

See discussions, stats, and author profiles for this publication at: <http://www.researchgate.net/publication/273953121>

Alexander Scriabin: His chronic right-hand pain and its impact on his piano compositions

ARTICLE *in* PROGRESS IN BRAIN RESEARCH · FEBRUARY 2015

Impact Factor: 2.83 · DOI: 10.1016/bs.pbr.2014.11.031 · Source: PubMed

READS

15

1 AUTHOR:



[Eckart Altenmüller](#)

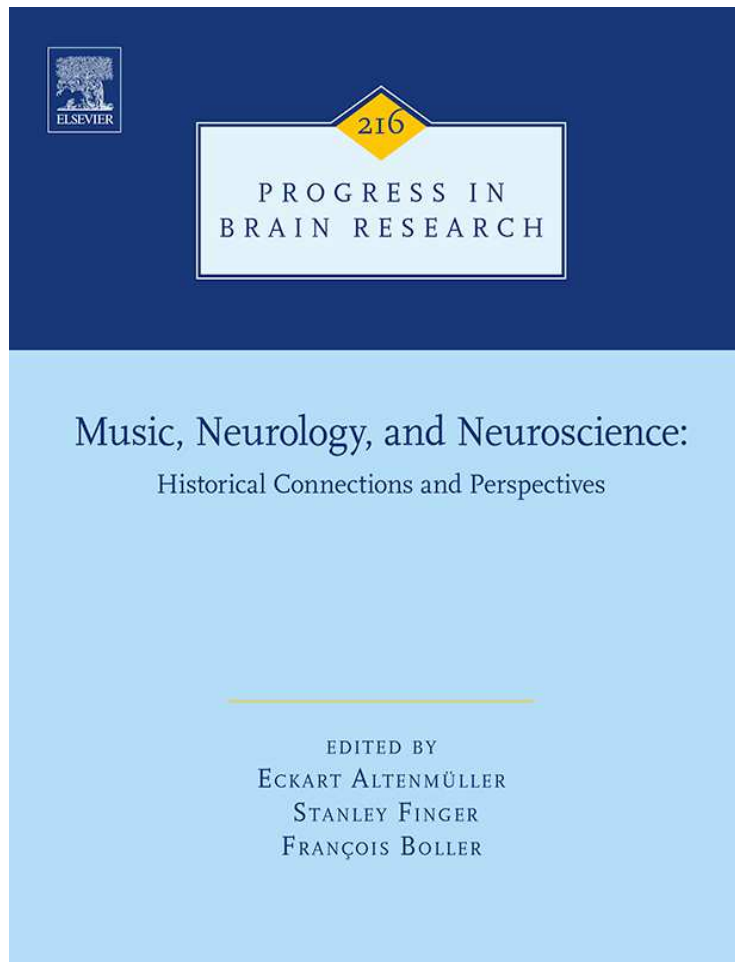
Hochschule für Musik, Theater und Medien ...

288 PUBLICATIONS 5,757 CITATIONS

SEE PROFILE

**Provided for non-commercial research and educational use only.
Not for reproduction, distribution or commercial use.**

This chapter was originally published in the book *Progress in Brain Research, Vol. 216* published by Elsevier, and the attached copy is provided by Elsevier for the author's benefit and for the benefit of the author's institution, for non-commercial research and educational use including without limitation use in instruction at your institution, sending it to specific colleagues who know you, and providing a copy to your institution's administrator.



All other uses, reproduction and distribution, including without limitation commercial reprints, selling or licensing copies or access, or posting on open internet sites, your personal or institution's website or repository, are prohibited. For exceptions, permission may be sought for such use through Elsevier's permissions site at:

<http://www.elsevier.com/locate/permissionusematerial>

From Eckart Altenmüller, Alexander Scriabin: his chronic right-hand pain and Its impact on his piano compositions. In: Eckart Altenmüller, Stanley Finger and François Boller, editors, *Progress in Brain Research, Vol. 216*, Amsterdam: Elsevier, 2015, pp. 197-215.

ISBN: 978-0-444-63399-6

© Copyright 2015 Elsevier B.V.

Elsevier

Alexander Scriabin: his chronic right-hand pain and Its impact on his piano compositions

9

Eckart Altenmüller¹

*University of Music, Drama and Media, Institute of Music Physiology
and Musicians' Medicine, Hannover, Germany*

*¹Corresponding author: Tel.: +49-511-3100-552; Fax: +49-511-3100-557,
e-mail address: eckart.altenmueller@hmtm-hannover.de*

Abstract

Alexander Scriabin was an outstanding pianist and an avant-garde composer who influenced later generations with his innovative “multimedia” conceptions of aesthetic experience. As an adolescent, he was systematically trained as a concert pianist and received lessons from Vassily Safonoff, one of the founders of the legendary Russian Piano School. At age 20, Scriabin suffered an overuse injury of his right hand when attempting to improve the sound quality of his piano touch. This injury caused a deep crisis and influenced his later composition style in his piano works. From this time on, his works were frequently dominated by unusual virtuosic use and wide spans of his left hand. Rest, restricted repertoire, and an increased focus on composition contributed to recovery; however, he always remained anxious concerning the stamina of his right hand. The case report impressively demonstrates the stressors an aspiring young pianist had to cope with at the end of the nineteenth century. Furthermore, it is a convincing example of how resource-oriented behavior and intuition lead to the improvement of health status. Differential diagnoses and the modern concept of multimodal pain therapy in chronic overuse injury will be discussed from a historical perspective.

Keywords

overuse injury, chronic pain, left-hand piano playing, rehabilitation, Alexander Scriabin

1 INTRODUCTION

In April 2015, the musical world will commemorate the 100th anniversary of the death of the eminent Russian pianist and composer, Alexander Scriabin. Beginning in his youth as an important pioneer of late romantic eclecticism in the tradition of

Frederic Chopin, he developed a substantially atonal and dissonant musical system, which went along with his personal mysticism. His later works were influenced by the concepts of synesthesia. He associated each of the tones of his atonic scale with a specific color and planned holistic sensual experiences, not only including colors but also the generation of scents and sensation of touch and taste in his last symphonic work "Mysterium." His color-coded circle of fifths was influenced by theosophy, an esoteric philosophy which sought the direct knowledge of presumed mysteries of being and nature, particularly concerning the nature of divinity.

