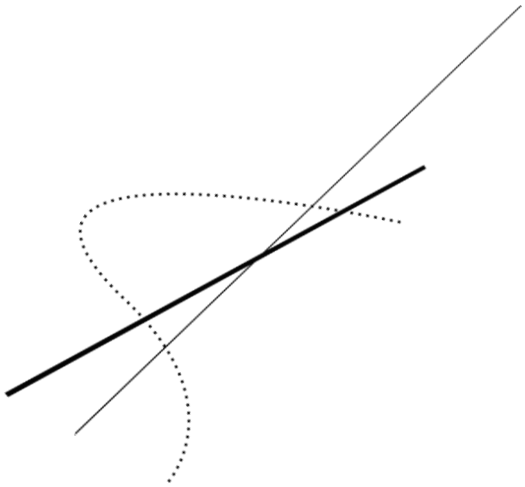

FUNCTIONAL HARMONY IN POPULAR MUSIC: JOSEPH SCHILLINGER, BERKLEE COLLEGE OF MUSIC, AND THE DISSEMINATION OF A PEDAGOGICAL MODEL[1]

David Ganc[2]

Abstract: This article investigates the origins, dissemination, and application of functional harmony in popular music, taking the thought of Joseph Schillinger and its influence on the pedagogy of Berklee College of Music as its central focus. Drawing on bibliographical and documentary research, it presents Schillinger's career, his role in American music pedagogy during the 1930s and 1940s, and the gradual erasure of his name from the institution's historical narrative. The article begins by presenting a historical overview of traditional harmony theory through its principal treatises, from the Renaissance contrapuntal tradition to its developments throughout the nineteenth and twentieth centuries, in order to contextualize the origins of functional harmony. It subsequently examines Lawrence Berk's adaptation of the Schillinger System, which led to the consolidation of a pedagogical model for popular music that was disseminated internationally through Berklee College of Music. The article also identifies the elements of this system that have been preserved in the institution's contemporary curriculum. Finally, it examines the reception of this pedagogical model in Brazil, with particular emphasis on the city of Rio de Janeiro, highlighting the role of key educators and specialized pedagogical publications. The study concludes that functional harmony has become a widely adopted pedagogical system, employed in analysis, composition, arranging, and improvisation. Its continued relevance stems both from its effectiveness and from its ability to adapt to different musical contexts.

[1] The author gratefully acknowledges Professor Carole Gubernikoff, Ph.D., as the origins of this article can be traced to a study on the teaching of harmony undertaken as part of the Advanced Music Seminars course held at the Federal University of the State of Rio de Janeiro (UNIRIO) in 2014.

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Keywords: Joseph Schillinger; Functional Harmony, *Berklee Colle*ge of Music, Popular Music Pedagogy; Harmony Instruction.

A HARMONIA FUNCIONAL NA MÚSICA POPULAR: JOSEPH SCHILLINGER, BERKLEE COLLEGE OF MUSIC E A CIRCULAÇÃO DE UM MODELO PEDAGÓGICO

Resumo: Este artigo investiga a constituição, a difusão e a aplicação da harmonia funcional na música popular, tomando como eixo central o pensamento de Joseph Schillinger e sua influência na pedagogia da Berklee College of Music. Com base em pesquisa bibliográfica e documental, examina a trajetória de Schillinger, sua atuação na pedagogia musical norte-americana nas décadas de 1930 e 1940 e o progressivo apagamento de seu nome da história institucional. Inicialmente, apresenta-se um panorama histórico da teoria da harmonia tradicional a partir de seus principais tratados, desde a tradição contrapontística renascentista até seus desdobramentos nos séculos XIX e XX, a fim de contextualizar a origem da harmonia funcional. Em seguida, analisa a adaptação do sistema de Schillinger por Lawrence Berk, responsável pela consolidação de um modelo pedagógico voltado à música popular, difundido internacionalmente por meio da Berklee College of Music. Identifica, ainda, os elementos desse sistema preservados no currículo contemporâneo da instituição. Por fim, examina a recepção desse modelo no Brasil, com ênfase na cidade do Rio de Janeiro, destacando a atuação de agentes formadores e a produção editorial especializada. Conclui que a harmonia funcional consolidou-se como um sistema pedagógico de ampla circulação, empregado na análise, composição, arranjo e improvisação. Sua permanência decorre tanto de sua eficácia quanto de sua capacidade de adaptação a diferentes contextos musicais.

Palavras-chave: Joseph Schillinger; Harmonia Funcional, *Berklee College of Music*, Pedagogia da música popular; Ensino de harmonia.

LA ARMONIA FUNCIONAL EN LA MÚSICA POPULAR: JOSEPH SCHILLINGER, BERKLEE COLLEGE OF MUSIC Y LA CIRCULACIÓN DE UM MODELO PEDAGÓGICO

Resumen: Este artículo investiga la constitución, la difusión y la aplicación de la armonía funcional en la música popular, tomando como eje central el pensamiento de Joseph Schillinger y su influencia en la pedagogía del Berklee College of Music. Basado en una investigación bibliográfica y documental, presenta la trayectoria de Schillinger, su actuación en la pedagogía musical estadounidense durante las décadas de 1930 y 1940 y el progresivo borramiento de su nombre de la historia institucional. En primer lugar, se presenta un panorama histórico de la teoría de la armonía tradicional a partir de sus principales tratados, desde la tradición contrapuntística renacentista hasta sus desarrollos en los siglos XIX y XX, con el fin de contextualizar el origen de la armonía funcional. A continuación, se analiza la adaptación del sistema de Schillinger realizada por Lawrence Berk, responsable de la consolidación de un modelo pedagógico orientado a la música popular, difundido internacionalmente por medio del Berklee College of Music. Asimismo, se identifican los elementos de este sistema que se han preservado en el currículo contemporáneo de la institución. Por último, se examina la recepción de este modelo en Brasil, con énfasis en la ciudad de Río de Janeiro, destacando la actuación de agentes for madores y la producción editorial especializada. Se concluye que la armonía funcional se consolidó como un sistema pedagógico de amplia difusión, empleado en el análisis, la composición, los arreglos y la improvisación. Su permanencia se debe tanto a su eficacia como a su capacidad de adaptación a diferentes contextos musicales.

Palabras clave: Joseph Schillinger; Armonía funcional; *Berklee College of Music*; pedagogía de la música popular; enseñanza de la armonía.

1. Introduction

Now largely relegated to obscurity, Joseph Schillinger — recognized as one of the formulators of the foundations of the functional-harmony pedagogical model later consolidated at Berklee College of Music — remains a figure that has received little scholarly attention. The research conducted for this study revealed a singular figure, whose intellectual and artistic trajectory has been described by several authors (Brodsky, 2003; Costa, 2010) as innovative and visionary.

Before examining functional harmony as applied to popular music — the central focus of this article, and a field in which Schillinger played a pioneering role — it is necessary to outline the historical trajectory of traditional harmony, the matrix from which it derives. To this end, the article first presents an overview of the evolution of harmonic thought, from Gioseffo Zarlino to the present day. This stage synthesizes the central ideas of the principal theorists and their foundational works.

The principal aim of this study, however, is to carry out a comparative analysis between the functional harmony used in popular music and certain aspects of traditional harmony. It subsequently presents a survey of works by Brazilian authors devoted to functional harmony, examining how these authors adapted its principles to the context of Brazilian popular music.

As for the methodological procedures, the research adopted a qualitative approach grounded in bibliographical review and documentary analysis. In section two, the principal treatises on traditional harmony published between the sixteenth and twentieth centuries are surveyed, with the aim of outlining the historical panorama of the theory underlying the development of functional harmony as applied to popular music. In section three, Joseph Schillinger's biographical trajectory is reconstructed, from his career in the then-Soviet Union to his establishment in the United States, emphasizing his theoretical output and his place within American music pedagogy. In the fourth section, a documentary analysis is undertaken of the *Schillinger System of Musical Composition* and of institutional documents from Berklee College of Music, seeking to identify which principles of the system remain embedded in the institution's contemporary curriculum. Finally, in order to contextualize the reception and application of functional harmony in Brazil, the principal teaching institutions, instructors, and publications devoted to the subject are surveyed, adopting the city of Rio de Janeiro as the geographic scope, given its role as a hub for disseminating this approach in the country.

2. Historical Overview of Traditional Harmony

Table 1 presents a diachronic overview of traditional harmony theory. Organized into three columns (author, work, and year of publication), it brings together, in chronological order, the principal reference works of each author, accompanied by a brief explanatory synthesis.

