

Response to “Global Notation as a Tool for Cross-Cultural and Comparative Music Analysis”

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AS Dr. Killick’s article reminds us, the question of notation has proven to be a fruitful area of inquiry among music scholars working in different parts of the world, whether cross culturally or when working with their own communities. Many have attempted over the past century or so to examine the fundamental practices, benefits, limits, and shortcomings of different notation systems, particularly the use of staff notation outside the context of Western music. Concurrently, with each passing generation of scholarship quantitative and qualitative changes in audiovisual technology have constantly reset the value and scope of written notation within the realms of music pedagogy, performance, and analysis. For example, from the earliest detailed analysis of African music made by Hornbostel through the work of A. M. Jones and Hewitt Pantaleoni in the 1950s and 1960s, audio recording technology and methods of media distribution did not allow scholars the ability to provide audio examples with their written work. Without a means to compare transcriptions of African music from this period with the original recordings, even those trained in staff notation find it difficult to engage with the deeper analytical aspects of these works because it is nearly impossible to recreate the original from the transcription. In the present day, however, with online digital media sites like YouTube, Spotify, and Soundcloud as well as the widespread availability of mobile phones/media players, notation systems can work in conjunction with the assumed availability of the original source recordings, and hence, can fulfill their original purpose of representing certain aspects of the music that are specific to an intended context and audience. It is in this respect that I believe that Killick’s notation system, and other innovative systems, can be useful in illustrating aspects of the music that are not adequately represented using staff notation.

In this brief response to Killick’s article, I would like to first address some of the larger conceptual and philosophical points he makes at the beginning of his paper regarding the use of staff notation in non-Western contexts, to which I will argue that the situation is more nuanced and complex than he suggests, and ultimately, rather than a “global notation system,” the choice of notation system should match the needs of artists, scholars, and their communities. Different systems of notation can circulate within a music region each serving different purposes and audiences, just as graphic representations of an object change based upon the emphasized spectrum of infrared, radio, or visual wavelengths. Second, I would like to consider the use (and usefulness) of Killick’s and other novel systems of notation within the context of observing, learning, and teaching African music, where there has been a great deal of conceptual debate and resulting diversity of practice in representing aspects of African traditional music in written form. In the end we must ask, Does a new notation system simply

represent the same musical elements as staff notation with different symbols, or does it inscribe different aspects of musical sound, including articulation, motor behavior, and variation?

Although Killick points out the limitations and Western bias inherent in staff notation, its use in transcribing non-Western music is not, and has not been, a single monolithic enterprise across the world. Like colonialism, each musical system has reacted to the arrival of Western musical knowledge and staff notation differently, and to different degrees. In China, for example, indigenous notation systems based upon the use of Chinese characters (and other symbols) were developed to transcribe music of the *qin* and other instruments of the educated elite to supplement oral transmission between the fifth and tenth centuries CE (Chen 2002; Lau 2002). In the twentieth century, as China modernized, folk and art music came to be notated using both staff notation and a locally modified form of cipher notation depending on the context. While complete oral transmission is still used by a relatively small number of community practitioners throughout China, in most professional, educational, and research settings, some form of modern written notation is used. Cipher notation tends to be used at the early stages of pedagogy, and in some cases up to the level of state-sponsored folkloric troupes, because its simplicity makes it easy to learn and apply in conjunction with live instruction. Staff notation is introduced in conjunction with cipher notation as the student progresses, with excerpts, pieces, and etudes notated in both systems.¹ During my studies and academic work in China, I have observed staff notation being used in professional orchestras, ensembles, film music, and in most academic publications. In contrast, despite its more significant colonial experience, staff notation did not make a big impression in India, where a modified style of cipher notation is used in conjunction with oral instruction to represent the music of their classical traditions.²