Scriabin was one of the most innovative, though controversial, Russian composers. Leo Tolstoy once described Scriabin's music as "a sincere expression of genius" (Garcia, 2004). Although Scriabin had a major impact on the music world over time and influenced composers such as Igor Stravinsky and Sergei Prokofiev (Bowers, 1996), his works are not frequently performed and remain marginal in the repertoire of soloists and orchestras. After the Russian revolution, Scriabin's importance in the Soviet musical scene drastically declined. According to his biographer Faubion Bowers, "No one was more famous during their lifetime, and few were more quickly ignored after death" (1996). Nevertheless, his musical aesthetics have been reevaluated, and his 10 published piano sonatas, which have arguably provided the most consistent contribution to the genre since the time of Beethoven, have been increasingly valued and performed (Powell, 2014). With respect to his piano playing, Scriabin was not a typical child prodigy who was exposed at early age to the public; however, in his 20s he became an internationally recognized concert pianist, performing extremely difficult pieces at a young age. What is less known is that in his late adolescence, his permanent quest for pianistic excellence came at a high price, spoiling his life for years and leading to depression and despair: the chronic pain in his right arm.

This chapter addresses his pain caused by playing the piano. What were the circumstances leading to this pain? Did Alexander Scriabin suffer from the consequences of an accident he incurred as a boy? Or was it musician's dystonia, a loss of motor control of highly trained movement patterns known to have afflicted young Robert Schumann at about the same age as Scriabin developed his ailment? Or were the pains largely psychosomatic, brought on by the many stress factors in his young life: the excessive demands placed on him by his family, his high ambitions, the competitiveness of his environment, financial pressures, and exacting teachers? Or, finally, were they simply caused by an overuse injury as a consequence of "brainless" practicing?

In this chapter, we offer a detailed analysis of these questions with the help of biography, original documents, expert research, and modern-day knowledge in musician's medicine. In this way, we want to demonstrate how Scriabin's medical problems typically reflect the darker side of virtuosity, specialization, and the modern concert scene. Finally, we deal with risk factors and prevention strategies for maintaining musician's health. Although most of the literature on Scriabin is devoted to his later years, his "philosophy and music of desire" (e.g., Lobanova, 2004; Sabanejew, 2005; Schloezer, 1987; Smith, 2013), we do not comment on his bizarre

philosophical pretensions and his megalomaniac musical projects which could be interpreted as signs of an eccentric personality, if not as symptoms of bipolar disorder. Furthermore, we do not address his many psychological conflicts arising from almost constant turmoil caused by his love affairs and complicated female relationships. However, some of these conflicts may have contributed to produce and sustain chronic pain.

In this chapter, I have tried to let the Scriabin speak for himself or be spoken about by his contemporaries, those who actually heard him playing and who lived with him. As, unfortunately, I am not able to read Russian, I had to rely on translations of his letters into German by [Christoph Hellmundt \(1988\)](#) and of diaries and letters of his contemporaries and entries in his own notebooks into English by [Faubion Bowers \(1996\)](#), who in turn was able to draw from the original sources.

1.1 ALEXANDER SCRIBIN'S LIFE

Alexander Nikolayevich Scriabin was born into an aristocratic family in Moscow on Christmas Day, 1871, according to the Julian calendar, which translates to January 6, 1872 in the Gregorian calendar. His father and all of his uncles were military officers and had partly successful military careers. When he was only a year old, his mother died of tuberculosis. She had been a concert pianist and former pupil of Theodor Leschetizky, who himself was a former student of Carl Czerny and one of the most prominent piano teachers at that time. After her death, Scriabin's father completed his education in the Turkish language in St. Petersburg. He subsequently became a diplomat and finally left for Turkey. Scriabin's father would later remarry, giving Scriabin a number of half-brothers and -sisters.

Alexander Scriabin stayed with his grandmother, great aunt, and Aunt Lyubov. The latter, his father's unmarried sister, educated him. She, only 23 years young, decided to devote her life to the education of the 3-year-old "Sasha." As a boy, Scriabin revealed extraordinary musical abilities and received piano lessons by his aunt, who was a talented amateur pianist. In 1882, Scriabin entered the junior military academy in Moscow; his musical talent attracted the attention of his teachers and classmates. In 1883, he began to take regular piano and composition lessons with Georgi Conus, who himself was still a pupil at the Conservatory. These lessons continued until the spring of 1884, when Sasha determined to enter the Moscow Conservatory. From approximately 1885 on, he received private lessons from Sergei Tanejeff, an excellent pianist and leading figure in Russian composition. Tanejeff advised Sasha to take piano lessons with Nikolai Zwerev, who was the most adulated piano teacher of Moscow's high society and associate professor of the Conservatory. In 1887, Scriabin entered Moscow Conservatory, still a student in the junior military academy. He studied piano with Vassily Safonoff, continued music theory lessons with Tanejeff, and took a course in free composition and fugue with Anton Arensky. It was then that Scriabin decided to abandon his military education and dedicate himself entirely to music. Nevertheless, in 1889, he obtained a finishing diploma in the military academy.

His musical talents developed rapidly during his conservatory years, but he still was mainly regarded as a pianist rather than a composer. During the summer holiday in 1891, Scriabin tried to improve his pianistic technique and suffered from an overuse injury of his right hand, which will be the main topic of this chapter. Although he had only partially convalesced, he graduated from Moscow Conservatory as a pianist in 1892. In subsequent years, Scriabin built his career as a composer and an interpreter of his own works, but he was always concerned about the lack of endurance of his right hand. In 1895, Scriabin accompanied his friend, benefactor, and publisher, Mitrofan Belaieff, to Central Europe, where he made his first extensive tour as a pianist. He visited Germany, Holland, Belgium, France, and Italy and spent a longer time close to Lake Geneva in Switzerland, where he attempted to definitely cure his right hand.

In 1897, Scriabin married Vera Isakovich, a pianist who had just graduated from Moscow Conservatory. After a brief trip to Paris, the couple returned to Moscow, where the director of the Moscow Conservatory who was also his former piano teacher, Vassily Safonoff, engaged Scriabin as a professor of piano. Scriabin established his reputation as a composer and composed his only piano concerto among other works, mostly for the piano. For a period of 5 years, Scriabin was based in Moscow, during which time his former teacher, Safonoff, conducted the first two of his symphonies.

In 1903, Scriabin left the Conservatory, and in spring 1904 he traveled to Switzerland, where he began to work on the composition of his Symphony No. 3. While living in Switzerland, Scriabin was separated legally from his wife. The symphony was performed in Paris in May 29, 1905. A former pupil of Scriabin, Tatiana Fyodorovna Schloezer, now accompanied Scriabin. With the financial assistance of a wealthy sponsor, they spent several years traveling in Switzerland, Italy, France, Belgium, and the United States. Scriabin composed more orchestral pieces, including several symphonies. He also began to compose "poems" for the piano, a free, improvisatory form with which he is particularly associated. In 1909, he returned to Russia for good; there he continued to compose, working on increasingly grandiose projects. For some time before his death, he had planned to create a holistic "multimedia performance" in the Himalaya Mountains, the "Mysterium." This work was "to culminate in the spectacle of cosmic conflagration, which would precipitate an apocalyptic doomsday, a grandiose religious synthesis of all arts which would herald the birth of a new world" (quoted according to Boris des Schloezer, p. 269, following). Inspired by the theosophical philosophy, Scriabin conceptualized the first part of this "Gesamtkunstwerk," the "Acte préalable." In 1915 at the age of 43, he died in Moscow from septicemia as a result of a sore on his upper lip.