Table 1: List of authors and works on harmony

Author	Work	Year of publication
Zarlino, G. (1517–1590)	*Le Institutioni Harmoniche*	1558
Rameau, J. P. (1683–1764)	*Traité de l'harmonie reduite à ses principes naturels*	1722
Fux, J. J. (1660–1741)	*Gradus ad Parnassum*	1725
Riemann, H. (1846–1919)	*Harmony Simplified or The Theory of Tonal Functions of Chords*	1893
Schoenberg, A. (1874–1951)	*Harmonielehre*	1911
Piston, W. (1894–1976)	*Harmony*	1941
Hindemith, P. (1895–1963)	*The Craft of Musical Composition*, Book I	1945
Hindemith, P. (1895–1963)	*Curso Condensado de Harmonia Tradicional*	1949
Schoenberg, A. (1874–1951)	*Structural Functions of Harmony*	1948
H. J. Koellreutter (1915–2005)	*Harmonia Funcional – Introdução à teoria das funções harmônicas*	1978/86

Source: prepared by the author (2026).

In Zarlino and Fux we find the codification of counterpoint and its organization into species. Vertical sound ("harmony") results from horizontal lines (melody). According to Palisca, "Zarlino was not the inventor of these rules, but he was their most lucid and perspicacious exponent of the sixteenth century, the golden age of vocal counterpoint" (Palisca, 1968, p. xiii). Zarlino was a student of Adrian Willaert (1490–1562), who served as maestro di cappella at St Mark's Basilica in Venice for 35 years. Zarlino was thus heir to the contrapuntal tradition and an important agent in its development.

Johann Joseph Fux, an Austrian composer and theorist, consolidated the contrapuntal tradition in *Gradus ad Parnassum*, a treatise widely used by Haydn, Mozart, and Beethoven for pedagogical purposes (White, 2013). Written as a dialogue between master and pupil — in the book, Aloysius represents Palestrina[3], his model, and Josephus represents the students — the work became widely disseminated for its clear explanation of the five species of counterpoint, voice leading, and the resolution of dissonances, becoming one of the principal pedagogical references in Western music.

[3] Giovanni Pierluigi da Palestrina (c. 1525–1594).

Situated within the intellectual context of the Enlightenment, Jean-Philippe Rameau gave music theory a systematic and rational character, reorganizing the harmonic knowledge of his era and inaugurating a verticalized conception of harmony. In his treatise, he develops the theory of chord progression, inversion, and cadence, and describes chords formed by the stacking of thirds, as well as seventh chords. For Rameau, there were only two fundamental categories of chords: the perfect chord, corresponding to consonant harmony, and the seventh chord, associated with dissonant harmony. According to his conception, the entire harmonic language derived from these two structures, from their inversions, and from their extensions, such as the added-sixth chord. It should be noted that Rameau does not use the term "triad" and upholds the primacy of harmony over melody, regarding the latter as derived from the former.

From Hugo Riemann's extensive theoretical output, one work stands out: *Harmony Simplified*. Riemann defines the theory of harmony as "the logically rational and technically correct connection of chords […]" (Riemann, 1893, p. 1), and melody as "the logically rational and aesthetically satisfactory motion of a part through notes of different pitch" (Riemann, 1893, p. 1). According to this author, melody had been practiced for centuries, well before the modern conception of chord-based harmony; polyphonic composition thus originates in melody, harmony being an outgrowth of that phenomenon. Grounded in the study of the harmonic series and in the organization of scale-degree chords, symbolized by roman numerals[4], his theory crystallized the functions of tonic, subdominant, and dominant (T–S–D). Before Riemann, Rameau's conception predominated, centered on the fundamental bass, on inversions, and on chords as vertical entities. Riemann's principal innovation consisted in understanding chords according to their function within the tonal context, allowing that distinct chords could perform the same harmonic function. This conception became one of the foundations of modern harmonic analysis and remains present in contemporary pedagogy, including the functional harmony applied to jazz and popular music. Although Schillinger developed his own system, grounded in mathematical principles and oriented toward composition and arranging, its pedagogical adaptation, later carried out by his student Lawrence Berk — as discussed in the next section — preserved several principles of the functional approach to harmonic progressions and incorporated them into Berklee's curriculum. Riemann's functional theory thus constitutes one of the conceptual foundations on which the functional harmony used in popular music developed.

Widely recognized for his break with the tonal system, Schoenberg devoted himself to the teaching of traditional harmony throughout his life. His book *Harmonielehre* [*Theory of Harmony*], dedicated to the memory of Gustav Mahler, constitutes one of the principal theoretical works of the twentieth century, synthesizing the main currents of tonal harmony and critically discussing the limitations of the concept of "atonality," by then already distanced from classical

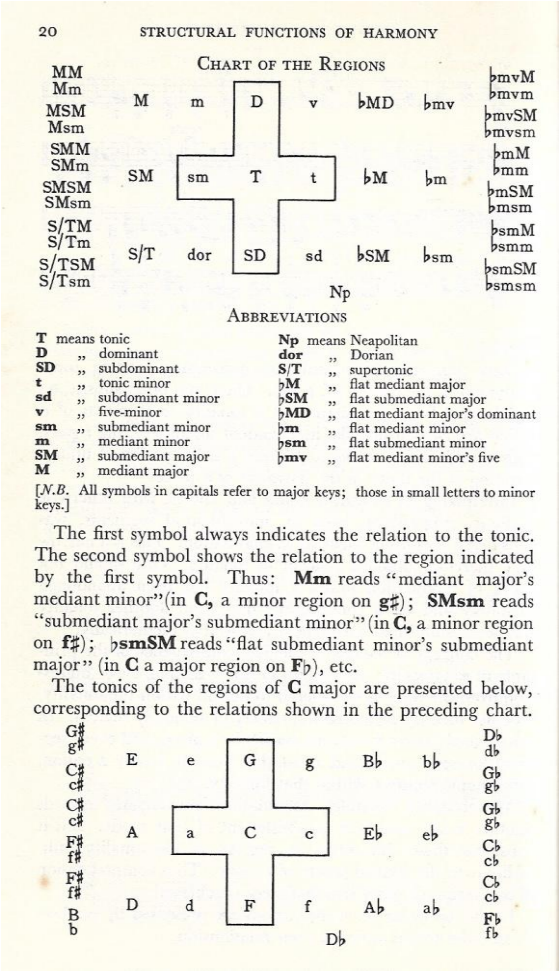
[4] Introduced by Gottfried Weber (1779–1831) as a refinement of Georg Vogler's theory of scale degrees (1749–1814). Whereas Vogler used uppercase roman numerals to indicate the function of each chord, Weber began also incorporating the chord's quality: uppercase numerals for major chords, lowercase for minor chords, and a superscript circle for diminished chords (Saslaw, 2013).

tonality. Early in the work, Schoenberg divides the teaching of composition into three fields: harmony, understood as the study of chords and their progressions; counterpoint, as voice leading; and musical forms, as the organization and development of musical ideas (Schoenberg, 2011, p. 49). In *Structural Functions of Harmony* (1948), Schoenberg sets aside the concern with justifying chord formation through natural or acoustic foundations, focusing instead directly on analyzing the functions performed by chords within tonal progressions. Building on the superimposition of triads and tetrads over each scale degree, he systematizes functional relationships that engage directly with the tradition inaugurated by Riemann.

Schoenberg maintains that the two principal tonalities — major and minor — have their historical origin in the liturgical modes, grouping them into "major" modes, which contain a major third (Ionian, Lydian, and Mixolydian), and "minor" modes (Dorian, Phrygian, and Aeolian), excluding, however, the Locrian mode from this classification. In functional harmony as applied to popular music, especially within Berklee's pedagogical tradition, all the modes are treated as operative harmonic and melodic resources.

Among the work's principal contributions is its table of regions (Figure 1), which synthesizes the relationships between tonic, subdominant, and dominant in the major and minor modes, allowing different degrees of proximity to the tonal center to be visualized. Although it uses its own nomenclature, this representation anticipates analytical procedures later incorporated by different approaches to functional harmony.

Figure 1: Table of Regions



20 STRUCTURAL FUNCTIONS OF HARMONY

CHART OF THE REGIONS

MM Mm | M m D v ♭MD ♭mv | ♭mvM ♭mvm
MSM Msm | ♭mvSM ♭mvsm
SMM SMm | SM sm T t ♭M ♭m | ♭mM ♭mm
SMSM SMsm | ♭mSM ♭msm
S/TM S/Tm | ♭smM ♭smm
S/TSM S/Tsm | S/T dor SD sd ♭SM ♭sm | ♭smSM ♭smsm

Np

ABBREVIATIONS

T means tonic
D „ dominant
SD „ subdominant
t „ tonic minor
sd „ subdominant minor
v „ five-minor
sm „ submediant minor
m „ mediant minor
SM „ submediant major
M „ mediant major
Np means Neapolitan
dor „ Dorian
S/T „ supertonic
♭M „ flat mediant major
♭SM „ flat submediant major
♭MD „ flat mediant major's dominant
♭m „ flat mediant minor
♭sm „ flat submediant minor
♭mv „ flat mediant minor's five

[*N.B.* All symbols in capitals refer to major keys; those in small letters to minor keys.]