In the case of sub-Saharan Africa, transmission of traditional music forms within their cultural contexts continues to be completely oral, often using various forms of mnemonic representation to teach instrumental patterns, including the use of speech surrogacy. Western staff notation, introduced with Christian missionary education, is generally only used in the context of Christian hymnal music, or by Western-trained art music composers such as Ephraim Amu, Fela Sowande, and Akin Euba, and by ensembles that play Western or Western-influenced orchestral and band music. Ghanaian musicians who work in the popular music industry often learn the fundamentals of their instruments and Western music theory

1. To cite one of many examples of Chinese pedagogical texts, I happen to have a copy of the standard two-volume textbook written by Professor Shan Zhanyue for the *suona* double reed horn (Shan 2014). Both volumes contain pieces, etudes, exercises, and excerpts written in both Chinese cipher notation (简谱, *jianpu*) and Western staff notation (五线谱, *wuxianpu*).

2. The system of cipher notation used in India takes the initial (romanized) letter of each of the seven *sargam* (solfège) vocal syllables to represent pitch, along with the use of dots above or below the letters to shift into higher and lower octaves. The rhythm is indicated above the melody using symbols for the *tala*, or rhythmic cycle of the piece, that can easily be represented on typewriters (x, o, -). In much of East and Southeast Asia, cipher notations use Arabic numerals equivalent to the scale degrees (e.g., 1, 3, 5) to notate pitch, and use lines above to represent different pulse divisions.

in the church, and then branch out into other forms of local and international popular music by learning from recordings or other musicians. In their professional work, they will speak of key signatures and chord numbers, but do not use written notation. By contrast, staff notation is the preferred system used in academic contexts, which is not surprising given that most African (ethno)musicologists and music theorists received their degrees from Western music institutions. In all of these areas, Africans have developed different means of engaging with Western music, including staff notation, and more generally, Western music theory, to suit the needs of their situation. Moreover, as in many parts of the world, when considering the use of music notation outside of applied music contexts, as for example, within the subfields of music analysis or music history, one is often left with a small population of elites with Western music backgrounds, for whom staff notation has become part of the language of their profession.

From this brief survey of notation practices in different parts of the world, it is apparent that the vision of diversity within notational practices articulated by Hood and others has been met, although perhaps not in the way that they envisioned. For example, the Hipkins solution proposed by Hood (1971)—using local systems of notation rather than staff notation—is actually what is happening in many countries of East, South, and Southeast Asia, where musicians use local forms of cipher notation for both learning and performance. Furthermore, the Seeger and Laban solutions have been used, albeit sparingly, in the works of some ethnomusicologists in order to represent aspects of the music in more detailed ways. Thus, rather than a one-size-fits-all approach, we can recognize that an excerpt of a Hindustani *raga* could be transcribed using staff notation, cipher notation, spectral imaging, or with Dr. Killick's proposed system, each to different effect. This brings us back to the fundamental question regarding transcription: what is the purpose of notating a piece or section of music, and whom is it being notated for?

Although Killick places a strong emphasis on the difference between the aesthetic and poietic—the question of whether the notation represents the perspective of the listener or the author—I would argue that the crucial distinction remains whether the notation is meant to be prescriptive or descriptive (Hopkins 1966). In Western art music this nuance is not immediately apparent, because historically the same system has been used to guide the performer and the critic, while in Western popular music, there are often differences in the notations used by musicians and music analysts. When looking at non-Western musics, however, this distinction becomes crucial in cases where local systems of notation exist such as in China, Japan, India, and Indonesia. In these cases, local forms of cipher notation, developed from ideas based in Western music theory, are used in pedagogical and some performance contexts to prescribe a set of instructions for the performer or student, while staff notation is used in international academic contexts to describe what has been performed using a common script.

