

THE INFLUENCE OF SCIENTIFIC RESEARCH ON NINETEENTH-CENTURY MUSICAL THOUGHT: THE WORK OF RICHARD WALLASCHEK

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Abstract — Résumé

The scientific study of music blossomed in the second half of the nineteenth century, particularly in Germany and Austria. Researchers such as Hermann von Helmholtz and Carl Stumpf investigated the physiological and psychological bases of music but did not focus on higher-level musical topics. It was not until the early twentieth century that scientific methods were applied to the study of large-scale musical issues, such as musical style or compositional techniques. However, one late nineteenth-century scholar, Richard Wallaschek, addressed musical issues from a scientific perspective. Wallaschek used empirical methods to develop two theories, one of music perception and one of music expression. He used his theory of music perception to characterize musical style, an issue of importance to the new discipline of musicology. He argued that Classical style music requires a process of mental representation that

focuses on individual musical elements while Romantic style music requires a mental representation that focuses on the holistic, global structure of music. Wallaschek's theory of music expression helped formulate his criticisms of programme music. He argued that music is an expression of emotion while a programme is an expression of intellectual thought. In Wallaschek's view, emotional and intellectual expression are separate brain processes that cannot be combined; therefore, it is impossible to perceive both music and programme at the same time. Wallaschek's focus on higher-level musical issues made him unique among scholars who used scientific methods to study music in the late nineteenth century.

Key words: Wallaschek; Music perception; Neurology; Aphasia; Mental representation; Tonvorstellung; Musikvorstellung; Musical style; Programme music

Introduction

The scientific study of music blossomed in the second half of the nineteenth century, particularly in Germany and Austria. The application of scientific methods to areas other than the natural sciences, such as music, was part of a new positivist outlook, a reaction against metaphysical, speculative or inferential thinking, particularly in German philosophy and aesthetics.¹ Music research focused primarily on the physiological, psychological and neurological bases of individual musical elements (e.g., pitch, intervals, chords) as opposed to higher-level musical issues that are part of the practice of music (e.g., musical style or compositional technique).

It was not until the early twentieth century that researchers made the leap from studying the perception of individual musical elements to studying higher-level musical issues. However, Richard Wallaschek, an Austrian ethnomusicologist and music psychologist, used his background in science—specifically neurology and psychology—to shape his investigations of higher-level musical issues in the late nineteenth century. He applied his theories of music perception and production to explain uniquely musical issues such as musical style and programme music, and in so doing forged a direct link between music and science. The aim of this paper is to discuss how Wallaschek's focus on the scientific study of music influenced his ideas about musical practice.

Nineteenth-Century Scientific Research in Music

Although the scientific study of music might appear to be something of a contradiction, the connection between music and science can be traced to Antiquity. The use of scientific methods to investigate music became prevalent in the late nineteenth century. Researchers relied on contemporary scientific methods, which were generally empirical and included observations made directly through the senses, or indirectly through scientific instruments or another's direct observation. In addition, the field of psychology used the method of introspection, which involves direct observation of one's own mental state.

Late nineteenth-century scientists approached the study of music from three primary scientific disciplines: physiology, psychology, and neurology. The physiological approach was spearheaded in the 1860s by Hermann von Helmholtz, who investigated the anatomy and physiology of the auditory system.² Helmholtz used

¹ Bojan BUJIĆ, *Music in European Thought 1851-1912* (Cambridge, 1988); Duane P. SCHULTZ & Sydney Ellen SCHULTZ, *A History of Modern Psychology* (7th edn, Belmont, CA, 2000); W. M. SIMON, *European Positivism in the Nineteenth Century* (Ithaca, New York, 1963).

² Hermann von HELMHOLTZ, *Die Lehre von den Tonempfindungen* (Braunschweig, 1863); H. von HELMHOLTZ, *On the Sensation of Tone*, translator Alexander Ellis (New York, 1954).

individual musical elements such as pitch, intervals and chords to study auditory processing. Although he discussed higher-level musical concepts (e.g., modes and keys) and mentioned psychological processing for music (requiring higher-level cognition than the perception of individual elements), Helmholtz clearly focused on the physiological aspects of perceiving individual musical elements. He was unique in that he relied heavily on music to study the auditory system. Starting in the 1880s, Carl Stumpf, and later Theodor Lipps, focused on psychological mechanisms for representing individual musical elements (e.g., pitch, intervals).³ Stumpf is considered the founder of the psychological approach to music since he focused on mental representation, a higher level of processing than that used by the basic auditory system. The scientific study of music was also explored by nineteenth-century neurologists who described music abilities in patients with aphasia, an acquired impairment in language after brain damage. In the late nineteenth century early neurologists such as Hermann Oppenheim and August Knoblauch made detailed observations of patients while exploring the relationship between music and language.⁴ The work of these physiologists, psychologists and neurologists, however, did not focus on complex, higher-level musical issues.