1.2 ALEXANDER SCRIBIN'S PIANISTIC TRAINING

As a child, Scriabin was frequently exposed to piano playing and, according to the memoirs of his Aunt Lyubov, showed, from the early days on, interest in sounds in general and specifically in the piano sound. His aunt recalls in her diary that the first

words of Sasha were “Aunty, sit”—which meant that Lyubov should play the piano (Bowers, 1996, p. 110). Apparently precocious, Scriabin began to play the piano at the age of 5, or even before. It seems that in the beginning, he did not receive a strictly formal pianistic education but was encouraged by his aunt and family to spend time at the piano in a more playful way which included hours of improvisation and imitation of sounds. For example, he was able to reproduce the two- or three-voiced tunes of organ grinders, who came for begging in the courtyard of their Moscow domicile (Bowers, 1996, p. 110). When he was 7 years, Sasha started building miniature pianos, first with cardboard and later with wood, wire, and nails. He was fascinated by piano mechanisms and constructed small pianos with sounding boards, keys that moved, pedals that worked, and lids that open and closed. In 1 year, he built 10 such pianos and gave them away to houseguests who admired these instruments. Interestingly, he lost all interest in the instruments as soon as they had been completed. During this period, Lyubov portrays Scriabin as very shy and unsociable among his peers, but appreciative of adult attention. His physical appearance was fragile; he was thin, pale, nervous, and overly serious. Aunt Lyubov took him to the physician, Grigory Zakharin, a specialist in nervous disorders. He assured her “that there was nothing specifically wrong, but good nourishment, summers out of Moscow, and clean air might calm him” (Bowers, 1996, p. 113).

With respect to his pianistic development, his aunt noted that already at the age of 7, Scriabin studied without stopping the whole day, be it “at the piano or writing poems and theater plays. His only sport was jumping, he would leap from the top of the piano to the floor with ease, giving us all a fright. Sometimes he amused us by imitating ballerinas turning ‘en pointe. . .’” (Bowers, 1996, p. 114). When Aunt Lyubov tried to teach him to read music and to improve his technique by studying finger exercises such as scales and arpeggios, which constitute the technical prerequisites of piano playing, young Scriabin was uninterested. He was reluctant to read music and preferred to improvise or play by ear, and he was not at all willing to systematically train technical skills. Unsure about Scriabin’s musical development, Aunt Lyubov took him to the eminent pianist and composer Anton Rubinstein in St. Petersburg for an assessment of his musical talent. Rubinstein assessed the boy and noted his perfect pitch, exceptional memory, and outstanding ability to imitate anything by ear. Furthermore, he listened to some of his improvisations. He nodded sagely when Aunt Lyubov told him that the boy preferred the piano to toys. “Don’t push him” he advised. “Allow him to develop freely, for everything will surely come to him of its own accord” (Bowers, 1996, p. 114).

His first public appearance, according to Faubion Bower’s biography, was in November, 1882 at a fund-raising concert in the Cadet Corps which Scriabin had entered a couple of months before. Here, Scriabin played one of Mendelssohn’s “Gondolier’s Song” and a Gavotte by J.S. Bach. According to the recollections of his Aunt Lyubov, he “was so excited he forgot the ending of the Gavotte. He paused an instant and improvised the rest with his own made-up chords” (Bowers, 1996, p. 121).

After this debut at the Cadet Corps, Scriabin asked his aunt for formal music lessons. However, it was not before summer 1883 that Scriabin started to study with Georgi Conus. Conus was 21 years old and still a student himself of Tanejeff and Arensky at the Conservatory. Conus wrote to the first biographer of Scriabin, Juri Engel, about his lessons with Scriabin:

What a puny boy he was! Pale, short, looking far younger even than his years. He played piano neatly and fluently, but weakly. The first piece, I gave him Weber's "Perpetuum mobile" Op 24, and, though he played it fast enough, he hadn't the physical stamina to make it anything more than something ethereal, and therefore monotonous. All that summer of 1883 I taught him, while the old ladies always told me how talented his mother had been.

Quoted according to [Bowers \(1996, p. 137\)](#)

In the winter of 1883, Scriabin's lessons with Conus stopped, and in October 1884, he started to study with the famous piano pedagogue Nicolai Zwerev (1832–1893) in Moscow. At this point, it seems that Scriabin rapidly developed his pianistic technique, because the repertoire he mastered was increasingly difficult. He played Haydn's Variations in f-minor and learned all 12 difficult "Wanderbilder" by Adolf Jensen (Op. 17) by memory in 1 week. He studied Chopin and astonished Zwerev by his virtuosity when interpreting Schumann's "Etude on a Paganini Caprice" in E-flat, Op. 10 ([Bowers, 1996, p. 134](#)).

In April 1885, the 13-year-old Scriabin played Schumann's Papillons in public. Aunt Lyubov notes: "Alexander missed every one of the bass d's and the high, tower clock chime at the end. I laughed and leaned over to my friend: My Shurinka is doing badly. She answered me: if he had played nothing but wrong notes, you would still note that he is a true talent" ([Bowers, 1996, p. 135](#)).

Not long after this concert, Scriabin was involved in an accident threatening his pianistic career. He was run down by a horse carriage and broke his right clavicle. However, there are no further hints in the available sources concerning a prolonged pause or pains following this mishap.

In 1887, after 3 years of private studies with Zwerev, Scriabin was admitted to the Moscow Conservatory without an entrance examination as Vassily Safonoff, the head of the piano department, had followed his pianistic development since his debut of Schumann's Papillons. The training at the Conservatory took 5 years and included piano as a major subject in addition to a year each of theory, solfeggio, and harmony, 1 year of counterpoint and fugue together, and 2 years of free composition. In 1887, the piano faculty consisted of Safonoff, a former student of Leschetizky (as Scriabin's mother had been); Paul Schloezer, the eminent concert pianist; and Paul Pabst and Alexander Siloti, former students of Liszt. The climate was extremely competitive and tense, and intrigues were a daily occurrence. Zwerev hated Safonoff and sent his "star-student" Rachmaninoff to Siloti. As a teacher, Safonoff became one of the most important founders of what is known today as the "Russian Piano School." His teaching methods have been described in detail by some of his former students and published in his book, *Novaya formula* ([Safonoff, 1916](#)). Safonoff paid