Following the arguments of the previous paragraphs, when I consider the system proposed by Dr. Killick, I believe that rather than providing a universal notational equivalent

of Esperanto, it could be employed as a specialized system that can more accurately represent pitch as well as the fluctuations of pitch between separate articulations. These aspects would prove useful in analyzing music forms that use notes outside the Western scale, such as Indonesian *gamelan* traditions, as well as those that use extensive pitch embellishment, such as the classical traditions of North and South India. While staff notation can represent non-standard pitches using symbols above the closest note on the staff, in terms of microtonal variations in pitch and the use of vibrato and ornamentation, Dr. Killick's notation can represent this in much more detail. Nevertheless, both systems would require audio recordings and ideally live instruction before a notated passage could be reproduced or imagined by someone unfamiliar with the tradition. In terms of representing rhythm, if a piece of music has a clear meter, I think those familiar with staff notation would find it easier to read; however, for non-metered music, or where the meter is ambiguous, Killick's system used in conjunction with the source recording would perhaps be more insightful.

Outside the question of what unique things Dr. Killick's notation system can potentially represent, my other area of concern would still be the context in which Dr. Killick's system (or any notation) is applied, and for which audience. For if his "global notation" is to be adopted in applied music contexts, it is likely to face an uphill battle against the notation systems in current use. Would a classically trained orchestra submit to learning and performing the Adagietto from Mahler's Fifth Symphony from Dr. Killick's (2020, 247) notation in Figure 5a? Or would a Balinese *gamelan* group be able to use the notation in Figure 8a instead of their customary cipher notation to play *Baris* (256)? On the other hand, if Dr. Killick's notation is meant for music analysis, and not for teaching, learning, or performance, this end somewhat diminishes its purpose as a cross-cultural notation system free of Western bias. For if the only people who find value or use in the system are music analysts, then outside of Western academia and its correlate institutions in each nation of the world, global notation will not likely become a popular substitute for staff notation or other local notation forms. The unfortunate reality is that the whole notion of professional (cross-cultural) musical analysis is largely a Western construct that survives primarily in Western (and Western-inspired) academic contexts. The major texts are written in European languages and the "global" notation system understood by all is staff notation. Within this academic climate, it is not surprising that Killick's (2017) own recent study of the venerable Korean *kayaqum* player Hwang Byungki uses staff notation to transcribe his music, when another system (including global notation) would perhaps have been more suitable to represent the substantial pitch variations in the music.

Turning now to my own research area of African music, there have been different approaches used to notate orally transmitted musics for analysis, teaching, and documentation that do represent, at least qualitatively, each of the goals outlined by Hood, and which have resulted in a greater variety of notation practice than in other non-Western regions of the world. Unfortunately, much of the academic debate regarding the use of staff notation has focused primarily on the appropriateness of Western meter in representing

African rhythm; nevertheless, the wider discussions raised in these works, and in certain cases the use of new notation systems, have generally followed contemporary debates within ethnomusicology.