In the late nineteenth century the study of complex musical issues was the province of the new field of musicology. Musicologists such as Guido Adler were influenced by the positivist, scientific environment in Germany and Austria and embraced scientific methods. Starting in the 1860s, the term *Musikwissenschaft* (musical science) took hold as a designation for the developing field of musicology. In the 1880s Adler codified *Musikwissenschaft*, subdividing it into two areas of study: historical—which included music history, paleography, instruments; and systematic—which included music theory, music psychology, aesthetics, and comparative musicology.⁵ Adler and others⁶ argued that musicology should embrace scientific methods, including the systematic organization of knowledge, the use of objective criteria when evaluating data and the dissemination of research to a community of specialists. This approach was appropriate for historical research and particularly relevant for areas within systematic musicology,

³ Carl STUMPF, *Tonpsychologie*, 1 (Leipzig, 1883); Theodor LIPPS, Das Wesen der musikalischen Konsonanz und Dissonanz, *Psychologisches Studien* (Leipzig, 1905), 115-230; Th. LIPPS, The nature of musical consonance and dissonance, *Psychological Studies*, translator Herbert C. Sanborn (Baltimore, 1926), 138-265; Th. LIPPS, *Consonance and dissonance in music*, translator William Thomson (San Marino, California, 1995).

⁴ August KNOBLAUCH, Über Störungen der musikalischen Leistungsfähigkeit infolge von Gehirnläsionen, *Deutsches Archiv für Klinische Medizin*, 43(1888), 331-52; Hermann OPPENHEIM, Über das Verhalten der musikalischen Ausdrucksbewegungen und des musikalischen Verständnisses bei Aphatischen, *Charité-Annalen*, 13 (1888), 345-383; Solomon Eberhard HENSCHEN, Über Amusie, *Klinische und anatomische Beiträge zur Pathologie des Gehirns* (Stockholm, 1920), 5, 137-78.

⁵ Guido ADLER, Umfang, Methode und Ziel der Musikwissenschaft, *Vierteljahrsschrift für Musikwissenschaft*, 1 (1885), 5-20.

⁶ Friedrich CHRYSANDER, Introduction to *Jahrbücher für Musikalische Wissenschaft* 1, (1863), 9-16.

which relied upon empirical research methods (e.g., direct observation) rather than historical methods.⁷

Many nineteenth-century scientists who studied music, particularly those taking a psychological approach, are considered to be among the first musicologists (e.g., Carl Stumpf). However, it was not until the early twentieth century that researchers began to study how the perception of individual musical elements (e.g., pitch, intervals, chords) fit together to facilitate perceptions of entire musical compositions. The study of more complex musical concepts stimulated the study of more complex psychological processing of music, higher-level cognition than that required for the understanding of individual elements. This bringing together of musical science with musical practice can be seen in the work of Hugo Riemann and Ernst Kurth, circa 1913-1914. Riemann used the term *Tonvorstellung* (mental representation for tones) and both he and Kurth discussed higher-level mental processing of music within musical contexts as opposed to lower-level perception of musical elements (e.g., pitch) independent of a musical context.⁸

An interest in the mental representation of complex music can be seen approximately a decade before Riemann and Kurth. The term *Tonvorstellung* was used by Christian von Ehrenfels in 1890,⁹ as an example of his general idea of Gestalt qualities (rather than as part of a discussion about music per se). However, it is the little-known work of Richard Wallaschek, starting in 1891,¹⁰ that seems to be the first to use the term *Vorstellung* (mental representation, conception, idea, etc.) in a discussion that specifically focused on mental representation for music. Wallaschek created a direct link between the psychological, neurological and musicological study of music by exploring lower-level psychological processing of individual musical elements, higher-level psychological processing of complex musical issues, as well as impairments in musical ability after brain damage. Wallaschek's work exemplifies the interdisciplinary nature of research in musical science in the late nineteenth century.

⁷ Walter GRAF, *Die vergleichende Musikwissenschaft an der Universität Wien*, *Mitteilungen der Anthropologischen Gesellschaft in Wien*, 95 (1965), 155-61.

⁸ Ernst KURTH, *Die Voraussetzungen der theoretischen Harmonik* (Bern, 1913), annotated translation by Lee Rothfarb (University of Hartford, 1979); Hugo RIEMANN, *Ideen zu einer 'Lehre von den Tonvorstellungen'*, *Jahrbuch der Musikbibliothek Peters*, 21-22 (1914-15), 1-26; Robert W. WASON & Elizabeth West MARVIN, *Riemann's Ideen zu einer 'Lehre von den Tonvorstellungen': An Annotated Translation*, *Journal of Music Theory*, 36 (1992), 69-79.

⁹ Christian von EHRENFELS, *Über Gestaltqualitäten*, *Vierteljahrsschrift für Wissenschaftliche Philosophie*, 14 (1890), 249-92.

¹⁰ For example, Richard WALLASCHEK, *Über die Bedeutung der Aphasie für den musikalischen Ausdruck*, *Vierteljahrsschrift für Musikwissenschaft*, 7 (1891), 53-73; R. WALLASCHEK, *Die Bedeutung der Aphasie für die Musikvorstellung*, *Zeitschrift für Psychologie und Physiologie der Sinnesorganie*, 6 (1894), 8-32; R. WALLASCHEK, *How we think of Tones and Music*, *The Contemporary Review*, 66 (1894), 259-68; R. WALLASCHEK, *On the difference of time and rhythm in music*, *Mind, New Series*, 4 (1895), 28-35.