The first symbol always indicates the relation to the tonic. The second symbol shows the relation to the region indicated by the first symbol. Thus: **Mm** reads "mediant major's mediant minor" (in **C,** a minor region on **g♯**); **SMsm** reads "submediant major's submediant minor" (in **C,** a minor region on **f♯**); **♭smSM** reads "flat submediant minor's submediant major" (in **C** a major region on **F♭**), etc.

The tonics of the regions of **C** major are presented below, corresponding to the relations shown in the preceding chart.

G♯ g♯ | E e G g B♭ b♭ | D♭ d♭
C♯ c♯ | G♭ g♭
C♯ c♯ | G♭ g♭
F♯ f♯ | A a C c E♭ e♭ | C♭ c♭
F♯ f♯ | C♭ c♭
B b | D d F f A♭ a♭ | F♭ f♭

D♭

Source: Schoenberg (1954).

In the chapter dealing with chord substitutions and derivations from modes, we find in the chapter dealing with chord substitutions and modal derivations, we find a parallel with the functional harmony used in popular music, in the concept of modal interchange — terminology widely used in Berklee's pedagogy.

Among the most significant contributions of *Structural Functions of Harmony* are its systematization of tonal regions and its treatment of the exchange of chords between different modes. Schoenberg's thinking on harmonic functions, tonal regions, and chord relationships thus exerted a lasting influence on twentieth-century harmonic theory and constitutes an important link between the tonal-harmony tradition and contemporary approaches to popular music.

Composer and theorist Walter Piston taught at Harvard for nearly four decades and published four reference treatises on harmony, orchestration, counterpoint, and musical analysis. His book *Harmony* became established as one of the principal treatises on tonal harmony of the mid-twentieth century. For Piston, harmony results from voice leading and counterpoint, such that chords are not conceived as isolated entities but as a consequence of the linear motion of the

voices. This conception maintains the tradition of harmony as an outgrowth of voice leading, in contrast to the functional, pragmatic approach that would later be disseminated by Berklee in the context of popular music.

Among Paul Hindemith's theoretical works, *The Craft of Musical Composition* and *Curso Condensado de Harmonia Tradicional* [*A Concentrated Course in Traditional Harmony*] stand out. In the former, particularly in the chapter devoted to harmony, the author develops his own system for organizing sound materials, grounded in the contrapuntal tradition, ranging from two-voice writing to questions related to polytonality and the expansion of tonal language. In the latter, he presents the principles of traditional harmony in a didactic manner, from chord formation to modulation, with an emphasis on practical exercises.

In the second half of the twentieth century, Koellreutter, in *Harmonia Funcional* [*Functional Harmony*], introduced and systematized for Brazilian readers the functional tradition inaugurated by Hugo Riemann and later developed by Max Reger (1873–1916) and Hermann Grabner (1886–1969). Drawing on the tonal music of the eighteenth and nineteenth centuries, his work became established as one of the principal Brazilian references for functional theory of European derivation. Koellreutter condensed his thinking on functional harmony into five Tonal Laws, as follows: 1st (principal functions), 2nd (secondary functions), 3rd (individual dominants and subdominants), 4th (expansion of tonality — altered chords), and 5th (modulation). This strand, oriented predominantly toward the Western art music repertoire, is distinct from the approach later developed by Schillinger and disseminated by Berklee, whose focus lies in the application of functional harmony to popular music. Although both are grounded in the concept of harmonic function, Koellreutter's proposal remains tied to the European tonal tradition, while the approach developed by Schillinger and consolidated at Berklee prioritizes the practical application of functional harmony to composition, arranging, and improvisation in popular music.

Following this synthetic panorama of the principal treatises on traditional harmony published between the sixteenth and twentieth centuries, we now turn to an examination of Joseph Schillinger's thought and to the functional-harmony publications oriented toward popular music, whose theoretical grounding traces back to the tonal-harmony tradition presented above.

3. Joseph Schillinger (1895-1943)

Figure 2: Joseph Schillinger

Source: https://archives.berklee.edu/_flysystem/fedora/2022-11/127_originalFile.pdf

Joseph Moiseyevitch Schillinger, born in what was then the Russian Empire — in territory corresponding to present-day Ukraine — held several prominent academic posts in his native country. Among them, he served as Dean of the Composition Faculty at the Kharkiv (or Kharkoff) Academy of Music, his home city, as an advisor to the U.S.S.R. Council of Education, and as conductor of the Ukrainian Symphony Orchestra. Recognized as a composer in Russia, he won, in 1927, a composition competition held to commemorate the tenth anniversary of the Soviet Revolution, surpassing, among other works, Dmitri Shostakovich's First Symphony. His compositions were featured in recitals alongside works by Stravinsky, Prokofiev, and Hindemith. That same year, he also organized the first jazz concert held in the Soviet Union (Brodsky, 2003; Schillinger, 1946).

In 1928, after being invited to give a lecture in the United States, Schillinger settled permanently in that country. He began teaching mathematics and music at the New School for Social Research, affiliated with Columbia University, as well as at New York University. His work was distinguished by its interdisciplinary character: in addition to being a musician and theorist, he was also a scientist and ethnomusicologist. Schillinger was also a founding member of the New York Musicological Society — later transformed into the American Musicological Society — alongside figures such as Charles Seeger, Henry Cowell, and Nicolas Slonimsky (Quist, 2002).

Among his contributions are the first concert for electronic instrument and orchestra, his collaboration on research into sound synchronization for film, and, in partnership with Leon Theremin, the development of experiments that led to the first electronic synthesizer and the electronic drum kit (Brodsky, 2003). He also composed the *First Airphonic Suite* for theremin and orchestra, with Leon Theremin

himself as soloist. The score of George Gershwin's *Porgy and Bess* was prepared under his supervision (New York Times, 1943). In the theoretical field, his principal achievement was the formulation of the *Schillinger System of Musical Composition*[5] (SSMC), a work that synthesizes his innovative vision of musical composition. His system comprises the following books: I. Theory of Rhythm, II. Theory of Scales, III. Variation of Music through Geometrical Projections, IV. Theory of Melody, V. Special Theory of Harmony, VI. The Correlation of Harmony and Melody, VII. Theory of Counterpoint, VIII. Instrumental Forms, IX. General Theory of Harmony: Strata Harmony, X. Evolution of Tone Families, XI. Theory of Composition, XII. Theory of Orchestration.

In the 1930s, his work as a private teacher in New York gained considerable visibility and became a reference point among jazz, Broadway, and Hollywood composers and arrangers. The list of his students who later became celebrated figures is notable, including George Gershwin — who studied with him between 1932 and 1936 — as well as the well-known big-band leaders Glenn Miller, Benny Goodman, and Tommy Dorsey.

Few students received official authorization to teach his method. According to Brodsky (2003) and Costa (2010), that number was seven; Berklee's website, however, states that twelve students received such authorization (Berklee, 2014). Among this small group of authorized teachers was Lawrence Berk (1908–1995). An engineer trained at MIT[6], Berk worked as an arranger and composer for CBS[7] and for NBC radio[8] in New York while studying with Schillinger. In assimilating his teacher's unorthodox mathematical approach to musical parameters, Berk adapted these principles to jazz and other forms of "modern" music, becoming one of those chiefly responsible for its later dissemination (Brodsky, 2003). In 1945, two years after his teacher's death, he founded Schillinger House in Boston, devoted to teaching the System — the first school oriented toward popular music, in this case jazz, the mass music of that era. Table 2 below shows the trajectory of the institution's naming and its expansion.

Table 2: Naming trajectory and institutional expansion of Berklee College of Music

Institution	Period
Schillinger House (Boston – USA)	1945–54
Berklee School of Music	1954–70
Berklee College of Music	1970–present
Berklee Online	2001–present

[5] Available at: https://ia600709.us.archive.org/13/items/SchillingerSystem/Schillinger%20System%20of%20Musical%20Composition_text.pdf

[6] Massachusetts Institute of Technology.

[7] The Columbia Broadcasting System television network.

[8] National Broadcasting System. Initially devoted to radio, and a pioneer of television broadcasting, it is today a media conglomerate.