close attention to technical issues, such as seating and the position of the hands. He put together special piano exercises involving the thumb, which he considered to be “the pivot of all technical difficulties” (Safonoff, 1916). He taught the students to use their hands and arms as a whole, using smooth and rounded movements without any fixed and “dead spots” (Leikin, 2011, p. 21). Chords were never to be prepared in a stiff position, and the hand had to fall from above onto the keyboard using gravity. As soon as the chord sounded, the fingers had to immediately relax and close again into a soft fist while the hand was moving up. Difficult virtuoso passages were to be practiced pianissimo, without the pedal, and in a slower tempo. Chords were to be voiced differently depending on the circumstances and either the top notes or the lower notes had to be highlighted. Brilliance in octaves was usually achieved through emphasizing the outermost voices. Pedaling played a prominent role in his teaching, and he demanded clarity of his sound. His credo was that the “vividness of tone is the only condition of fruitful study” (Leikin, 2011, p. 23). Indeed, all these pedagogical principles aimed at achieving the best tone quality with the least physiological effort. It was not by chance that so many eminent pianists, such as Joseph Lhevinne, Nikolai Medtner, and of course Alexander Scriabin, came from his class. Obviously, Scriabin made further progress. In February 1891, at the age of 19, he performed the first movement of Henselt's Piano Concerto. A review of this concert published in the “Moskovskie vedomosti” on February 28, 1891 praises his accomplishment:

Henselt's Piano Concerto, whose unconventional virtuosic techniques make it one of the most difficult piano compositions, was played by Scriabin, student of Professor V.I. Safonoff, with such calm and self-assurance that can only be expected from an experienced virtuoso. Scriabin definitely makes huge progress and not only with his technique; his playing is extremely charismatic, having all signs of purely artistic talent.

Quoted after Leikin (2011, p. 23)

2 SCRIBIN'S INJURY IN 1891

In the last lesson of the school year, in the summer of 1891, Safonoff asked Scriabin to “deepen his tone. . .sink into the keys, don't skitter over them” (Bowers, 1996, p. 149). In this year, Scriabin had been much impressed by his classmate Joseph Lhevinne who had played the “Réminiscences de Don Juan,” an extremely virtuosic opera fantasy by Franz Liszt. This work imposes a number of extreme technical demands on the pianist, among them fast passages in chromatic thirds, rapid leaps in both hands across almost the whole width of the keyboard, and long and loud octave passages and tenths, which were almost impossible to execute for Scriabin, since he could barely grasp a ninth with his relatively small hands (Fig. 1).

Obviously, Scriabin practiced this piece extensively during the summer holiday. His family had rented a farmhouse at the banks of the Klyazma River and had

The image shows a musical score excerpt from Franz Liszt's "Réminiscences de Don Juan" (LW 80). The score is in G minor and 3/4 time. It features a piano accompaniment with a right hand playing wide-span arpeggios and a left hand playing rapid octave passages. The tempo is marked "più animato" and "più presto". Dynamics include "cresc." and "Vi = 1". The score includes performance markings such as "Ped." and "*".

FIGURE 1

Excerpt from Franz Liszt's "Réminiscences de Don Juan" (LW 80): shown is a passage of the variations on the "Champagne Aria." The rapid octave passages in the left hand and the forceful chords and wide span arpeggios in the right hand are extremely difficult.

probably also borrowed an upright piano as they used to do during the previous summer holidays. Bowers imagines that during this summer, "From the river, from deep within the forest, the music of Mozart as viewed by Liszt resounded. He pounded and pounded mercilessly repeating every difficult passage over and over. . ." (Bowers, 1996, p. 150).

It remains open whether the indeed countless repetitions or the technical demands of the piece itself produced the injury. Scriabin never precisely described the symptoms in his letters or in his diary; however, it seems that he suffered from pain and also weakness and a deterioration of motor control of his right hand. He mostly refers to his "suffering right hand" or to his "weak right hand" (see below). The symptomatology can be more deduced from the diagnoses of the doctors he consulted.

When he returned after summer to meet Safonoff, it is reported that the latter advised him to take Oleum Rizini (castor oil), which is known as a medicinal purgative. Furthermore, Safonoff wisely encouraged Scriabin to continue playing, but work very lightly on Mozart's d-minor piano concerto. He commented, "this will relieve your indigestion from Don Juan's hot spices" (Bowers, 1996, p. 150). Scriabin visited several doctors, who had less positive news for him. According to Anatole Leikin (2011, p. 24), Dr. Zakharin, professor of medicine, concluded that it was not an overexertion due to long hours of practicing. Rather, it was paresis that afflicted the same arm that had been hurt in the accident Scriabin had had 6 years earlier at age 14 when he was struck by the horse carriage in Moscow and his collarbone was broken. Dr. Grigory Zakharin, the same physician who had calmed Aunt Lyubov 14 years earlier, now concluded that Scriabin's paresis was incurable. He ordered him to abstain from all practicing and prognosticated the end of his career as a public performer (Leikin, 2011, p. 25).

Scriabin was devastated. He wrote in his notebook:

At twenty—Gravest event of my life. . . Trouble with my hand. Obstacle to my supreme goals—GLORY, FAME. Insurmountable according to the doctors. This was my first real defeat in life. First serious thinking: Beginning of self-analysis. Doubted, however, that I will NEVER recover, but still my darkest hour. First thinking about the value of love, religion, God. Still a strong faith in HIM (Jehova rather than Christ). I prayed from the bottom of my heart, with fervor, went to church. . . Cried out against fate, against God. Composed first Sonata with “Funeral March.”

Bowers (1996, p. 168)

After the catastrophic summer in 1891, Scriabin practiced with his left hand alone. He developed an extremely independent and proficient virtuosic style that is reflected in his 1894 compositions for left hand alone and in many of the later left-hand passages of his piano compositions. Obviously, he recovered partially, because he was able to pass his final exams in spring 1892, albeit not without pain. Each candidate was required to perform an easy and a difficult piece. According to **Bowers (1996, p. 154)**, the pain had returned acutely before the examination. As his difficult piece, Scriabin played the very same Don Juan fantasy that was the cause of the previous year's disaster—and performed brilliantly. He was awarded the “Little Gold Medal.” His classmate, Rachmaninoff, however, won the Great Gold Medal for “excellency not only in piano, but also in composition.” Scriabin was now a “Free Artist.”

In the subsequent 2 years, Scriabin increased his activities as a composer and also as a piano teacher. His teaching style benefited from his personal experiences. For example, in a letter from June 11, 1892 addressed to his adored Natalya Sekerina, he advises her:

How are your musical studies going? Were my exercises useful, and if yes, do your fingers hurt? In any case I advise you not to despise the exercises: after a month, the usefulness will become apparent. One only must not overstrain the fingers, because then you might overuse the muscles which is extremely painful.