Wallaschek's Background and Empirical Approach

Wallaschek (1860-1917) is best known for his contributions to comparative musicology¹¹ and, to a lesser extent, music psychology.¹² However, he was also a noted Viennese music critic¹³ addressing practical musical issues and aesthetics for the journal *Die Zeit* between 1896 and 1909. His background was an unusual combination of philosophy and aesthetics (doctorate, University of Tübingen, 1885), law (doctorate, University of Bern, 1886), psychology, and ethnology. He habilitated in philosophy of law (University of Freiburg, 1888), spent five years in London doing interdisciplinary research at the British Museum (1890-1895), and later habilitated in the psychology of music with Ernst Mach in Vienna (University of Vienna, 1896). After completing his studies, he taught aesthetics and psychology of music at the University of Vienna from 1896 until his death in 1917. Wallaschek's habilitation and subsequent appointment at the University of Vienna are considered the formal beginning of comparative musicology as an academic discipline.¹⁴

Although there is some controversy over his reliance on empirical methods,¹⁵ Wallaschek's work is commonly acknowledged as positivistic, empirical and scientific in nature.¹⁶ He had ample opportunity to be influenced by positivistic thinking, for he interacted with Herbert Spencer and Ernst Mach, both of whom are considered positivistic in their outlook.¹⁷ While in London, Wallaschek interacted

¹¹ Anthony SEEGER, *Styles of Musical Ethnography*, *Comparative Musicology and Anthropology of Music*, ed. Bruno Nettl & Philip V. Bohlman (Chicago, 1991), 342-55; Ruth SOLIE, *The Nineteenth Century*, *Source Readings in Music History*, ed. Oliver Strunk & Leo Treitler (New York, 1998), 1045-51, 1262.

¹² Amy GRAZIANO & Julene JOHNSON, *Richard Wallaschek's Nineteenth-Century Contributions to the Psychology of Music*, *Music Perception*, in press.

¹³ Sandra McCOLL, *Positivism in Late Nineteenth-Century Thought about Music: The Case of Richard Wallaschek*, *Studies in Music [Australia]*, 26 (1992), 34-47; S. McCOLL, *Music Criticism in Vienna 1896-1897: Critically Moving Forms* (Oxford, 1996); S. McCOLL, *Richard Wallaschek: Vienna's most uncomfortable music critic*, *International Review of the Aesthetics and Sociology of Music*, 29 (1998), 41-73.

¹⁴ W. GRAF, *Die Vergleichende Musikwissenschaft an der Universität Wien*; W. GRAF, *Die vergleichende Musikwissenschaft in Österreich seit 1896*, *Yearbook of the International Folk Music Council*, 6 (1974), 15-43; Werner Friedrich KÜMMEL, *Musik und Musikgeschichte in biologistischer Interpretation*, *Biologismus im 19. Jahrhundert* (1973), 108-146.

¹⁵ Alexander REHDING, *The Quest for the Origins of Music in Germany Circa 1900*, *Journal of the American Musicological Society*, 53:2 (2000), 345-452; Michael WEBER, *Empiricism, Gestalt Qualities, and Determination of Style: Some remarks concerning the relationship of Guido Adler to Richard Wallaschek*, *Alexius Meinong, Christian von Ehrenfels, and Robert Lach*, *Music, Gestalt and Computing: Studies in Cognitive and Systematic Musicology*, ed. Marc Leman (Berlin, 1997), 42-56.

¹⁶ W. GRAF, *Die Vergleichende Musikwissenschaft an der Universität Wien*; J. A. FULLER MAITLAND, David CHARLTON & Suzanne M. LODATO, *Wallaschek, Richard*, *The New Grove Dictionary of Music and Musicians* (London, 2001), 27, 37-8; S. McCOLL, *Positivism in Late Nineteenth-Century*; Erich Wolfgang PARTSCH, *Von der Historie zur Empire: Richard Wallascheks Entwurf einer reformierten Musikwissenschaft*, *Studien zur Musikwissenschaft*, 36 (1985), 87-108; Albert WELLECK, *Wallaschek, Richard*, *Die Musik in Geschichte und Gegenwart* (Basel, 1968), 14, 167-8.

¹⁷ Leszek KOLAKOWSKI, *The Alienation of Reason: A History of Positivist Thought* (Garden City, New York, 1968); W. M. SIMON, *European Positivism*.

with Spencer in a discussion about the origins of music in the psychology and philosophy journal, *Mind*.¹⁸ After returning to Austria, Wallaschek habilitated with Mach at the University of Vienna.

Wallaschek engaged in conventional nineteenth-century scientific, empirical investigations. He made observations of musicians and non-musicians in performance and listening contexts, collected others' observations about music perception, including published neurological case studies, and used introspection to analyze how he himself perceived music. In the 1890s Wallaschek developed two theories of music psychology, one of which involved music perception, the other music expression. Prior to Riemann and Kurth, Wallaschek was thinking about the mental processing of entire pieces of music. He drew on his background in psychology and neurology and used empirical methods to develop ideas about two complex musical issues of interest to musicologists: musical style and programme music. He published papers on these topics in the early 1890s, while his contemporaries in musical science were primarily considering physiological, lower-level psychological, and neurological aspects of music, without reference to complex, practical music.¹⁹ The following sections discuss how Wallaschek applied his psychological theories of music perception and music expression to the study of musical style and programme music.

Musical Style

Discussion about the nature of Romantic musical style and its relationship with Classical style was widespread throughout the nineteenth century. Defining Romanticism as a separate style succeeding the 'Classical' period became a view popular after circa 1840.²⁰ Toward the end of the nineteenth century, Guido Adler,²¹ in his formulation of historical musicology, identified the development of musical styles as an issue of primary concern to the new discipline. Adler classified music history into style periods, clearly separating Classical from Romantic, and identified the Romantic style as beginning with the post-Beethoven generation.

¹⁸ Herbert SPENCER, *The Origin of Music*, *Mind*, 15 (1890), 449-68; H. SPENCER, *On the Origin of Music*, *Mind*, 16 (1891), 535-7; R. WALLASCHEK, *On the Origin of Music*, *Mind*, 16 (1891), 375-88.