For example, concerns raised in the fields of ethnomusicology and music theory in the 1960s created a sort of fashion amongst a wide group of European and American academics working on African music to reject the use of meter as an unfair Western imposition, although they somewhat uncritically continued the use of staff notation to represent pitch and different drum strokes. A brief review of some representative works might begin with Andrew Tracey, whose system of modified staff notation is outlined in a series of publications that document and analyze the music of the *mbira dza vadzimu* and *matepe mbira* in Zimbabwe (Tracey 1963, 1970a, 1970b). Tracey uses staff lines to represent the notes of the *mbira* keys, but represents the rhythm using blocks of connected eighth notes (12 or 16 per block) with empty beams for rests, noting that, “to achieve maximum freedom while playing it, if one is tied down to any one scheme, be it harmonic, metrical or rhythmic, one is missing half the point, which is to appreciate several different conflicting schemes at the same time” (Tracey 1970b, 42). This idea of representing rhythmic ambiguity continues in transcriptions of the *mbira dza vadzimu* by Paul Berliner in his book *The Soul of Mbira*, which uses essentially the same method as Tracey, as well as in the instructional manual for the *karimba* lamellophone in the appendix of the book, where he uses his own tablature system to notate the music, in order, as he puts it, to “duplicate as closely as possible for Westerners the process by which Africans learn *mbira*” (Berliner 1978, 282). A system like Tracey’s is also used in the work of Gerhard Kubik, particularly in his studies on African harp and xylophone music, although he also occasionally supplements the modified staff notation with other systems including cipher notation and a pitch graph system similar to that proposed by Dr. Killick. Kubik uses his graph notation system to demonstrate differences in pitch with the standard tunings implied by the staff lines.³ The contemporary work of Peter Cooke on Bugandan xylophone music also uses this modified staff system along with cipher notation for the benefit of international students and teachers.⁴ Similarly, Simha Arom, who continued the academic critique of meter into the 1990s, notates Central Africa polyphonic music in his magnum opus *African Polyphony and Polyrhythm* using his own meter-less adaptation of staff notation (Arom 1991). In the area of West Africa, ethnomusicologist Roderic Knight has used both staff notation (modified and unmodified) as well as his own tablature system to notate the music of the Mande *kora* bridge harp (Knight 1971, 1997). Thus, a particular group of scholars has used modified staff notation and various cipher and tablature systems to notate African music depending on their intended audiences, with the former used for academic audiences and the latter two being aimed at international music students and teachers.

3. For examples of Kubik’s use of modified staff notation, see his articles on the Azande harp (Kubik 1964a) and various Kiganda xylophones (Kubik 1964b, 1969). For an example of his use of pitch graphs, see the cited article on Azande harp; for his use of cipher notation, see Kubik (1969).

4. Notable examples of Cooke’s work in this area include his instructional manual for the Ganda *amadinda* (Cooke 1990) and his article on Ganda xylophone music (Cooke 1970).

Over the years, however, a great many have accepted or have come to accept the presence of meter in African music—construed from the division of main beats into binary or ternary pulses—due to the reality that music generally accompanies dance movements that demonstrate the awareness of common beats by enculturated listeners. Hence, this group continues to use regular staff notation, although it should be pointed out that bringing the subject of staff notation into the wider world of post-colonial scholarship is not just a simple matter of dismissing it as a Western imposition; rather, it requires engagement with deeper issues being debated within cultural anthropology, particularly the way that foreign objects and ideas are (re)claimed by former colonial subjects and are given new agency and meaning. While African musicians and academics have reacted to staff notation in different ways and to different degrees within their respective communities, the discussions begun by Kofi Agawu in *Representing African Music* (2003) give voice to many of the ways in which Africans can reclaim aspects of Western culture and knowledge like staff notation, and use their familiarity with what amounts to a widely understood professional vernacular to better engage with musicians and scholars around the world.⁵ As he notes, the detailed transcriptions of entire musical pieces in the works of scholars such as A. M. Jones, Akin Euba, Kwabena Nketia, David Locke, Kongo Zabana, and Trevor Wiggins have provided African musicology with a growing canon of texts that can be analyzed and studied by musicians, teachers, and academics across the world to better understand the rich compositional depth of traditional artists.⁶ To those who would argue that Western notation somehow distorts African music more than it distorts other music forms, Agawu counters, “Just as creative writers use English or French to express African realities, so musicians use staff notation to express African musical ‘realities’” (52). Even so, he readily acknowledges that all notation systems have inherent limitations, and his strongest criticisms address the fact that most of the field recordings of African music are held in American or European archives that are difficult for Africans on the continent to access, effectively limiting the degree to which they can engage with a transcribed piece of music or critique the way it has been notated.