Institution	Period
Berklee Valencia, Spain (Master's)	2012–present
Boston Conservatory at Berklee (merger)	2016–present
Berklee NYC – New York campus (Master's)	2017–present

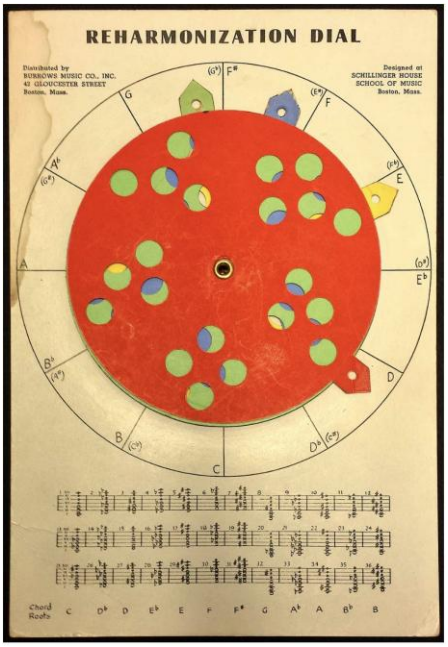
Source: prepared by the author (2026).

With the school's expansion and its growing exposure in television media, Frances Schillinger, Joseph Schillinger's widow, filed suit in 1954 against Schillinger House, alleging that the institution no longer taught the theory developed by her husband, even as it continued to capitalize on the use of his name. The court ruling favored the widow, barring Lawrence Berk from continuing to use the name "Schillinger" (Costa, 2010). As a result, Berk renamed the school Berklee, a name formed by inverting his son's name, Lee Berk (1942–).

This article is concerned with ascertaining what remains of the System in Berklee's present-day curriculum. According to Costa (2010, p. 20), "It is doubtful if any Schillinger influence exists at Berklee today." The institution's former president, Lee Berk, found his father's notebooks from the 1930s, bearing the Schillinger House logo, and asked Ted Pease — now retired, and author of Berklee's arranging textbook — to investigate whether these notes had anything in common with the current curriculum. In Berk's eleven notebooks, Pease found a number of teachings, including mathematical permutations, the representation of notes by numbers, and instructions on how any chord may be followed by any other chord, provided the principle of voice leading is correctly applied. However, the only items Pease found in common with the period in which he himself had been a student, in the early 1960s, were the outline of the three- and four-voice arranging course for saxophones, brass, strings, and rhythm section. The advanced harmonic concept of voice-leading technique for upper structures was also found, still present in the current curriculum as hybrid structures and upper-structure triads (Berklee, 2014).

The *Schillinger System of Musical Composition* employed, among other resources, mathematical permutations, principles of symmetry, musical geometry, and note-interpolation techniques, constituting a compositional system applicable to different musical styles. Building on these principles, Lawrence Berk and his team developed the Reharmonization Dial tool (Fig. 3). Based on notes provided by the user, and using the C Ionian, C Dorian, and C Lydian modes/scales as matrices, the tool generated different reharmonization possibilities for use in composition and arranging (Berklee, 2025).

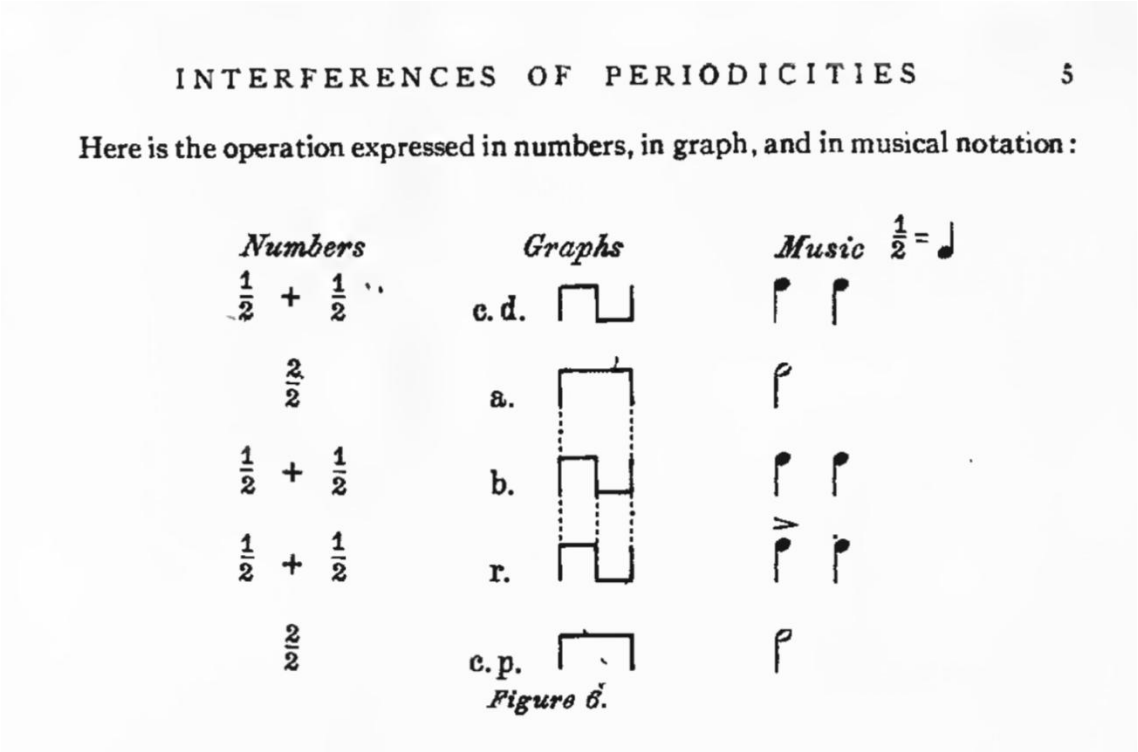
Figure 3: Reharmonization Dial



Source: Berklee (2025).

Schillinger's progressive erasure from historiography and from part of the academic circles of his day can be related, among other factors, to his statements to the press, in which he disparaged and mocked established composers and leading soloists of his era; to his disdain for academia, and its consequent rejection of him; to his use of unconventional analytical terminology; and to his adoption of graphic representations in place of traditional musical notation. The three columns of Figure 4 illustrate the correspondence Schillinger established between numerical relationships and their graphic representation as applied to musical notation. Placed at the beginning of the first volume of his method, *The Theory of Rhythm*, this figure introduces the foundations of his system. As the author incorporates other musical parameters — such as pitch, harmony, and counterpoint — the graphic representations become progressively more complex.

Figure 4: Interferences of Periodicities



Source: Schillinger (1946).

In addition, the widespread use of his System by arrangers and composers from Tin Pan Alley, radio, Broadway, and Hollywood — sectors associated with the commercial music market — likewise contributed to distancing him from academia. Already by the 1940s, Schillinger was frequently perceived as a dilettante, owing to his nonstandard notation and pseudoscientific approach, seen by his detractors as an affront to music's established traditions (Brodsky, 2003).

Several factors contributed to Schillinger's name being forgotten in the history of popular-music pedagogy; among them is the school's renaming from Schillinger House to Berklee, resulting from the trademark dispute brought by the composer's widow against Lawrence Berk. His compositional system may also have been regarded as cerebral, mechanical, and artificial, relying on mathematical formulas that displaced intuition and artistic inspiration (Brodsky, 2003).

In sum, as a composer, Joseph Schillinger stood out among the young musicians of the Soviet Union and left his country as the Stalinist regime intensified the repression of artistic freedom of expression in the late 1920s. On arriving in the United States, he became integrated into academic and musical circles, beginning a career as a teacher and lecturer. He became a sought-after instructor of harmony, composition, and arranging, drawing professional arrangers, composers, and bandleaders — particularly those working in radio, film industry, and those leading jazz orchestras. He subsequently concentrated his efforts on formulating theories and developing musico-scientific proposals.

Several of his proposals anticipated developments that would become established decades later. Among them are his participation in creating technologies related to the synthesizer, the electronic drum kit, the synchronization of sound and image in film, and kinetic art. Schillinger also anticipated the commodification of music on an industrial scale, conceiving of it as a product subject to the same dynamics of production and consumption as other goods in capitalist society. In his view, in the future, those responsible for music production for radio and television would cease to be composers and performers, becoming instead a new generation of engineers, tasked with operating machines capable of composing and performing music (Brodsky, 2003). This conception presupposes the emergence of a new profile of music director. It further anticipates aspects that today might be associated with computer music and, more recently, with AI-generated music. On the other hand, his prediction that the symphony orchestra would become obsolete, replaced by electronic instruments and transformed into an "electric symphonic" ensemble, did not come to pass. For Schillinger, his theoretical work carried greater relevance than his musical output. In his own words: "My theories are more important than my music, for no matter how good my music may or may not be, I am one of many composers. But my theories are original and unique" (Schillinger, 1976, p. 130).