¹⁹ For a detailed exploration of Wallaschek's two theories of music psychology and how they fit within the context of *Tonpsychologie* and *Musikpsychologie* in nineteenth-century German scholarship, please see: A. GRAZIANO & J. JOHNSON, *Richard Wallaschek's Nineteenth-Century Contributions to the Psychology of Music*, *Music Perception*, in press.

²⁰ Jim SAMSON, *The Musical Work and Nineteenth-Century History*, *The Cambridge History of Nineteenth-Century Music*, ed. J. Samson (Cambridge, 2002), 3-28; J. SAMSON, *Romanticism*, *Grove Music Online*, ed. L. Macy (4-29-2005), <http://www.grovemusic.com>; Daniel HEARTZ & Bruce Alan BROWN, *Classical*, *Grove Music Online*, ed. L. Macy (4-29-2005), <http://www.grovemusic.com>

²¹ G. ADLER, *Umfang, Methode*.

Wallaschek, Adler's contemporary at the University of Vienna after 1898, also adhered to this view. He described the music of Berlioz, Liszt, Wagner, Mahler and Richard Strauss as 'modern Romantic music',²² contrasting it with that of Schumann and Mendelssohn, which he viewed as Romantic, but not modern.²³ Wallaschek classified Mozart, Haydn and Beethoven as Classical, while Bach and Handel were labeled 'pre-Classical'. In his 1886 book on aesthetics,²⁴ Wallaschek discussed the issue of form versus content, an issue that many of his contemporaries also discussed.²⁵ For Wallaschek, Classical music emphasized both form and content, as one organic whole, as opposed to 'modern Romantic' music, which emphasized content at the expense of form. Wallaschek believed the Romantic contempt for form made it difficult for composers to communicate ideas through music—something Romantic composers strove to accomplish.

Wallaschek was unique among those who discussed style because he used his theory of music perception to characterize Classical and Romantic musical styles and to discuss the phenomenon of style change. In addition to discussing musical style traits (such as form) and broader aesthetic issues (the expressive nature of music, communication of ideas), he also focused on the mental representation of music, describing musical style in psychological terms. Through observations of musicians and non-musicians he noticed that some people appreciate an artistic performance, even if mistakes are made, while others only notice individual pitches, chords and other musical elements without comprehending the whole.²⁶

These observations led him to his theory of music perception. According to Wallaschek, the perception of music takes place on two levels: *Tonvorstellung* (tone representation) and *Musikvorstellung* (music representation). He defined *Tonvorstellung* as the processing of individual musical elements, such as pitch, intervals, chords, harmonic progressions, modulations, etc. A person using this level of music representation is able to hear and understand these musical elements.²⁷ In contrast, he defined *Musikvorstellung* as the perception of holistic, higher-level musical structure created by a combination of individual tones, intervals and chords, and which also includes rhythm, timing, dynamics and the more 'expressive powers' of music. Even if mistakes are made with individual tones or chords, the *Musikvorstellung* process allows the global structure to be perceived and a piece of music will still be understood.

Wallaschek was interested in the question 'which of these representations has the most significance for the musical mind',²⁸ understanding the whole or under-

²² R. WALLASCHEK, *How we think of Tones*.

²³ R. WALLASCHEK, *Ästhetik der Tonkunst* (Stuttgart, 1886).

²⁴ R. WALLASCHEK, *Ästhetik*, 282-9.

²⁵ S. McCOLL, *Positivism in Late Nineteenth-Century*.

²⁶ R. WALLASCHEK, *How we think of Tones*; R. WALLASCHEK, *Die Bedeutung der Aphasie für die Musikvorstellung*.

²⁷ R. WALLASCHEK, *How we think of Tones*.

²⁸ R. WALLASCHEK, *How we think of Tones*, 266.

standing individual parts? He answered that the significance will vary according to both the composer's and the listener's dominant type of mental representation for music. Some people will primarily use the Musikvorstellung process, while others will use the Tonvorstellung process. According to Wallaschek, a person's mental organization is provided by 'Nature' and the ability to perceive the whole rather than 'a clever, skillful tone-combination' is a 'divine gift.'²⁹ This implies that those not born with the ability to perceive music holistically will be unable to learn, unable to develop the Musikvorstellung process. Wallaschek believed that Musikvorstellung was a process superior to Tonvorstellung. For example, in his book, *Psychologische Aesthetik*, published posthumously in 1930,³⁰ Wallaschek argued that listeners who only pay attention to individual musical elements at the expense of the whole picture are using an inferior type of mental representation.

Wallaschek tied the differentiation of mental processes for music to style change in music history. He argued that music representation (Musikvorstellung) is more important than tone representation (Tonvorstellung) for understanding 'Modern Romantic music' because Romantic music is intended to be perceived holistically, as more than a combination of individual musical elements. He stated that in Romantic music the emphasis is on the main points and many of the details may be ignored. Wallaschek heard an account of the world premier of Wagner's *Lohengrin* in Vienna. The double bass players made many mistakes and expected a reprimand from Wagner. But Wagner thought 'as long as only the general effect were produced, a few tones more or less would not make any difference'.³¹ The important point, Wallaschek said, is to communicate the larger effect, which is not dependent on each individual tone. In this case, Musikvorstellung is the dominant mental process at play, both for the composer and for listeners.