Quoted according to Hellmundt (1988, p. 44).

His pains were recurrent, and Scriabin refrained from playing and practicing his usual pianistic repertoire, as he had been obliged to do before his exams. It seems that he was afraid of contracting new overuse pains. As a consequence, after 1892 no longer played repertoire other than his own pieces in public. A planned concert tour in winter, 1892/1893 had to be postponed due to his hand pains. In his letters, he frequently apologizes for his bad handwriting, which he blamed on his lack of exercise, not having been able to write longer letters (**Hellmundt, 1988, p. 46**). However, the increase in the length of letters and the fact that he stopped mentioning the pains between the summers of 1892 and 1894 are clear hints that at least his writing abilities recovered (see letters no. 3–9 according to **Hellmundt, 1988**).

New aspects concerning his health became apparent. In summer, 1893, he again visited Dr. Grigory Zakharin because of recurrent pains. Scriabin gave his friend Natalya Sekerina a detailed report:

His examination lasted a long time and touched every facet of my life. . . . It seems there was not a single stone he left unturned. . . . Then he brought up the question of my moodiness. How unnatural it was, he said for me to change so quickly up and down. This affects me horribly. So much volatility works on the nervous system. In brief he dressed me down. Then he passed sentence on me: A quiet life in the Caucasus and bathing in the Black Sea. He promises that this treatment will restore my hand. . .

Hellmundt (1988, p. 47)

Another doctor was consulted: Dr. Alexander Belyaev, chief physician at the Surgical Clinic of Moscow University. Both doctors agreed that the cure for both the hand and the nervousness of Scriabin was a regular and tranquil life, bathing in seawater and consuming a diet of kumiss. Kumiss is a traditional Tartar and Mongol dairy product, similar to kefir, made from mare's milk and containing 1–3% alcohol. Toward the end of the nineteenth century, kumiss had a strong reputation as a cure-all. Among the notables who tried the cure were the writers Leo Tolstoy and Anton Chekhov. Scriabin went to Samara and wrote long letters to Natalya:

Just as you play my letters on your piano, I put yours by my music papers and pencil. But I have to admit that work of any kind is rarely possible during the kumiss cure. One cleverly calls the treatment "harmless alcoholism"

Letter between June 28 and July 10, 1893, Hellmundt (1988, p. 54)

Interestingly, Scriabin learned that his friend Kolja Avierino, a talented violin player with whom he shared a flat in Moscow for some months as a conservatory student, was also suffering from severe hand problems and visited the world famous Prof. Charcot in Paris, who prescribed electricity and massage. Scriabin wrote angrily to Natalya in August, 1983:

The professor has examined him at length and prescribed electricity and massage. That was all he advised him, nothing new. So that is the latest most advanced school! They just look at the breakneck passages that produce cripples and study how people injure themselves, instead of serving the true, good, and the artistic. No one protests! No one abolishes this. They are concerned with statistics, how many musicians injure themselves. . .

Hellmundt (1988, p. 60)

In the above letter, Scriabin laments the lack of specialized doctors who understood the real needs of the musicians. To my knowledge, this is the first documented call of an active musician to express the need for a field that eventually became known as "Musician's Medicine." It took almost a century until this field emerged in 1989 (for a review, see [Harman, 2010](#)).

In 1894, Scriabin met the influential publisher and Maecenas, Mitrofan Belaieff. Belaieff was the wealthy owner of a wood dealer enterprise and dedicated to the promotion of Russian composers. In 1884, he became the founder of the "Glinka prize," which was awarded annually. In the first years, the winners included Borodin,

Balakirev, and Tchaikovsky; later, Scriabin won the award several times. Belaieff was deeply impressed by the creative talent of the young composer and persuaded Scriabin to compose for his publishing company. He further arranged a concert in St. Petersburg, where Scriabin gave a concert on March 7, 1895. The reviews were predominantly positive. César Cui wrote in the *Journal* that week:

Such is my joy of devoting these few lines to A. N. Scriabin, an unquestionable great talent for composition. . . . He is still quite young, only 22, and unless I am mistaken, he has written only for piano and small pieces at that. . . . They are nervous pieces, and by their prevailing minor key bear some of the marks of sickliness. . . .

As a pianist his playing is nervous, arrhythmic, and at times unclear. He exaggerates soft and loud contrasts. His left hand is stronger than his right and sometimes smothers it. He played better with one hand in the Nocturne than he did with two hands in the other pieces.

Regardless of his unsatisfactory performance, he had considerable success. In this case, in contrast with what usually happens, the composer carried the performer.

Quoted after Bowers (1996, p. 197)

In this review, the renowned Russian composer César Cui first clearly addresses the weakness in tone of the right hand, by saying that the left hand is “smothering” the right. Furthermore, he mentions the Nocturne for left hand alone, Op. 9 for the first time. We will later comment on the special effects Scriabin was able to achieve in this work.

After this concert, Scriabin returned to Moscow riding the wave of success. He played an official debut on March 11, 1895. His friend and publisher wrote to Scriabin's former piano professor Safonoff concerning the pianistic side of Scriabin's performance:

As a performer he is regarded more mistrustfully, and it seems that this is not without foundation. Is this a result of his nervousness? Or is it because he always plays solo and never with partners? Sometimes he ruffles up his pieces and confuses the listener. The performance is often to the detriment of the music, and you cannot assimilate either the rhythm or the melody. . . . My desire is that he play his compositions so superbly that this performance will form the basis of a future tradition.

Quoted according to Bowers (1996, p. 198)

Belaieff was worried about Scriabin's health. After the concerts in Moscow, he proposed that Scriabin consult a European specialist about his nerves. Since Charcot had died in December 1893, the German specialist Dr. Wilhelm Erb (1840–1921) was consulted. Erb was the leading neuropathologist in Germany and professor of nervous disorders at the Heidelberg University. The appointment took place on May 16, 1895. Scriabin reported to Belaieff:

First he was very kind and listened to my entire repertoire of stories (we spoke French of course). Second he gave me masses of advice, and finally made his

overall prescription, namely hydrotherapy in Switzerland—a four week course of this at Schöneck on Lake Vierwaldstettersee—then a journey through Switzerland and finally sea bathing in Italy.

Hellmundt (1988, p. 83)

Unfortunately, the records of Erb's consultation have not been handed down; however, the proposed treatment is rather general, pointing at a general neurasthenic problem—similar to the “kumiss cure” 2 years before—and does not specifically address the motor system or pain in the right hand. In keeping with this, a couple of days later, Scriabin complained in a letter to Belaieff about headaches, which seem to have lasted several days and prompted him to shave his head (Hellmundt, 1988, p. 87).