Outside of these aforementioned uses and adaptations of staff notation, it is important to recognize the use of TUBS and Pantaleoni/Serworda notation, two novel transcription methods that were developed by Western ethnomusicologists in collaboration with African professional musicians with the aim of reaching an international audience of performers and scholars. The Time Unit Box System (TUBS) was created at the turn of the 1970s by ethnomusicologist James Koetting in conjunction with African professional teachers in

5. In particular, refer to Agawu (2005, 48–53, 64–68).

6. Some of the major publications of the authors cited by Agawu include Jones (1959), Euba (1990), Nketia (1963, 1974), Locke (1979, 1987, 1992), Locke and Agbeli (1980), Agawu (1995), Zabana (1997), and Wiggins (1999). I would also add the work of other contemporary authors who transcribe extended pieces or document certain repertoires of African music cultures using regular staff notation including Eric Charry (2000) for various Mande instruments, Patricia Tang (2007) for the Wolof *sabar* drum, James Burns (2009) for Ewe dance-drumming, John Amira and Steven Cornelius (1992) for Afro-Cuban Santería drumming, David Peñalosa (2011) for Afro-Cuban rumba drumming, Lois Wilcken and Frisner Augustin (1992) for Haitian Vodou drumming, and Polo Vallejo (2007) for music of the Wagogo people of Tanzania.

residence at UCLA (Koetting 1970). Koetting was also concerned about the imposition of meter in staff notation, but he mainly wanted to develop a system that would allow him to transcribe Ashanti, Ewe, and Kasena instrumental music in a manner that would hopefully be easier for African and other international teachers and students to understand and adopt. TUBS notation replaces the staff with a table of boxes, each representing a single pulse unit, defined by the user based on a fastest or most common layer of pulse, generally 12 or 16 pulses per set of boxes. In drum music, the different strokes are represented by letters or symbols inside the box, while in pitched music notes are represented using a number based upon its presumed scale degree, similar to cipher notation.

An example of Ewe dance-drumming taken from Koetting’s (1970, 129) original article is presented in Figure 1 alongside my own version in staff notation. Both represent the rhythm and strokes accurately, and although I would now find the staff version easier to read, when I first began learning African music I was not so adept at using staff notation, and TUBS would have been a much easier system for me to use. While TUBS has not been widely adopted by the academic community, it is commonly used today by American students of African and Afro-Caribbean drum traditions, particularly the Mande *djembe* drum and the Afro-Cuban