In contrast, Classical composers, such as Mozart, took more care with single tones and chords than Romantic composers, and therefore tone representation (Tonvorstellung) is more important to Classical style music. In contrast to Wagner's, Mozart's music would suffer if some tones or chords are misplayed. Wallaschek demonstrated this by making a general comparison between Mozart's *Don Juan* (*Don Giovanni*) and Wagner's Ring cycle. In Mozart's case, and that of listeners who prefer Mozart's music, the 'psychological attitude' is that of Tonvorstellung, as opposed to Musikvorstellung. Wallaschek extended the prominence of Tonvorstellung as an underlying mental process for composers and listeners of Baroque musical style ('pre-Classical') and of highly contrapuntal works in general. Fugues and canons suffer if any individual pitch, interval or chord is misplayed—'we must certainly be very careful with each tone when playing a fugue by Bach'.³²

²⁹ R. WALLASCHEK, *How we think of Tones*, 268.

³⁰ R. WALLASCHEK, *Psychologische Aesthetik*, ed. Oskar Katann (Wien, 1930).

³¹ R. WALLASCHEK, *How we think of Tones*, 267.

³² R. WALLASCHEK, *How we think of Tones*, 267.

Wallaschek argued that a person whose primary mental representation is that of *Tonvorstellung* 'listening unprepared to a concert where Berlioz and Wagner are performed...*must* [sic] fail to find the artistic beauty of it'.³³ Such a listener would not be able to comprehend the piece as a whole, but will be 'drowned' in theoretical considerations of individual musical elements.

Wallaschek speculated that the division of listeners into two types of mental representation for music could explain why Romantic composers have difficulty presenting new musical ideas to the public. Individuals who are *Tonvorstellung* types would have difficulty comprehending music intended to be perceived holistically (requiring *Musikvorstellung*), and would hear an 'indiscriminate noise' rather than music. Wallaschek pointed out that the 'new school' of Romantic music was often referred to in this manner.

With this argument, Wallaschek described a relationship between stylistic characteristics (Baroque/Classical versus Romantic style) and a specific psychological process. He also provided a rationale for resistance to change in musical style, in particular for the change from Classical to Romantic. For Wallaschek, understanding a musical style depends on the psychological framework of the listener. This implies that *Musikvorstellung* and *Tonvorstellung* can also be understood as psychological manifestations of different musical styles. This view foreshadowed later twentieth-century ideas that certain mental processes can be understood as psychological manifestations of different musical characteristics.³⁴

Programme Music

The topic of programme music was an important one in nineteenth-century musical discourse. The term 'programme' generally referred to purely instrumental music that communicated, or represented a non-musical narrative or description outlined in a 'programme' accompanying the performance. Although narrative content in instrumental music can be traced back at least to circa 1700,³⁵ it was not until the middle of the nineteenth century that Franz Liszt introduced the term 'programme.' For Liszt and others³⁶ programme music was a blend of music and poetry, the content of which could be suggested by any literary source: 'a drama, a novel, a historical event, a poem, a philosophical treatise...or anything else'.³⁷

³³ R. WALLASCHEK, *How we think of Tones*, 267.

³⁴ E. AGMON, *Music Theory as Cognitive Science: Some Conceptual and Methodological Issues*, *Music Perception*, 7:3 (1990), 285-308; Mary Louise SERAFINE, *Music As Cognition* (New York, 1988).

³⁵ Roger SCRUTON, *Programme Music*, *Grove Music Online*, ed. L. Macy (4-29-2005), <http://www.grovemusic.com>

³⁶ William WALLACE, *The Scope of Programme Music*, *Proceedings of the Musical Association*, 25 (1898-1899), 139-56; Ernest NEWMAN, *Programme Music*, *Musical Studies* (1905; repr. New York, 1969), 103-86.

³⁷ E. NEWMAN, *Programme Music*.

Programme music was generally contrasted with absolute music, often defined as abstract, highly formal music where the progression of musical ideas is controlled by the musical structure only, and not by any considerations external to that structure. Many composers and critics, including Richard Wagner and critic Ernest Newman, believed formal structure (as found in absolute music) could distort and interfere with the communication of poetic ideas. Wagner believed music drama was the best context in which to express extra-musical content, but many critics and composers believed the perfect embodiment of the musical-poetic ideal was the symphonic poem.³⁸ Others, including philosophers, critics and composers, argued that programme music steps beyond the bounds of musical nature and cannot adequately portray non-musical ideas. For example, Austrian music critic Eduard Hanslick argued that 'pure' instrumental music is completely autonomous and unable to communicate conceptual ideas, or even to represent or arouse specific emotions.³⁹

Wallaschek's views are consistent with Hanslick's in denying the ability of instrumental music to communicate non-musical ideas. Early in his career, Wallaschek was a champion of absolute music⁴⁰—in his 1886 *Ästhetik der Tonkunst*, he described absolute music as the most abstract and beautiful of the arts.⁴¹ Throughout his career he associated absolute music with composers he admired, including some Romantic composers such as Brahms.⁴² However, for the most part he associated absolute music with Baroque and Classical musical style. As discussed above, in his early *Ästhetik der Tonkunst*, Wallaschek felt that the Romantic abandonment of form was an impediment to musical expression. In his writings during the 1890s he went even further in his criticism of programme music, using his background in psychology and the brain, which gave him a unique perspective. He argued that programme music is unable to communicate non-musical ideas because it is impossible to perceive both the programme (e.g., poetic narrative) and the music at the same time.⁴³ Wallaschek argued that music is an expression of emotions while, in contrast, the communication and expression of a programme rely on intellectual processes associated with language. According to Wallaschek, emotional expression is independent of intellectual thought, and in fact, emotional (i.e. musical) and intellectual (i.e. a programme) expression are controlled by separate brain processes, which cannot be combined.