During the subsequent weeks at the Lake Vierwaldstättersee, in his letters Scriabin constantly complains about moodiness, depressive states, and inner tensions, but does not mention one word about his hand (e.g., letters from June 18, 1895, Hellmundt, 1988, p. 92). Only in the fall of 1895, when he was back in St. Petersburg, was he unsure about the condition of his hand. Concerning an upcoming concert, in which he was supposed to play his first piano sonata, he wrote to Belaieff,

Since I first was unsure (about the condition of my hand) I asked Igumnov to play in my place . . . however, Könnemann was the first who played my Sonata with love and so conscientiously. . . But now things are changing: I think I will be able to play. . . However, you may decide on it.

Hellmundt (1988, p. 97)

Good news also appeared in a letter from October 23, 1895, concerning the planned concert tour to Paris, in which Scriabin wrote,

I will be honest: I am more and more enthusiastic about performing in Paris. The hands do not trouble me so much—thank God.

Hellmundt (1988, p. 99)

After this point, Scriabin built up a successful career as a concert pianist, performing his own compositions. In August, 1897, Scriabin married the young pianist Vera Ivanovna Isakovich and then toured in Russia and abroad, culminating in an extremely successful concert in Paris in 1898. That year he became a teacher at the Moscow Conservatory and began attempting to consolidate his reputation as a composer. During this period, he composed his cycle of etudes, Op. 8, several sets of preludes, his first three piano sonatas, and his only piano concerto, among other works, mostly for piano. The right-hand pain occasionally is mentioned in letters in later years. For example, in a letter to his long-term mistress (his first wife never consented to a formal divorce), Tatjana de Schloezer, Scriabin writes in February 1911:

Just coming from Leipzig. I had great successes, although I played worse than in Dresden. My right hand hurt a little bit. The audience probably did not notice it.

Hellmundt (1988, p. 315)

In this correspondence, he also apologizes again for his bad handwriting (e.g., letter from December 1911 to Matjew Presman, Hellmundt, 1988, p. 321). Anatol Leikin

(2011) comes to the conclusion that Scriabin's right hand "...occasionally acted up throughout his entire performing career and remained weaker than his left hand. He felt extremely anxious before every concert and always complained to friends that his right hand was hurting. Several critics noted in their reviews of Scriabin's concerts in his maturity that the composer's left hand seemed stronger than the right one; many of them praised Scriabin for the outstanding technical prowess of his left hand" (p. 25).

2.1 CONSEQUENCES FOR HIS PIANO COMPOSITIONS

In Scriabin's writings, there are many hints toward the impact of his pain syndrome and its accompanying psychological disaster for his compositions. His first sonata (Op. 6) was finalized in the first few months of summer, 1892; however, the first drafts date back to the profound crisis in 1891, when he believed that he would never be able to reach his ambitious goals. This sonata is an overtly romantic piece, which, incidentally, Scriabin performed only once in his life in 1894. Generally, the technical demands are higher for the left than for the right hand. A dominant preference for abbreviated three note chords (an octave filled in with a fourth or a fifth), instead of full four or five note chords, can be noted for the right hand. This would become a characteristic of his style, as are the wide spans in the left hand. For example, in the first movement, the chords of the left hand span up to 11 white keys, which have to be played simultaneously. The third movement is a presto "tour de force" of incessant left-hand octaves demanding an enormous endurance and strength, comparable to Franz Liszt's legendary transcription of Schubert's song, "The Erl King." Finally, the last movement, the "Funeral March" starts with an unyielding bell ringing in the bass. The right hand joins in with a fragile sighing motive. In the middle part, the funeral march includes a pianissimo passage "quasi niente," full of unconventional harmonies played at half-pedal and ghostly coloration. Here, it is remarkable that the left hand has to play tenths, spanning 10 white keys, whereas the right "weak" hand is confined to octaves, spanning 8 keys. Larger spreads of his right hand might have still been painful (Fig. 2).

In 1894, Scriabin published his two pieces for the left hand alone, the *Prélude* and the *Nocturne*, Op. 9. Later, audiences and critics frequently termed these compositions as "magical pieces." They indeed are unique since they were composed in a completely different manner than any left-hand solo piece before. Scriabin attempted to create the perfect illusion of two hands playing. The means were ingeniously simple: he avoided any arpeggios (chords not played in synchrony but each note subsequently with very short time intervals in-between) and restricted the maximal left-hand span to a tenth. The illusion of "two hands" was created by rapid leaps of the left hand on the keyboard that had to be executed in a very controlled manner so as not to impair the enchanting musical atmosphere, giving the impression of sad peacefulness and resignation. The leaps between the registers create a wonderful melodic soprano voice and a soft bass voice which, although slightly temporally out of phase, produce the impression of two separate auditory streams according to the "Gestalt law" of "proximity in pitch," producing each a musical entity (Carlyon,

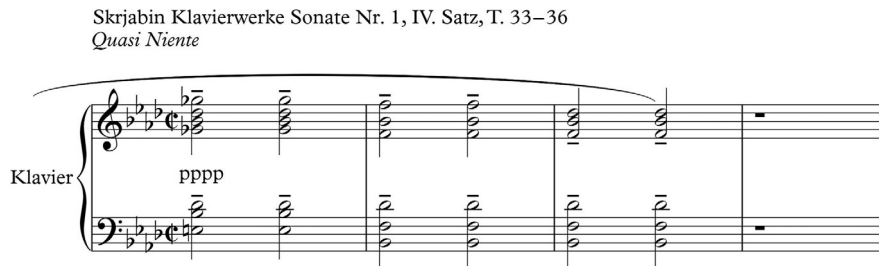


FIGURE 2

Excerpts from the funeral march of the first sonata, Op. 6. The large hand span in the left hand is a tenth; in the right hand-only octaves are demanded.

Scriabin Prelude et Nocturne, Op. 9 Nr. 1, Klavier linke Hand, T. 1–3
Andante

linke Hand
p

* Ped * Ped * Ped * Ped

FIGURE 3

Excerpt from the Prélude, Op. 9. The score nicely demonstrates the “two-hand illusion” which is created by rapid leaps in the left hand.

2004, see also Fig. 3). This stands in contrast to earlier compositions for the left hand alone, for example by Johannes Brahms or Carl Reinicke, which were more conceptualized as etude-like pieces to improve dexterity of the left hand and to the tragic attitude of the highly virtuosic concert for the left hand alone composed by Ravel for the unfortunate pianist Paul Wittgenstein, who had lost his right arm in World War 1 (see chapter “Paul Wittgenstein’s right arm and his phantom: the saga of a famous concert pianist and his amputation” by Boller and Bogousslavsky, this volume). Neither the characteristics of an etude nor of a tragic plaint against fate can be found in Scriabin’s beautiful illusionary pieces.

