the example.

For other notes positions count the sounds up and down in the order of the notes as shown in the example.

2.2 F Clef is a key for recording the pitch of an instrument or low-pitched vocals. For the F Clef recording, the head of F Clef overlaps on the fourth line of the fifth line. Every note on the fourth line will sound "Fa" as in the example.
For other notes positions count the sounds up and down in the order of the notes as shown in the example.

2.3 C Clef is a movable sound key and the position is over on the line. It is often used to record instruments with a middle volume, which is commonly used in two styles

1) C Clef by Alto Clef, the key head overlaps on the third line, the tone in the third line becomes a C Clef.

For other notes positions count the sounds up and down in the order of the notes as shown in the example.

2). Tenor Clef, the head key overlaps on the fourth line, the tone in the fourth line becomes a Tenor Clef.

For other trend positions count the sounds up and down in the order of the notes as shown in the example.

The three keys are used for notation recording for different instruments. It is important to use the Clef to tell what pitch notes are recorded on the five lines and to call their names.

Conversion of Thai musical notation into Western notation

Before coming to the third topic, we will review the characteristics of basic Thai music notation and basic Western music notation recordings. Then we can understand the symbolic nature of rhythm and pitch which are the keys to converse the notes. The conversion of Thai musical notation into Western notation is now widely accepted in both the education system and the music performance which is Thai music mixed with international instruments. These require music notes to play, so the music notes must be converted from Thai into Western notes for the musicians to understand more quickly. Characteristics of conversion are as follows:

1. Compare note values and rhythms

The notes in one bar of Thai music have four notes. The fourth note of the bar is a heavy beat or a down rhythm. In each bar, there are four sub beats, or 1 beat, which with the fourth note of the bar, and in the sub-beat is equal to the value with sixteenth note in rhythm @ Western music as follows:
If there is a symbol “-”, it represents the length. If it is after the note, X has the following values:

1. (x - - -) The xnote is equal to 4 sub beats; the Western note is $\frac{4}{4}$
2. (x - -) The xnote is equal to 3 sub beats; the Western note is $\frac{3}{4}$
3. (x -) The xnote is equal to 2 sub beats; the Western note is $\frac{2}{4}$
4. (x) The xnote is equal to 1 sub beat; the Western note is $\frac{1}{4}$

If there is a symbol “- -”, there are two types of Western notes: 1. If you want a long sound or a multi-beat note, you must compare the note value with the note, for example, $\text{I} - - - - \text{I} - - - - \text{I}$. If it begins the song with 3 lines in front, you do not compare the length of the notes, but use them to tell the beat before the song starts. Then they can turn the dashes into Western notes as $\text{I} - - - - \text{I} - - - - \text{I}$ and combine the values of the notes as $\text{I} + \text{I} + \text{I} = \text{I}$. In this case, it can be converted to the Western notes as $\text{I}$. 2. If you want a short sound or not a long note value, you must put a Rest or stop instead “-” and it is equal to the Rest “$\text{S}$” one number as $\text{I} - - - - \text{I}$. The note of $\text{S}$, but the “Rest” note combines with the note value for clear and easy reading as $\text{I} + \text{I} + \text{I} + \text{I} + \text{I} = \text{I}$.

Example

It can be converted into Western notes as follows:

2. Pitch comparison

Thai music notation recording uses the letters instead of the characteristics of the letters that are called in Western music names as follows.
The position of the note in fivelines, Thai music notes, and Western notes

<table>
<thead>
<tr>
<th>Thai notes symbols</th>
<th>Western notes symbols</th>
</tr>
</thead>
<tbody>
<tr>
<td>ตี</td>
<td>C</td>
</tr>
<tr>
<td>ว์</td>
<td>D</td>
</tr>
<tr>
<td>แพ</td>
<td>E</td>
</tr>
<tr>
<td>ฟ</td>
<td>F</td>
</tr>
<tr>
<td>ผ</td>
<td>G</td>
</tr>
<tr>
<td>ฉ</td>
<td>A</td>
</tr>
<tr>
<td>ท</td>
<td>B</td>
</tr>
</tbody>
</table>

An example of a note that goes into a sub-beat.

<table>
<thead>
<tr>
<th>Thai Notes</th>
<th>ตี ว์ แพ ฟ ผ ฉ ท ตี</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub beat</td>
<td>1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4</td>
</tr>
<tr>
<td>Western Notes</td>
<td>1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4</td>
</tr>
</tbody>
</table>

If it finished the show, the sub beats of Western notes and the beat are not played. Thai music notes will be as follows:

Example 1
Thai music notes

It can be converted into Western notes as follows.

Example 2
Thai music notes

It can be converted into Western notes as follows.
Example 3

Thai music notes:

It can be converted into Western notes as follows.

Example 4

Thai music notes:

It can be converted into Western notes as follows.

Example 5

Thai music notes:

It can be converted into Western notes as follows.

Example 6

Thai music notes:

It can be converted into Western notes as follows.

Examples of Thai songs, Lao Choi songs, Song Chan (PiphatSonyai: 2018)
II. CONCLUSION

For the conversion of Thai musical notation into Western notation, the translator must have a understanding of Thai music notation symbols, Thai music bar, rhythms, and must understand Western music notation symbols, note values, time signatures, the duration of the sound, five lines, the position of the notes in the five lines. When he or she understood, he or she must compare the different notes, both the duration of the sound, the rhythm, the combination of the note values, the tail combination of the notes for easy reading. This notation conversion has chosen the basic key headings in the translation to disseminate knowledge body of history and record of the conversion of Thai musical notation into Western notation for foreigners to understand and more access to Thai music.

REFERENCES