In 1998, Frances Schillinger, Joseph's widow, established in her will, in order to perpetuate her husband's intellectual legacy, a financial endowment to fund a postdoctoral fellowship devoted to the study of his work. The award of the fellowship was made conditional on the researcher fulfilling three main objectives: (1) disseminating information about Joseph Schillinger in academic and professional circles, as well as to the general public; (2) conducting research on a topic conceived by Schillinger, drawn from his unpublished notebooks, with subsequent publication of the results in academic articles; and (3) laying the groundwork for a music-science laboratory devoted to studying the effects of music on human behavior in general and on the development of specific musical abilities, as described in his unpublished manuscript *The Institute for Musical Science*.

4. Functional Harmony as used in Popular Music

Functional harmony in popular music, as it is currently used and known, has as its greatest hub of dissemination — and, consequently, of attraction for musicians working in this field — Berklee College of Music, in Boston. Its influence can be observed internationally. In 2014, the college's student body included representatives from 103 countries, accounting for 31% of its 4,193 students (Berklee, 2014). Over the following ten years, enrollment increased by approximately 130%. In 2025, student numbers stood at: undergraduate, 7,499; graduate, 783 — for a total of 8,282 on-campus students — plus 1,790 exclusively online, bringing the approximate total to 10,000 students, of whom 25% are international students representing more than 100 countries. Brazil is among the three most represented countries, with approximately 300 to 350 students, including those enrolled on the Boston and Valencia campuses and in distance (online) learning (Berklee, 2025).

4.1 Functional Harmony at Berklee

The widespread dissemination of this method can be attributed to the absence of a theoretical framework specifically designed for popular music—unprecedented at the time of the institution's founding. Rather than following the broader and more theoretical orientation of treatises on Western art music, it adopted a pragmatic approach tailored to the needs of popular music.

The textbooks used at the college — *Harmony 1* through *3* (1987) — are authored by Barrie Nettles, and *Harmony 4* by Alex Ulanowsky. We note, however, that the 1982 edition of *Harmony 2* was authored by Ulanowsky and Michael Rendish and is very similar to Nettles's. It can thus be observed that the method created by Schillinger, and modified by Lawrence Berk, has undergone constant revision and adaptation. As seen above, this method of functional harmony oriented toward popular music takes traditional harmony as its theoretical point of reference. It also shares common ground with the functional harmony of Riemann and Schoenberg. Below, the principal characteristics of functional harmony as used in popular music are described, highlighting the aspects that distinguish it from traditional harmony. The principal differences are as follows:

Use of chord symbols — the alphanumeric chord symbols used today differ from those of the Baroque period (figured bass), which were based on intervallic relationships with the bass line. The chord symbol summarizes the chord and enables the musician who already knows this code to execute chord changes quickly. Another function is used by improvisers, for whom chord symbols serve as a harmonic map for instant creation.

Use of modes — modes are presented implicitly from the very beginning of the first textbook. Organized into tables, they provide melodic support for harmonic progressions. Schematically, the method indicates which mode offers the sonority (scale) appropriate to a given chord. The mode is therefore not to be understood as in traditional theory, but rather as the name of a scalar model applied to a chord or to a region, which may sequentially span more than one chord.

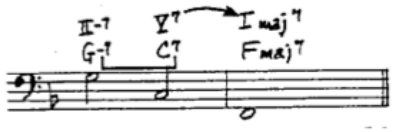
Chord symbols — each degree of any scale generates a triad/tetrad, which is in turn given a chord symbol, allowing functional analysis to be carried out. In "exotic" scales, the chords resulting from the stacking of thirds and their interrelation generate unusual sonorities.

Classification of notes above the octave as tensions — the 9th, 11th, and 13th are considered tensions (T), as are their alterations: b9, #9, #11, and b13.

II–7 V7 (Related II–Vs, Musical Example 1) — in the I–IV–V–I cadence, substituting the IV chord (subdominant) with the II–7 chord creates a stronger, fifth-based bass motion. The two-five cadence is therefore widely used in popular music.

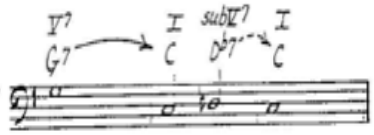
Bracket-and-arrow analysis system — II–7 V's are marked with brackets, and the perfect cadence (resolution by descending fifth) is marked with an arrow pointing

to the target chord, as shown in the examples below (SubV is marked with a dotted arrow):



Musical Example 1: II-7 V7 I (NETTLES,1987)

SubV takes a dotted arrow:

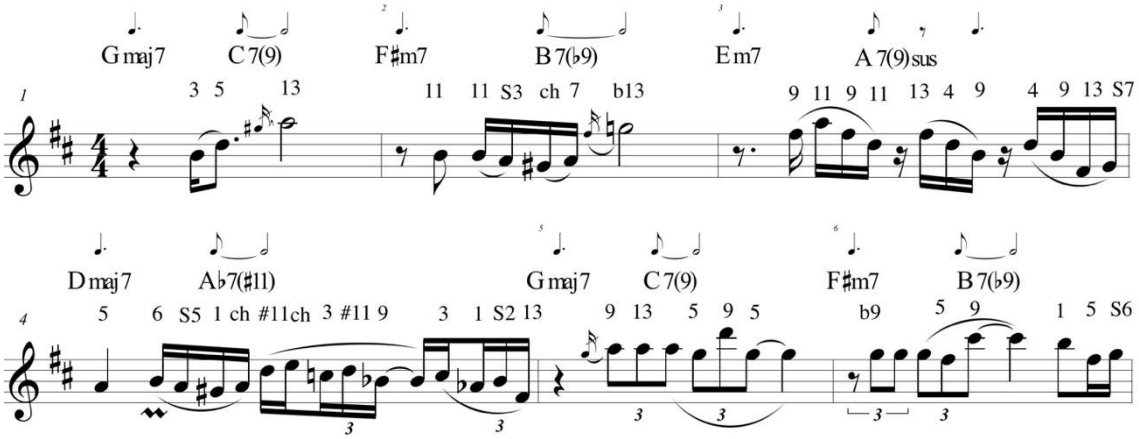


Musical Example 2: SubV7 (NETTLES,1987)

Contiguous II–Vs — these are II–Vs generally a half step or whole step above a diatonic II–V. They bear no relation to the original key, so roman numerals are unnecessary. This II–V is also marked with a bracket and treated as a case of "non-functional" analysis.

Melodic analysis — notes are classified according to their relationship to the chord in effect at that moment: S = scale note, T = Tension Note, CH = Chromatic approach. Melodic analysis is useful both for classifying the notes chosen by a soloist and for helping the arranger distribute voices among the instruments. Example of melodic analysis:

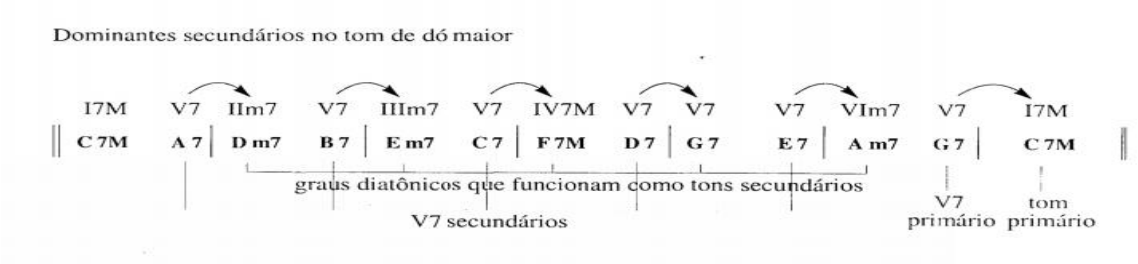
Musical Example 3: Melodic analysis of the improvisation on *Rua Genebra* (Nivaldo Ornelas), mm. 1–6.