2.2 SOME DIAGNOSTIC CONSIDERATIONS

Pain disorders caused by playing an instrument have always been a common problem and continue to be so to the present day. Fishbein et al. (1988) carried out the most comprehensive study of this topic in the United States. They ran a survey of 4025 professionally performing musicians from 48 American orchestras in which they asked specific questions about pain disorders. A total of 2212 musicians responded to the survey. Of these, 76% stated they had “serious problems” which affected their playing. Forty-nine percent of those with serious problems suffered from

musculoskeletal pain, its actual location depending on the instrument played and the particular strain involved. Violinists typically had problems with shoulders and arms, while cellists and wind players were generally affected in the neck and back.

Another study of young pianists showed a lifetime prevalence of 25% for pain syndromes that required at least 2 days away from the instrument (Shields and Dockrell, 2000). The sheer volume of ailments is astonishing, but it seems that incidental pain when playing is an everyday occurrence for most musicians.

Extensive practicing (overuse), instrumental constraints, posture abnormalities, inappropriate or poor technique, stressful psychosocial constraints (e.g., performance anxiety), previous injuries, and genetic predispositions are some of the risk factors contributing to the development of playing-related disorders.

It is always challenging to make a precise posthumous diagnosis, as the critical criteria for the diagnosis are usually not available. In Scriabin's day, it was not possible to detect signs of nerve compression through electromyography or the measurement of nerve conduction velocities. The symptoms described are vague, and the term "paresis" was frequently used. Paresis denoted not only motor weakness due to central or peripheral nerve injury but also any problem of motor agility in a limb. Nevertheless, it seems extremely improbable that the diagnosis of Dr. Zakharin, who attributed the symptoms to the broken collarbone 5 years ago, was correct. Theoretically, an irritation of the brachial plexus would have been possible shortly after the bone fracture—for example, due to callus tissue accompanying bone healing. But such pathophysiological mechanisms cannot be assumed after such a long time has elapsed. The injury happened 6 years before, and not one report of any medical problem afterward was passed on. In contrast, Scriabin was able to intensify piano practice without any pain, paresthesia, or weakness for years. Furthermore, a compression of the upper fascicle of the brachial plexus, below its passage under the clavicle, would have caused tingling, paresthesia, and muscular atrophy, symptoms which would have never been missed by Professor Erb, who was world famous as specialist for the brachial plexus. Incidentally, in neurology, Erb's point, a site at the upper trunk of the brachial plexus, located 2–3 cm above the clavicle is named after him!

Any rheumatism also seems unlikely as there is no evidence of the symptoms included in the criteria for Rheumatoid Arthritis which are classified by the American College of Rheumatology: swelling or reddening of the joints, morning stiffness, pain occurring mainly in the mornings and at night, and rheumatic nodules (Hammer, 2006). Furthermore, in the case of rheumatism, one would expect a positive family history and a relapsing worsening of the condition at long term. The available sources show no indication for such a condition.

Another differential diagnosis has to be discussed—namely, musician's dystonia. Musician's dystonia is a movement disorder with the predominant symptom of loss of motor control due to extensive practice (for a review, see Altenmüller and Jabusch, 2010). It affects about 1% of professional musicians and is still extremely difficult to treat. In most instances, as was the case with Robert Schumann, it terminates a career as a performer and remains a chronic condition (Altenmüller, 2005). Pain is usually not an accompanying symptom. The diagnosis of musician's dystonia

has been suspected by researchers, mainly because Scriabin composed pieces for the left hand alone, which nowadays are repertoire pieces for pianists suffering from right-hand dystonia. However, this suspicion cannot be substantiated: first, Scriabin never complained about a loss of motor control of his right hand, which is the cardinal symptom of pianist's focal dystonia. Instead, his doctors used the somewhat blurred term "paresis," which at that time did not differentiate between pain and motor weakness (Altenmüller et al., 2015). Second, after the acute phase, he was able to control his right hand, however suffered from chronically recurrent pain and lack of stamina. Third, since focal dystonia is a chronic, and frequently progressive disorder, one would expect a worsening of symptoms over time, which clearly was not the case. Finally, the handwriting of Scriabin did not deteriorate, which also would be expected, since frequently a spread of symptoms to other fine motor activities occurs (Rosset-Llobet et al., 2007). The published facsimiles of his handwriting—be it in letters or in his compositions—show a fluent, well-controlled, and not at all spidery hand writing (see Hellmundt, 1988, figures 19 and 21).

Diagnostically, all the signs point to a chronic myofascial pain syndrome linked to overuse. This term describes pain which is caused by excessive strain on muscles, tendons, joints, and soft connective tissues and which is characterized by tight muscles and dull, often shifting pains that get worse upon exertion. No abnormalities show up in laboratory tests or X-rays. Characteristic symptoms include painful trigger points, particularly at tendon insertion points. Furthermore, the lack of motor agility due to spinal reflex activity and increased muscular tension as well as pain when forcing the fingers apart are typical. Both symptoms were part of Scriabin's condition. Myofascial pain syndrome linked to overuse is by far the most common medical condition suffered by musicians and, more specifically, by pianists. The pain normally occurs in that part of the body which is put under strain due to repetitive movements over a long period. So, pianists typically suffer from pain in the forearms, hands, and finger joints, and occasionally also in the upper arms and shoulders. Obviously, Scriabin also had problems in these areas. The pain is normally set off by overuse and at first is only felt while playing the instrument but not during everyday activities. There is evidence that this was Scriabin's experience. The pain is triggered by extended periods of playing while preparing for important concerts and practicing unaccustomed techniques under time pressure. These were also clearly factors for Alexander Scriabin, if we think of the new technique of "deep sound" he attempted to achieve in Franz Liszt's Don Juan Fantasy.

3 A MUSICAL-MEDICAL ASSESSMENT

How would Scriabin's ailments be treated today? Acute overuse injuries are very common and generally do not require any specific medical treatment. A few days' rest, cold or heat treatment, and careful stretching exercises are all that is needed for the majority of these injuries to clear up very quickly. If the pain lasts longer than 3 days, then nonsteroidal anti-inflammatories should be taken under a doctor's