³⁸ E. NEWMAN, Programme Music; R. SCRUTON, Programme Music.

³⁹ Eduard HANSLICK, *On the Musically Beautiful: A Contribution towards the Revision of the Aesthetics of Music*, translator and ed. Geoffrey Payzant (8th edn, 1891, repr. Indianapolis, Indiana, 1986).

⁴⁰ R. WALLASCHEK, *Ästhetik*; R. WALLASCHEK, Über Programm-Musik, *Die Zeit*, (27 March, 1897), 202-3; S. MCCOLL, Positivism in Late Nineteenth-Century.

⁴¹ R. WALLASCHEK, *Ästhetik*; S. MCCOLL, Positivism in Late Nineteenth-Century.

⁴² R. WALLASCHEK, Johannes Brahms, *Die Zeit* (10 April, 1897), 26-8.

⁴³ R. WALLASCHEK, On the origin of music; R. WALLASCHEK, Über die Bedeutung der Aphasie für den musikalischen Ausdruck; R. WALLASCHEK, Die Bedeutung der Aphasie für die Musikvorstellung; R. WALLASCHEK, Über Programm-Musik.

Some of Wallaschek's arguments seem contradictory. In multiple publications he argued that Romantic music is holistic, requires the Musikvorstellung process, which he argued is superior to Tonvorstellung, and that programme music is part of the Romantic style. In contrast, he argued that Classical music requires the Tonvorstellung process (inferior to Musikvorstellung) and he associated absolute music with Classical style. Yet in all his discussions of programme music, he championed absolute at the expense of programme music. However, Wallaschek did not criticize all Romantic music, just programme music. Romantic absolute music, such as the work of Brahms, was acceptable to him. Programme music was not acceptable because in his view it attempts but fails to combine emotion with intellect.

This criticism grew out of Wallaschek's theory of music expression, in which he argued that music is an expression of emotions while speech is an expression of the intellect. Although the idea of music as an expression of emotion was not a new concept in late nineteenth-century musical or philosophical discourse,⁴⁴ Wallaschek approached the topic from a different perspective, drawing from theories about the origins of music and examples of patients from neurology. The theory that music evolved from speech was discussed in the second half of the nineteenth century by various scholars, including Herbert Spencer, Charles Darwin and Edmund Gurney.⁴⁵ Wallaschek disagreed with these individuals, proposing that music evolved from rhythm and was an expression of emotion (rather than language).⁴⁶ He used examples of patients with neurological disorders (e.g., stroke) as evidence to argue that music and language are independent processes and rely on separate brain structures. Wallaschek discussed examples of patients with aphasia, an acquired impairment of language after brain damage, who were able to verbalize words when singing songs but were unable to speak the same words in conversational speech. He compiled case studies from neurological literature of patients who could sing despite limited conversational speech.⁴⁷ Wallaschek's writings on music and aphasia were well respected in the late nineteenth-century neurology community. His work was cited in many early publications on music and the brain.⁴⁸

⁴⁴ B. BUJIĆ, *Music in European Thought*; P. KIVY, *Introduction to a Philosophy of Music*, (New York, 2002); Max PADDISON, *Music as Ideal: The Aesthetics of Autonomy*, *The Cambridge History of Nineteenth-Century Music*, ed. J. Samson (Cambridge, 2002), 318-42.

⁴⁵ Charles DARWIN, *The Descent of Man, and Selection in Relation to Sex*, 2 (London, 1871); Edmund GURNEY, *On Some Disputed Points in Music*, *The Fortnightly Review*, 26 (1876), 106-30; E. GURNEY, *The Power of Sound* (London, 1880); H. SPENCER, *The Origin and Function of Music*, *Fraser's Magazine*, 56 (1857), 396-408; H. SPENCER, *The Origin Of Music*; H. SPENCER, *On the Origin of Music*.

⁴⁶ R. WALLASCHEK, *On the Origin of Music*; R. WALLASCHEK, *Über die Bedeutung der Aphasie für den musikalischen Ausdruck*.

⁴⁷ For example: William GOWERS, *Lectures on the Diagnosis of Diseases of the Brain* (2nd ed, London, 1887); A. KNOBLAUCH, *Über Störungen*.

⁴⁸ William W. IRELAND, *On the Affections of Musical Faculty in Cerebral Disease*, *Journal of Mental Sciences*, 40 (1894), 354-67; Johann Gustaf EDGREN, *Amusie (musikalische Aphasie)*, *Deutsche Zeitschrift für Nervenheilkunde*, 6 (1895), 1-64; M. PROBST, *Über die Localisation des Tonvermögens*, *Archiv für Psychiatrie und Nervenkrankheiten*, 32 (1899), 387-446; S. E. HENSCHEN, *Über Amusie*.