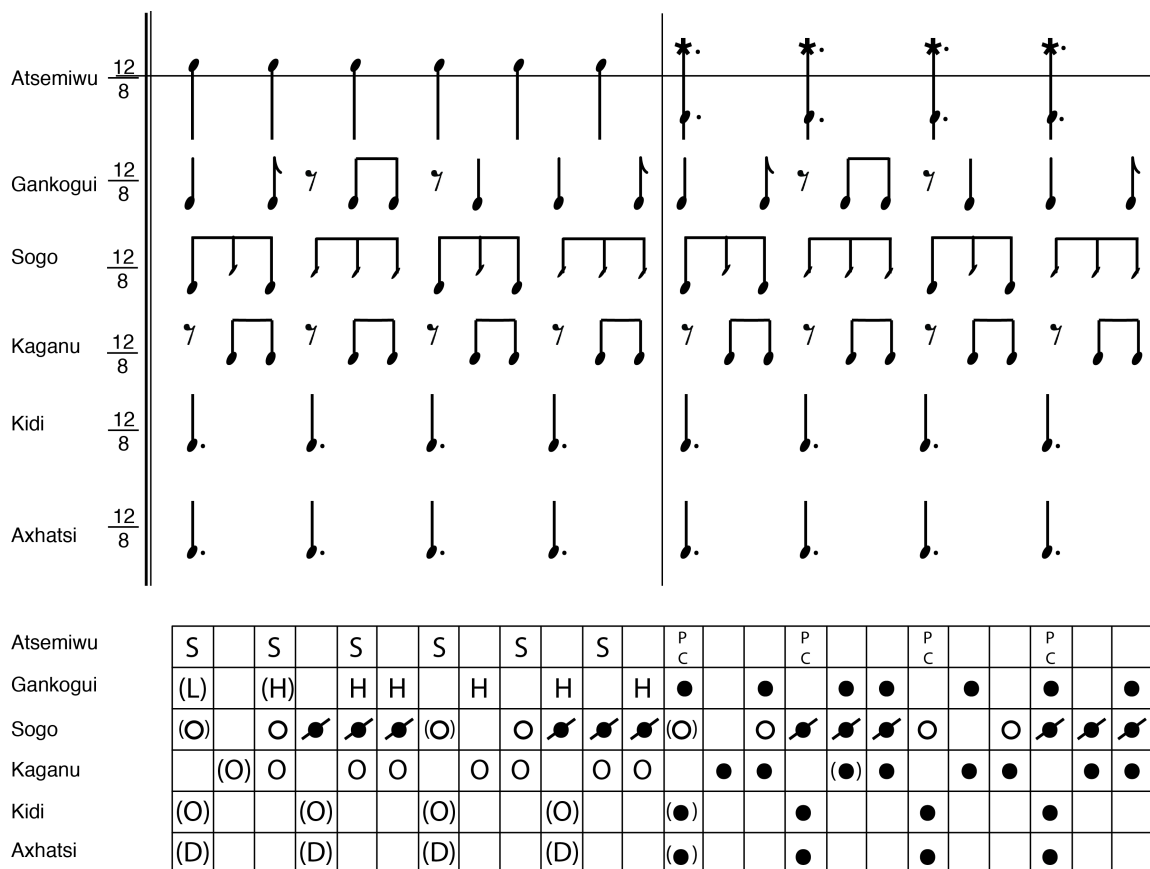


Figure 1. Transcription of Ewe drum language pattern in staff notation and TUBS notation.

congas and *bata* drums, because it is easy to learn and use TUBS to transcribe basic drum parts.⁷ TUBS notation proliferated among this group of teachers and students during the dawn of internet age in the late 1990s, when it could be easily produced using word processing software and readily distributed in online African and Afro-Caribbean music forums.

The other notable attempt at devising a new method for transcribing African music was made by Hewitt Pantaleoni, who worked in consultation with the Ugandan drummer, dancer, and folklorist Moses Serwadda to create a system that was based on the principles of movement analysis outlined in the work of Laban (Serwadda and Pantaleoni 1968). Pantaleoni subsequently used this system in his PhD dissertation and in several journal articles to notate the drumming and dance steps of different southern Ewe music forms.⁸ Although Killick makes brief mention of Serwadda and Pantaleoni's original study, it is surprising, given his focus on Laban, that he does not delve deeper into Pantaleoni's subsequent works, which apply the system to extended musical segments. To my knowledge, Pantaleoni and Serwadda are the only scholars up to this time that have made a serious attempt to integrate the principles of Laban into their work. In the first place, they align the notation vertically, in the same way that Labanotation is written for dance, reflecting the bilateral symmetry of the body, or in the case of drumming and most instrument playing, the right and left hands. Their notation also draws on the specialized symbols developed by Laban to represent the minute details of each drum stroke, including which joints of the fingers make contact with the drum skin and where, as well as the use of heavier imprint or filled-in symbols to represent downward strokes or movements. In order to represent the rhythm of Ewe dance-drumming, Pantaleoni uses a grid box background, similar to TUBS, with 12 boxes for compound rhythms and 16 (or 8) for duple rhythms. At the start of each 12- or 16-pulse block, Pantaleoni marks a line in bold, but gives no other indication of meter or grouping.