Source: GANC (2017, p. 228)

Secondary dominants — they are dominants of a diatonic chord, exemplified below:

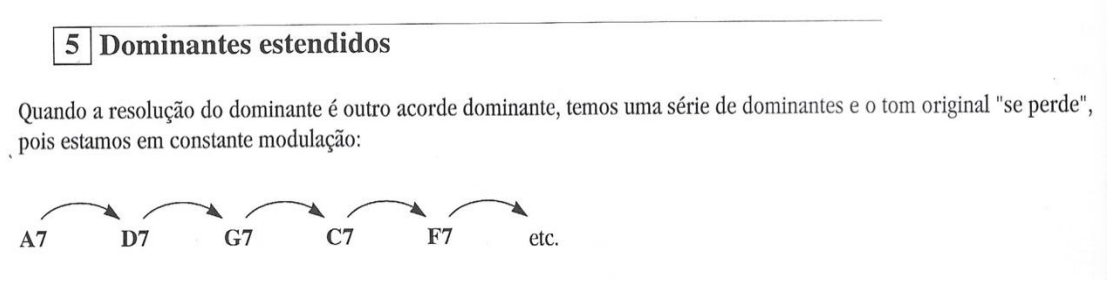
Figure 5: Secondary Dominants



Source: Guest (1996).

Extended dominants — usually found at the beginning of a phrase, these are dominants of the dominant and do not sound like secondary dominants. They may function as the "key of the moment."

Figure 6: Extended Dominants

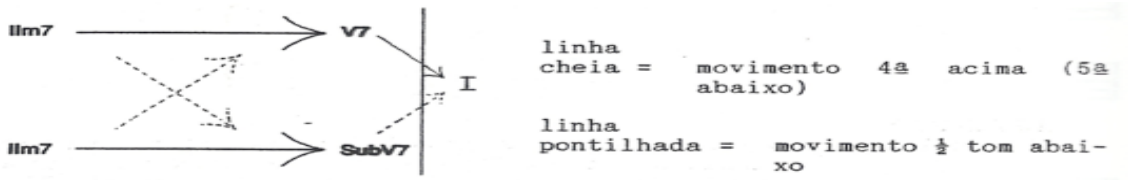


Source: Guest (1996).

SubV (Substitute dominant) (Musical Example 2) — also known as the tritone substitute. Sharing the tritone with the dominant, this chord performs the same function as the V7 and can replace it through a semitone resolution. For example: Db7 | C in place of G7 | C (see Musical Example 2).

Mixing II–Vs — the II–V7 and II–subV7 cadences can be combined and interchanged, creating greater harmonic richness and variation in progressions, as shown in Figure 7:

Figure 7: Mixing II Vs



Source: KUTNO (1987).

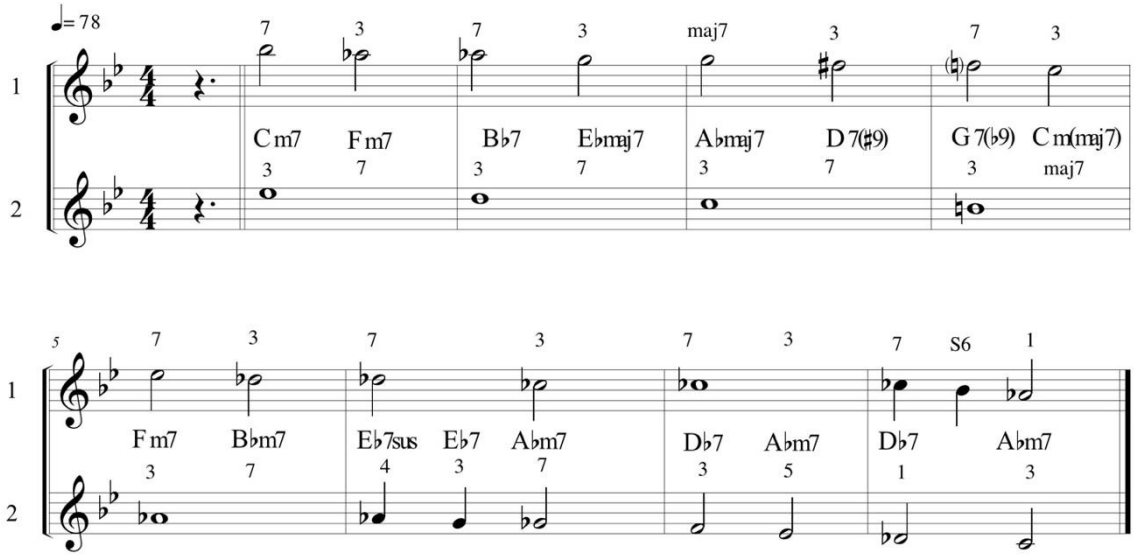
Dominant chords without dominant function — chords with a dominant-type structure that do not carry the dominant function (no fifth-based resolution). Widely used in the blues. For example: I7, IV7, bVII7, II7, and VII7.

Chord scale — each chord is assigned one, or in some cases more than one, appropriate scale. Schematically, these scales indicate which mode "sounds best" over a given chord and/or harmonic progression. This scale categorizes its notes as chord tones, tensions, and avoid notes.

Diatonic reharmonization — provides resources for reharmonization both for the rhythm-section accompanist and for the improvising soloist, as well as for the arranger's writing. For example, the basic categories are: Tonic — Imaj7, III–7, and VI–7; Subdominant — II–7 and IVmaj7; Dominant — V7 and VII–7(b5). Chords sharing the same function may be substituted for one another. Depending on the choices made, the reharmonization can become denser and more complex.

Guide Tone Lines — a descending melodic line made up of one, or at most two, notes per measure, using the most representative notes of the chords in the progression — that is, thirds and sevenths (with the occasional passing note). Its main function is to serve as a mental harmonic-linear support for the improviser. It is also useful in writing backgrounds[9] (BG) in arrangements. An example of guide tones follows (descending sevenths and thirds), beginning with the third in staff 1, and long notes that change function as the chord progresses, beginning with the seventh in staff 2.

Musical Example 4: Guide Tone Lines of *Certas Nuances* (Nivaldo Ornelas)



Source: GANC (2017, p. 220)

[9] Long notes — for example, written as whole notes and half notes.

Modal Interchange — the borrowing of diatonic chords from a parallel mode within the original key. For example, "in a major key, it is common to use one or more chords borrowed from the parallel minor key, and vice versa" (Guest, 1996, p. 33).

Modal Harmony — refers to harmony based on the modes, especially those not associated with the major-minor tonal system, such as Dorian, Phrygian, Lydian, and Mixolydian. Although the Ionian mode is related to the major mode and the Aeolian to the natural minor, the modal use of this material differs from tonal organization, since it does not necessarily depend on the functional relationships of dominant and tonic. Pereira explains what occurs in modal harmony:

> The absence of a dominant chord on the fifth degree of the modes eliminates the possibility of exploiting the cadential process; as a result, the tonic, subdominant, and dominant functions as we know them also cease to exist. Without the cadence, resolving tendencies likewise fail to arise, whether through the role of the tritone in the dominant function or through any chromatic tension occurring within chord progressions (Pereira, 2011, vol. 3, p. 10).

Hybrid structures — create harmonic instability with a result that may be dissonant or smooth, depending on the intervals chosen in the voicing. The resulting progressions produce ambiguous sonorities. They may be notated as polychords, for example: $\frac{\text{Gb}}{\text{C7}}$ (a Gb triad superimposed over a C7 tetrad).

This system constitutes an effective tool for voice distribution and voice leading in arranging. Associating chords with their functions, through functional analysis — rather than through their isolated recognition — facilitates the understanding of harmonic progressions and their transposition to different keys. In this way, functional harmony applied to popular music has become established as a pedagogical and analytical system widely used in musicians' training and professional practice. For example, rather than perceiving the chord succession Cmaj7 / Am7 / Dm7 / G7 as a series of isolated chords, the musician comes to understand this progression in terms of its respective harmonic functions — I / VIm7 / IIm7 / V7 — which makes it considerably easier to transpose the progression to any key. This approach benefits both the instrumentalist responsible for harmonic accompaniment and the improviser, since a functional understanding of progressions allows for a more immediate musical response in different tonal contexts. This principle illustrates Hugo Riemann's conception that harmonic function takes precedence over the isolated identity of the chord, adapted to the functional notation practiced at Berklee: scale-degree analysis.

5. Functional Harmony in Rio de Janeiro

Students who returned to their home countries contributed to the dissemination of the Berklee method; what occurred in Rio de Janeiro was replicated in other countries as well. Today, with the internationalization of music education, it is possible to study for one to two years at schools in certain countries that hold credit-transfer agreements with Berklee for theoretical coursework, such that these credits become valid once the student enrolls on the Boston campus. The countries

currently party to such agreements are: Latin America — Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, the Dominican Republic, and Puerto Rico; Europe — France, Spain, Ireland, and Greece; Asia — Israel, Japan, and South Korea (Berklee, 2026).