Wallaschek argued that language used in conversation expresses intellectual thought. In contrast, the singing of song texts is an expression of emotional language, used automatically.⁴⁹ Within the context of music, a text expresses emotion but not meaning. He believed that emotional expression and intellectual expression depend on different parts of the brain; in the context of aphasia the part of the brain responsible for emotional language remains preserved while the area responsible for intellectual language does not. For Wallaschek, this explained why it is possible to sing words in the context of aphasia.⁵⁰ Wallaschek adapted his ideas about music and language from William Gowers and John Hughlings Jackson, two prominent neurologists working in London at the same time Wallaschek was studying at the British Museum. Both Gowers and Jackson differentiated intellectual language in conversations and emotional language in songs based on observations of patients with brain disorders.⁵¹

For Wallaschek, the belief that music is an emotional process made programme music unable to represent or communicate extra musical ideas. A programme belongs to the realm of ideas and is therefore an intellectual process. Music, however, is an emotional process. By combining a programme with music, composers fuse two fundamentally different brain processes, which occur in different places in the brain: '...intellectual expression is different from emotional expression...it starts from other parts of the brain or nerve pathways'.⁵² Wallaschek claimed that listeners have difficulty focusing on both the programme and music:⁵³

This...illuminates the extent to which communicating a program for orchestral compositions entirely misses the psychological apparatus, because a programme is directed to the understanding of specific representations, thus to the intellectual side of our mental lives, which is actually physiologically separated from the emotional side.⁵⁴

⁴⁹ R. WALLASCHEK, Über die Bedeutung der Aphasie für den musikalischen Ausdruck; R. WALLASCHEK, Die Bedeutung der Aphasie für die Musikvorstellung.

⁵⁰ R. WALLASCHEK, Über die Bedeutung der Aphasie für den musikalischen Ausdruck; A. WALLASCHEK, Die Bedeutung der Aphasie für die Musikvorstellung.

⁵¹ W. GOWERS, *Lectures*; W. GOWERS, *A Manual of Diseases of the Nervous System* (Philadelphia, 1888); John Hughlings JACKSON, On Affections of Speech from Disease of the Brain, *Brain*, 1 (1878), 304-30; J. H. JACKSON, On Affections of Speech from Disease of the Brain, *Brain*, 2 (1879), 203-22.

⁵² R. WALLASCHEK, Über Programm-Musik.

⁵³ In his 1905 book, *Musical Studies*, Ernest Newman devotes a chapter to his ideas embracing programme music. In the very next chapter he outlines and describes Wallaschek's theory that music and conceptual thought are processed in separate brain areas, without mentioning Wallaschek's criticism of programme music based on that theory. Newman references Wallaschek's 1891 paper ('Über die Bedeutung der Aphasie'), in which Wallaschek outlined his theory and detailed his criticisms of programme music. Thus, Newman probably knew about Wallaschek's criticisms but ignored them.

⁵⁴ 'Daraus erhellt aber auch, wie sehr die Mittheilung eines Programms bei Orchester Compositionen den psychologischen Apparat verfehlt, denn ein Programm wendet sich an das Verständnis bestimmter Vorstellungen, also an die intellectuelle Seite unseres Geisteslebens, die von der emotionalen schon physiologisch getrennt ist.' R. WALLASCHEK, Über Programm-Musik, 202.

It is surprising that some supporters of programme music, for example, composer William Wallace, agreed with Wallaschek that conceptual reasoning does not play a part in understanding programme music, since poetic concepts in music appeal to the listener's emotions.⁵⁵ However, for Wallace this did not preclude the programme from being perceived. To him, the expression of a specific emotion was a programme.

As stated above, Wallaschek believed that music can express emotions, however, he argued against the idea that music can arouse specific emotions (*Gefühlsthorie*). According to Wallaschek, the composer knows what emotions and ideas he/she intended but this cannot be communicated through a programme because a given piece of music will not provoke the same emotional experience or idea in every individual.⁵⁶ Wallaschek noted:

Music can rouse feeling, but it cannot cause *what* [sic] it is we feel, this being the outcome of each individual psychical organism. Coincidence between the feelings of composer and audience can be only a fortuitous, not a necessary, result, because of the relative nature of musical forms.⁵⁷

The emotional understanding of music is, therefore, left up to the listener. Wallaschek further illustrated this point by saying:

...we like music and all art — we say it is beautiful — when it inspires us and rouses us emotionally, but the specific form of our feeling's arousal is left to us. It provides only the impetus for the play of our imagination, which then develops further in its own purely subjective way.⁵⁸

Wallaschek did concede that certain genres, such as marches and dances, can hint at the intention of the composer; that certain instruments stereotypically represent certain non-musical ideas, for example, a horn can represent hunting.⁵⁹ Although these stereotypes can guide a listener's ideas and emotions in certain directions, Wallaschek argued that this limited guidance was far inferior to what poets can achieve with specific details about characters, etc. The implication is that the use of language in poetry engages the intellectual process and allows for conceptual thought.

⁵⁵ W. WALLACE, *The Scope of Programme Music*, 143.

⁵⁶ R. WALLASCHEK, *Psychologische Aesthetik*, 219-40.

⁵⁷ R. WALLASCHEK, *On the Origin of Music*, 385.

⁵⁸ '...die Musik und alle Kunst gefällt uns, wir nennen sie schön, wenn sie uns begeistert, uns emotionell erregt, wobei aber die spezielle Art der Erregung des Gefühls uns selbst überlassen wird. Sie giebt dem Spiel unserer Phantasie nur den Stoss, nach welchem es sich nun in seiner rein subjektiven Weise weiter entwickelt.' R. WALLASCHEK, *Über die Bedeutung der Aphasie für den musikalischen Ausdruck*, 71.

⁵⁹ R. WALLASCHEK, *Psychologische Aesthetik*, 219-40.