In order to appreciate the differences between Panaleoni's system and staff notation, I have placed a passage of his work next to its representation in staff notation in Figure 2 (Ladzekpo and Pantaleoni 1970, 21). This passage is a transcription of a drum language variation (*T̃tagiḍē*) from the *Takaḍa* dance, with *atsimevu* as the lead drum, and the *sogo* and *kidi* drums (labeled S-K) playing the response. Pantaleoni also notates the timeline played on the *gankogui* double bell (*Gan*) and the *axatse* rattle (*Ax.*), the *kagan* support drum (*Kag.*), and provides a sketch of the basic dance steps. Comparing the two notated versions of the passage,

7. Published studies of African/Diasporic music that use TUBS as the main system of notation include Yih (1995) for Haitian Vodou drumming, and Greenberg (2008) for Afro-Cuban *bata* drumming. I cannot vouch for the use of TUBS notation among similar amateur African drumming circles in Europe, but from my extensive experience in the United States at African and Afro-Caribbean themed drum camps, community classes, and workshops, as well as having seen many user group posts and the personal study notes of individual students, I believe that TUBS is used more than staff notation.

8. The publications that use this system extensively include Pantaleoni's dissertation on Ewe Atsiā music (1972a) and articles in the *African Music* journal devoted to *Takaḍa* music (Ladzekpo and Pantaleoni 1970) and to the playing method of the lead drum *atsimevu* in the Atsiā dance (Pantaleoni 1972b). As far as I know, it has never been used by other scholars.

mm. 120 5. TŌTAGIÐĔ

Gankogui (Gaŋ) $\frac{12}{8}$

Axatse (Ax) $\frac{12}{8}$

Dance $\frac{12}{8}$

Kagan (Kaŋ) $\frac{12}{8}$

Sogo-Kidi (S-K) $\frac{12}{8}$

Atsimevu (Ats.) $\frac{12}{8}$

Tŏ Ta Gi Ðĕ Tŏ Ta Gi Ðĕ

Pantaleoni/Serwadda

Figure 2. Transcription of Ewe drum language pattern in drum notation and Pantaleoni/Serwadda notation.

I would argue that Pantaleoni and Serwadda's system better represents the nuances of the physical movements used to produce the strokes. For example, the first stroke of the *atsimevu* is produced by pressing one hand into the drum skin while the other hand strikes across the face with a stick, producing a sharp pop, which is given the vocable *tŏ* by Ewe musicians. While the stick stroke comes on the downbeat, it is actually set up a pulse or two before by the opposite hand pressing into the skin to get ready for the stick stroke. Since this is inaudible (and variable in time), it is not represented in the staff notation version, which simply indicates the audible part of the stroke, the actual *tŏ* sound, using a different notehead. In Pantaleoni's version, however, this set-up stroke is notated in brackets before the *tŏ* stroke in measure 5. The main issue with Pantaleoni's work, however, is that this advantage in accurately representing the mechanics of the strokes does not play into his music analysis, which instead focuses on rhythm, variation, and repertoire, aspects which I feel are better represented with staff notation since it better conveys the timing and placement of the main, audible strokes within the rhythmic background articulated by the other parts. By contrast, Pantaleoni and Serwadda's Laban-based system would greatly illuminate an analysis of how variations in body movements affect things like rhythm, timbre, and patterning. It could also be used to more accurately describe how a particular drum stroke is produced. Using their system to notate Ewe drumming for use in teaching and learning the music or to transcribe large sections or parts would be, in my opinion, an inappropriate use of this system.

From where we sit now, in the midst of the digital age, most would recognize that musicians and scholars throughout the world have the agency, education, and technology to use, create, and modify notation systems to suit the needs of their work and community. Western staff notation, despite its faults, has become the lingua franca for international music scholarship, like the English, French, and German languages, which are used to write ethnographic accounts of global cultures even though there are words, ideas, and nuances that cannot be represented in these languages. Still, within this academic context there is room for different forms of transcription like Dr. Killick's that can focus on detailed aspects of the music that are obscured or omitted in staff notation. For those engaged in music teaching and learning, however, there are already a variety of cipher notations, tablatures, and simplified systems like TUBS that can readily be adopted and have wider currency.

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