Ian Guest (1940–2022), a Hungarian who settled in Brazil in 1957, belonged to the first generation of "Brazilians" to study at Berklee and was a pioneer in disseminating this pedagogy in the country, founding CIGAM (Centro Ian Guest de Aperfeiçoamento Musical) in 1987. That same year, Isidoro Kutno (1956–), representing the second generation, founded[10] MUSIARTE, while Sergio Benevenuto[11] (1956–), belonging to the third generation linked to Berklee, launched RIOMÚSICA[12] in the late 1980s. These schools became established hubs for training successive generations of teachers in this method. Table 3 presents the instructors and institutions in Rio de Janeiro devoted to teaching functional harmony, along with the works they adopted and their respective years of publication.

Table 3: Instructors and institutions teaching functional harmony in Rio de Janeiro

Teacher	Institution	Book	Year
Almir Chediak	(Student of Guest) (private course)	*Dicionário de Acordes Cifrados* / *Harmonia e Improvisação I e II*	1984 / 2009
Isidoro Kutno	MUSIARTE (1987–2001)	Own course booklet – *Harmonia Funcional*, Modules 1–6	1987
Ian Guest	CIGAM (1987–)	*Harmonia Método Prático 1 e 2* / *Arranjo Método Prático 1, 2, 3*	1996
Vittor Santos	(Student of Guest) (private course)	own course booklet	2006
Marco Pereira	UFRJ	*Cadernos de Harmonia 1, 2, 3*	2011
Carlos Almada	UFRJ	*Harmonia Funcional*	2012
Sergio Benevenuto	RIOMÚSICA	*O Mapa dos Acordes*	2013
Fabio Adour	UFRJ	*Sobre Harmonia*	2014
Carlos Almada	UFRJ	*Funcionalidade Harmônica em Música Popular*	2025

Source: prepared by the author (2026).

It is noteworthy that Brazilian theoretical production published in book form is relatively recent, resulting largely from the didactic experience these instructors accumulated over approximately three decades. Within Berklee's pedagogical framework, jazz constituted the principal corpus of reference for the systematization of functional harmony, drawing extensively on material from the standards of American musicals and films from the 1920s onward. This methodology proved equally effective for analyzing the Brazilian popular music repertoire, particularly bossa nova. In this context, the work of Almir Chediak (1950–2003) stands out — a student of Ian Guest and guitar teacher to numerous MPB (Brazilian popular music)

[10] Together with José Staneck and Oren Perlin.
[11] Now based in the state of Espírito Santo.
[12] All the schools mentioned operate in a free-course (non-degree) format.

artists. Through his publishing house, Lumiar, he carried out an extensive mapping of this repertoire in leadsheet format, in the *Songbook* series. In total, 18 songbooks dedicated to major MPB composers were published, now incorporated into the catalogue of Editora Irmãos Vitale. Counting the multiple volumes devoted to a single composer, this number exceeds 40 titles. Reviewed by the composers themselves, these publications can be considered primary sources for the analysis of MPB. Additionally, works such as *Dicionário de Acordes Cifrados* and *Harmonia e Improvisação*, also by Chediak, reveal the influence of the Berklee model by adopting analytical conventions such as brackets to indicate the II–V cadence, arrows to represent the perfect cadence, and dotted arrows for the SubV, illustrated in Musical Examples 1 and 2 (p. 16).

Despite the success of this methodology, it has faced considerable criticism. The standardization of chord symbols has always been problematic and is unlikely ever to be fully unified. As a result, proposals for unifying chord notation periodically emerge, such as Chediak's and that of UFRJ professor Carlos Almada's book (2012). Among other proposals are attempts to "nationalize" certain suffixes — for example, maj7 (major 7) becomes C7M, add9 (the addition of the 9th without the 7th) becomes C9, and Cm(Maj7) becomes Cm7M. The Real Book[13], originally published without authorization, contributed to the international dissemination of jazz and of the American chord-symbol system, despite containing numerous harmonically imprecise chord symbols. Chediak's Songbooks and the five volumes of the Cancioneiro de Jobim (Jobim, 2000), written in traditional piano notation with added chord symbols, considerably raised the standard of Brazilian music publishing.

Rounding out the description of the works listed in Table 3, Almada's most recent work (2025) proposes a theoretical framework for functional harmony as applied to popular music. In the book's introduction, the author presents a survey analogous to Table 1 of this study (p. 4), tracing, in diachronic perspective, the historical trajectory of treatises within the Western art music tradition. The work seeks to fill a historiographical gap by offering a systematic treatise oriented toward popular music — a project already sketched by Schillinger in the 1940s — and, in the Brazilian context, by Adour (2014). Considering the set of publications listed in Table 3 (p. 21), it can be observed that, with the exception of Almada and Adour, prescriptive approaches predominate. The author maintains that "[…] the capacity for generalization should be one of the most important aspects of a theory" (Almada, 2025, p. 29), and thus distances himself from earlier models — often centered on jazz, in the case of American publications, and on bossa nova, MPB, choro, and samba, in Brazilian manuals — proposing instead an approach capable of more broadly encompassing different musical genres, potentially, in the author's view, even transcending tonality itself.

[13] The book is an anthology of jazz standards (including Jobim's bossas), originally issued in handwritten (manuscript) form and it established the leadsheet format. In the 1980s it was sold on Boston street corners as "contraband," since it circumvented the music-publishing market. Today it is published commercially.

5.1 Brazilian Authors' Commentary on the Berklee Harmony Method

With regard to the publications listed in Table 3, it can be observed that Kutno, Benevenuto, and Guest, along with his students Chediak and Santos, align with a pedagogical orientation of "Berklee-derived" matrix. By contrast, Adour's book presents a broader conceptual proposal regarding harmony. In examining the dichotomy between "popular" harmony and traditional harmony, the author argues that these are not "different harmonies," proposing instead "an in-depth discussion of the harmony of Western music" (Adour, 2008, p. 19). Among the criticisms Adour levels at the Berklee harmony method is the insufficient theoretical grounding of, for example, its tension tables, whose underlying rationale is not properly explained. We concur with this observation, since the absence of an explicit theoretical foundation for the tension tables can lead to a purely mechanical and prescriptive application, detached from a deeper understanding of the principles governing them. Other criticisms are more specific — for example, disagreement with the claim [by Berklee] that any chord containing the minor 6th of the chord carries a subdominant function (Adour, p. 161), and with the classification of the passing diminished chord in the second chord of the progression I / #Idim7 / IIm7, on the grounds that there is only passing motion in the bass, not in all voices (Adour, p. 197–198). Regarding the SubV, Almada (2012) views the Berklee perspective as a departure of functional harmony from traditional harmony. For him, the SubV7 is a simplification of the "official" process of traditional harmony, which he considers an "augmented sixth chord." Pereira, in turn, views the SubV as a dominant chord with the root omitted and with the fifth altered (b5) in the bass, or as an altered dominant in second inversion. Pereira (2011) refers to tensions as "harmonic complements," since they do not interfere with the function of the chords, regarding them as "harmonic ornaments" applied over tetrads, lending them complexity and sophistication (Pereira, 2011, p. 33–34). Regarding the notation of X7, in the American system the seventh is already assumed to be a minor seventh. Benevenuto draws attention to and clarifies this conflict of terminology. According to the author, in intervallic terminology b7 denotes the minor seventh and 7 the major seventh, which can cause confusion, since "historical convention in chord-symbol notation has established that a 7 denotes a **minor seventh**" (Benevenuto, 2013, p. 28, emphasis in original). Hence the need to specify the major seventh explicitly, in its variant forms: Maj7, 7M, or 7+.

In his book, Almada emphasizes the need for stylistic awareness in the application of functional harmony. Since this approach was originally developed within the context of jazz, musicians should avoid harmonic practices that may be stylistically inappropriate when applied to Brazilian musical genres, thereby preserving their characteristic idioms. One of the most common examples of such stylistic inconsistency is the excessive use of seventh chords, tensions in triads, and reharmonizations which can distort the distinctive sonority of a given genre.

As for the long-standing problem of standardizing chord symbols, the success of the various existing proposals depends on a large number of interrelated

conditions. On this issue, the authors cited acknowledge that the music market will regulate itself only over the very long term.

Conclusions

The trajectory investigated throughout this study reveals that functional harmony as applied to popular music does not represent a rupture with the Western theoretical tradition, but rather the continuation of a historical process rooted in the Renaissance contrapuntal tradition, passing through Hugo Riemann's functional formulation and its developments over the course of the twentieth century. In the field of popular music, this trajectory culminates in the pragmatic approach disseminated by Berklee College of Music. Within this context, Joseph Schillinger emerges as a paradoxical figure: at once central and marginalized.