Surprisingly, Wallaschek believed there was one context in which music could communicate specific emotions and extra-musical ideas. He stated:

...if a programme really must be connected to music, there is only one form that fully supports the impression and protects the composer himself from wanting more than he is capable of: Drama.⁶⁰

Although not stated explicitly, Wallaschek's discussion implies that extra-musical associations have psychological relevance when music is combined with drama and therefore with intellectual language found within the context of a dramatic setting. In music drama (i.e. opera), extra-musical concepts are conveyed via intellectual language in dialogue through the part of the brain responsible for intellectual thought. The implication is that this is significantly different from the emotional language within the context of songs, which, according to Wallaschek, do not have the same associations as drama. Wallaschek seems to classify songs in the same category with absolute music; both express emotion and are incapable of expressing or communicating conceptual thought.

This view of songs seems counterintuitive—the art song was considered a fusion of music and poetry, a descriptive genre with the same goal as programme music, that is, to express a poetic narrative.⁶¹ Thus, songs are usually classified as similar to programme music and dissimilar to absolute music. For example, Newman believed songs are meaningless if listened to as absolute music (if listened to without understanding the language of the text) and only become meaningful in the context of the text.⁶² Newman grouped programme music, especially symphonic poems, with all vocal music (songs and opera) in being able to express poetic ideas. He described these genres as being psychologically different from absolute music.

In contrast, Wallaschek described similarities between songs and absolute music, since he believed both express emotions but are unable to express conceptual thoughts. He juxtaposed this with music drama (opera), which, in his opinion, is able to express intellectual concepts, such as poetic ideas. Clearly, he believed these two groups are not only psychologically different from each other, but physiologically different as well, since they depend on different brain structures. Although Wallaschek championed 'pure' music and therefore disagreed with Wagner about the viability of absolute music, he acknowledged that in this

⁶⁰ '...dass wenn schon ein Programm mit der Musik verbunden werden muss, es nur eine Form gibt, die den Totaleindruck unterstützt und den Componisten selbst davor bewahrt, mehr zu wollen als er kann: das Drama.' R. WALLASCHEK, *Über Programm-Musik*, 203.

⁶¹ J. SAMSON, Romanticism; Julian RUSHTON, Music and the Poetic, *The Cambridge History of Nineteenth-Century Music*, ed. J. Samson (Cambridge, 2002), 151-177.

⁶² E. NEWMAN, Programme Music.

he agreed with Wagner—the theatre is the only acceptable musical venue for expressing the extra-musical.⁶³

Conclusions

Wallaschek's theories of music psychology were part of the blossoming of scientific research in music during the second half of the nineteenth century. While most researchers in musical science concentrated on the physiological, psychological and neurological bases of music, Wallaschek applied his ideas about music psychology to complex musical issues, forging a link between the psychological, neurological and musicological study of music. Based on empirical observation, he developed two theories: one focusing on music perception, the other on music expression. He applied his theory of music perception to characterize and differentiate Classical and Romantic musical styles. In addition to discussing musical style traits and broader aesthetic issues, he also focused on the mental representation of music, describing musical style in psychological terms.

Wallaschek's theory of music expression helped formulate his criticism of programme music. He argued that music is an expression of emotion while a programme is an expression of intellectual thought. In Wallaschek's view, emotional and intellectual expression are separate brain processes that cannot be combined; therefore, it is impossible to perceive both music and programme at the same time. Wallaschek's background in psychology and the brain gave him a unique perspective from which to address musical issues, a perspective different from contemporary musicologists and music critics. In addition, his focus on higher-level musical issues made him unique among scientists using empirical methods to study music in the late nineteenth century.

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⁶³ R. WALLASCHEK, Über Programm-Musik.

*Summary*UTJECAJ ZNANSTVENOG ISTRAŽIVANJA NA GLAZBENU MISAO 19. STOLJEĆA:
DJELO RICHARDA WALLASCHEKA

Znanstveno proučavanje glazbe cvalo je u drugoj polovici 19. stoljeća, osobito u Njemačkoj i Austriji. Istraživači poput Hermanna von Helmholtza i Carla Stumpfa ispitivali su fiziološke i psihološke temelje glazbe, ali nisu se usredotočili na glazbene teme višega reda. Tek su se u ranom 20. stoljeću znanstvene metode primijenile na istraživanje široko zahvaćenih glazbenih tema kao što su glazbeni stil ili kompozicijske tehnike. Međutim, jedan od znanstvenika u kasnome 19. stoljeću, Richard Wallaschek, prihvatio se glazbenih tema sa znanstvenog gledišta. Wallaschek je upotrijebio empirijske metode da bi razvio dvije teorije, jednu o glazbenoj percepciji i drugu o glazbenoj izražajnosti. Svoju teoriju o glazbenoj percepciji upotrijebio je za karakteriziranje glazbenog stila, teme važne za novu disciplinu muzikologiju. Dokazivao je da glazba u klasicističkom stilu zahtijeva proces duhovnog predstavljanja koji se usredotočuje na pojedinačne glazbene elemente, dok romantički glazbeni stil zahtijeva duhovno predstavljanje koje se usredotočuje na holističku, globalnu strukturu glazbe. Wallaschekova teorija glazbene izražajnosti pomogla je u formuliranju njegove kritike programne glazbe. Dokazivao je da je glazba izražavanje emocija, dok je program izražaj intelektualne misli. Prema Wallaschekovu gledištu, emocionalno i intelektualno izražavanje odvojeni su mozgovni procesi koji se ne mogu kombinirati, pa je stoga nemoguće istodobno percipirati i glazbu i program. Wallaschekovo usredotočenje na glazbene teme višega reda učinilo ga je jedinstvenim među znanstvenicima koji su rabili znanstvene metode u istraživanju glazbe u kasnom 19. stoljeću.