The research has shown that Schillinger, despite having been progressively erased from Berklee's institutional narrative and from the historiography of music education, exerted a decisive influence on the formulation of the pedagogical model that would go on to become a worldwide reference in popular-music education. His mathematical and interdisciplinary approach, although criticized by his contemporaries as mechanical or pseudoscientific, anticipated analytical and compositional procedures that, in residual form, remain embedded in the institution's contemporary curriculum — even if often disconnected from their authorship. Lawrence Berk's adaptation, in transposing the principles of the *Schillinger System* to the context of jazz and commercial music, not only enabled the structuring of a theoretical corpus but also laid the foundations of a pedagogical system capable of meeting the demands of a music market undergoing constant transformation and growth.

The analysis of the specific characteristics of functional harmony as used in popular music — such as the use of chord symbols, the classification of tensions, the systematization of modes, harmonic substitutions, and reharmonization procedures — demonstrates that this system constitutes an effective analytical and creative tool. A functional understanding of harmonic progressions, rather than the isolated recognition of chords, equips the musician to transpose with dexterity, reinterpret, and create fluently across different tonal and stylistic contexts.

It is concluded that demand for this kind of learning remains in continuous expansion. Functional harmony, in its popular-music-oriented strand, serves an eminently practical purpose for composition, analysis, arranging, performance, and improvisation. Once its foundations are mastered, the musician becomes capable of performing functional analysis in real time, even when faced with unfamiliar repertoire, recognizing the function of chords and harmonic progressions during performance. Understanding the functionality of harmonic progressions through this immediate analysis guides the performer in selecting the most appropriate harmonic fields and contributes to the development of improvisational fluency.

Thus, more than a system of rules or a set of technical prescriptions, functional harmony as applied to popular music reveals itself as a field of knowledge

in continuous evolution, in which tradition and innovation, intuition and systematization, are interwoven. Its permanence and expansion, together with the growing demand for its instruction and the diversity of contexts in which it is employed, attest to its vitality and its capacity to meet the educational needs of the contemporary musician.

References

ADOUR, Fabio. *Sobre Harmonia – Uma Proposta de Perfil Conceitual*. Rio de Janeiro: Vermelho Marinho, 2014.

ALMADA, Carlos. *Harmonia Funcional*. Campinas: Editora Unicamp, 2012.

ALMADA, Carlos. *Funcionalidade Harmônica em Música Popular*. Campinas: Editora Unicamp, 2025.

ARDEN, Jeremy. *Focussing the Musical Imagination: Exploring in Composition the Ideas and Techniques of Joseph Schillinger*. Unpublished Ph.D. dissertation, Department of Music, City University, London, 1996.

BENEVENUTO, Sergio. *O Mapa dos Acordes*. Rio de Janeiro: Editório, 2013.

BRODSKY, Warren. Joseph Schillinger (1895–1943): Music Science Promethean. *American Music*, vol. 21, no. 1 (Spring 2003), pp. 45–73. University of Illinois Press, USA.

CHEDIAK, Almir. *Dicionário de Acordes Cifrados: harmonia aplicada à música popular*. São Paulo: Irmãos Vitale, 1984.

CHEDIAK, Almir. *Harmonia e Improvisação I: 70 músicas harmonizadas e analisadas, violão, guitarra, baixo, teclado*. São Paulo: Irmãos Vitale, 2009.

COSTA, Mark. *A Forgotten Pedagogy: The Schillinger System of Music Composition Through the Teachings of Richard Benda*. Master's thesis (Music). Sydney Conservatorium of Music, University of Sydney, Australia, 2010.

DITULLIO, Phillip. Joseph Schillinger: Resurrecting a Musical Visionary. *Contemporary Music Review*, 30(2), pp. 187–190, 2011. https://doi.org/10.1080/07494467.2011.636205

FUX, Johann Joseph. *The Study of Counterpoint from Gradus ad Parnassum*. Transl. and ed. Alfred Mann; Brazilian Portuguese transl. Jamary Oliveira. 3rd ed. New York; London: W. W. Norton, 1971.

GANC, David. *Improvisação e interpretação na obra autoral de Nivaldo Ornelas*. Ph.D. dissertation (Music). Graduate Program in Music, Universidade Federal do Estado do Rio de Janeiro, Rio de Janeiro, 2017.

GUEST, Ian. *Arranjo*, vols. 1, 2 & 3. Rio de Janeiro: Lumiar Editora, 1996.

GUEST, Ian. *Harmonia Método Prático*, vols. 1 e 2. Rio de Janeiro: Lumiar Editora, 1996.

HINDEMITH, Paul. *The Craft of Musical Composition*, Book I: Theoretical Part. UK: Associated Music Publishers, 1945.

HINDEMITH, Paul. *Curso Condensado de Harmonia Tradicional* (transl. Souza Lima). Brazil: Irmãos Vitale, 1949.

JOBIM, Paulo (coord.). *Cancioneiro Jobim*. Piano arrangements / coordinated by Paulo Jobim et al. Rio de Janeiro: Jobim Music / Casa da Palavra, 2000.

KOELLREUTTER, Hans-Joachim. *Harmonia Funcional – Introdução à teoria das funções harmônicas*. São Paulo: Ricordi Brasileira S.A., 1986.

KUTNO, Isidoro. *Harmonia Funcional*, Modules 1–6. Rio de Janeiro: Musiarte, 1987.

NETTLES, Barrie. *Harmony 1, 2 & 3*. Boston, Massachusetts, USA: Berklee Press Publications, 1987.

PALISCA, Claude V. Introduction. In: ZARLINO, Gioseffo. *The Art of Counterpoint*. Transl. Guy A. Marco and Claude V. Palisca. New Haven; London: Yale University Press, 1968.

PEREIRA, Marcos. *Cadernos de Harmonia 1, 2 & 3*. Rio de Janeiro: Garbolights Produções Artísticas, 2011.

PISTON, Walter. *Harmony*. UK: W. W. Norton & Co., Incorporated, 1941.

QUIST, Ned. Toward a Reconstruction of the Legacy of Joseph Schillinger. *Notes*, vol. 58, no. 4, pp. 765–786. Project MUSE, 2002. https://dx.doi.org/10.1353/not.2002.0092

RIEMANN, Hugo. *Harmony Simplified or The Theory of Tonal Functions of Chords*. London, UK: Augener's Edition, 1895.

SASLAW, Janna. Weber, (Jacob) Gottfried. In: SADIE, Stanley (ed.). *The New Grove Dictionary of Music and Musicians*. 2nd ed. Oxford: Oxford University Press, 2007.

SCHILLINGER, Frances. *Joseph Schillinger: A Memoir*. New York: Da Capo Press, 1976.

SCHILLINGER, Joseph. *The Schillinger System of Musical Composition*. New York: Carl Fischer, 1946.

SCHOENBERG, Arnold. *Harmonia* [*Harmonielehre*]. Transl. Marden Maluf. São Paulo: Editora UNESP, 2011.

SCHOENBERG, Arnold. *Structural Functions of Harmony*. New York, USA: W. W. Norton & Company, Inc., 1954/1969.

ULANOWSKY, Alex. *Harmony 4*. Boston, Massachusetts, USA: Berklee Press Publications, 1988.

WHITE, Harry. Fux, Johann Joseph. In: SADIE, Stanley (ed.). *The New Grove Dictionary of Music and Musicians*. 2nd ed. Oxford: Oxford University Press, 2007.

ZARLINO, Gioseffo. *The Art of Counterpoint*, part three of *Le Institutioni Harmoniche* (orig. 1558). Transl. Guy A. Marco and Claude V. Palisca. New Haven and London: Yale University Press, 1968.

Websites consulted

ARDEN, Jeremy. Available at: https://www.jeremyarden.com/theschillingerschoolofmusic. Accessed 4 Apr. 2026.

BERKLEE. *The Schillinger/Berklee Connection*. Available at: www.berklee.edu/bt/122/connection.html. Accessed 23 Nov. 2014.

BERKLEE. *Factbook*. Available at: https://www.berklee.edu/sites/default/files/2026-02/2025-2026%20Berklee%20Factbook_2.pdf?fv=sog01h7H, 2026. Accessed 29 Mar. 2026.

BERKLEE. *Reharmonization Dial*. Available at: https://archives.berklee.edu/digital-exhibits/reharmonization-dial/interactive, 2025. Accessed 30 Mar. 2026.

NEW YORK TIMES. Schillinger dead; composer, teacher, 24 Mar. 1943. Available at: https://archives.berklee.edu/_flysystem/fedora/2022-11/127_originalFile.pdf. Accessed 30 Mar. 2026.

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