supervision. Alexander Scriabin's pains lasted clearly longer than 3 months, so we must assume they had become chronic. Our understanding of chronic pain has changed over the last decades. Nowadays, it is believed that chronic pain is mainly due to maladaptive central nervous plasticity. Via increasing efficiency of synaptic transmission in the dorsal horn of the spinal chord and downregulation of pain-inhibiting circuits, persistent pain leads to increased afferent inflow to the thalamus and the more centrally located neural networks relevant for pain processing (Fields and Basbaum, 1999). Moreover, the anxiety caused by what is perceived as a serious pain event—which Scriabin clearly experienced—promotes a change in the somatosensory representation of the painful limb in the parietal cortex. According to Flor et al. (1997) and Henry et al. (2011), in chronic pain, the homuncular topography is distorted, enlarged, and dedifferentiated. This prominent change in neural representations correlates to pain memory. Typical for pains related to such an associative network of pain memory, symptoms mostly arise when playing, and they occur in different locations and in different forms. A crucial part of therapy is to allay the patients' anxieties in order to break the vicious circle of feeling under threat and prevent the pain from becoming fixed in the pain memory. The sufferers should once again start to play their instrument, and it has been shown that it is best to play for no more than 10 min at a time, several times a day at first. Scriabin's teacher Saffonof gave him the right advice in encouraging him to study technically less demanding pieces by W.A. Mozart in order to cure him from the “hot spices of Don Juan.” Unfortunately, Dr. Grigory Zakharin did not react in a supporting way. Telling young ambitious Scriabin, who was so driven and determined to excel and to become famous as a concert pianist, that he would never be able to attain his high-flying goals only increased the psychological pressure and contributed to the downregulation of pain thresholds. For Scriabin, Zakharin's verdict was metaphorically a “death sentence.” With respect to the kumiss cure, which both Dr. Grigory Zakharin and Dr. Alexander Belyaev had recommended, it can be assumed that it was mainly intended to reduce the accompanying psychological distress, which was probably a major symptom in the months after the acute pain. Likewise, in favor of a more psychosomatic disorder is the assessment and counseling of the eminent neurologist Erb, who recommended a bathing cure close to Lake Geneva. When he examined Scriabin, the latter already had found his way back to the piano and probably was predominantly suffering from psychological issues, such as uncertainties about his financial status, marital conflicts, and anticipatory anxieties concerning the long-term ability to work under pressure with his previously injured right hand. Of course, these fears may well have originated in his perfectionist and constrained personality.

4 CODA

Alexander Scriabin's medical history is instructive in many ways. He received excellent training from an eminent teacher of the famous Russian Piano School, and he was clearly an excellent pianist, as he was able to perform his own highly virtuosic

piano works. Contemporary reviews of eminent experts and witnesses of his piano recitals in Europe and the United States praised his playing. As further, even more vivid evidence of the quality of his playing and his highly captivating personal style, the original Welte-Mignon and Hupfeld piano-roll recordings of his works can be consulted (Leikin, 2011).

His crisis as a young man is a warning to all aspiring young pianists: A change of technique, for example, of sonority of sound or of repertoire, needs the careful preparation and supervision by an experienced teacher and should not be undertaken alone. This is especially important if the student is inclined toward compulsive working behavior, a self-destructive and self-exploiting lifestyle, or to excessive demands on himself. From a musical-medical point of view, Scriabin's is an interesting case because we have at our disposal sufficient source material, which allows us to trace many details of a major historic artist's case history. The causes of pain, the courses it took, the desperate efforts to fulfill his concert commitments, and the psychological consequences it produced are typical for any ambitious young artists seeking help in a present-day musician's medicine clinic. From a musicological standpoint, the energetic diversion of Scriabin's creative potential away from piano playing to composition shows the tremendous will for creation, which had already set him apart as an adolescent. For us, Scriabin's decision to follow a career as a composer rather than as a pianist was a blessing, because it allowed his creative talent to be developed to masterful perfection.

ACKNOWLEDGMENT

The author would like to thank Maria Lehmann for her careful language editing and improvement of the original manuscript.

REFERENCES

- Altenmüller, E., 2005. Robert Schumann's focal dystonia. In: Bogousslavsky, J., Boller, F. (Eds.), *Neurological Disorders in Famous Artists*. *Frontiers of Neurology and Neuroscience*, vol. 19. Karger, Basel, pp. 179–188.
- Altenmüller, E., Jabusch, H.-C., 2010. Focal dystonia in musicians: phenomenology, pathophysiology, triggering factors, and treatment. *Med. Probl. Perform. Art.* 25, 3–9.
- Altenmüller, E., Ioannou, C.I., Lee, A., 2015. Apollo's Curse – Neurological Causes of Motor Impairments in Musicians. In: *Progress in Brain Research*. Vol. 217. Chapter 5.
- Bowers, F., 1996. *Scriabin: A Biography*. Dover Publications, Mineola, NY.
- Carlyon, R.P., 2004. How the brain separates sounds. *Trends Cogn. Sci.* 8, 465–471.
- Fields, H.L., Basbaum, A., 1999. Central nervous system mechanism of pain modulation. In: Wall, P.D., Melzack, R. (Eds.), *Textbook of Pain*. Churchill Livingstone, Edinburgh, pp. 309–329.
- Fishbein, M., Middlestadt, S.E., Ottati, V., Straus, S., Ellis, A., 1988. Medical problems among ICSOM musicians: overview of a national survey. *Med. Probl. Perform. Art.* 3, 1–8.

- Flor, H., Braun, C., Elbert, T., Birbaumer, N., 1997. Extensive reorganization of primary somatosensory cortex in chronic back pain patients. *Neurosci. Lett.* 224, 5–8.
- Garcia, E.E., 2004. Rachmaninoff and Scriabin: creativity and suffering in talent and genius. *Psychoanal. Rev.* 91, 423–442.
- Hammer, M., 2006. Rheumatoide arthritis. In: Baron, R., Strumpf, M. (Eds.), *Praktische Schmerztherapie*. Springer, Heidelberg, pp. 265–267.
- Harman, S., 2010. The evolution of performing arts medicine. In: Sataloff, R.Z., Brandfonbrener, A.G., Lederman, R.J. (Eds.), *Performing Arts Medicine*, third ed. Science and Medicine, Narberth.
- Hellmundt, C., 1988. *Alexander Skrjabin: Briefe*. Philipp Reclam jun., Leipzig.
- Henry, D.E., Chiodo, A.E., Yang, W., 2011. Central nervous system reorganization in a variety of chronic pain states: a review. *PM R* 3, 1116–1125.
- Leikin, A., 2011. *The Performing Style of Alexander Scriabin*. Ashgate Publishing Company, Burlington, USA.
- Lobanova, M., 2004. *Mystiker, Magier, Theosoph, Theurg: Alexander Skrjabin und seine Zeit*. Von Bockel Verlag, Hamburg.
- Powell, J., 2014. *Scryabin, Aleksandr Nikolayewich*. Grove Music Online. Oxford University Press. <http://www.oxfordmusiconline.com/public/help/> (Retrieved October 5, 2014).
- Rosset-Llobet, J., Candia, V., Fàbregas, S., Ray, W., Pascual-Leone, A., 2007. Secondary motor disturbances in 101 patients with musician's dystonia. *J. Neurol. Neurosurg. Psychiatry* 78, 949–953.
- Sabanejew, I., 2005. *Erinnerungen an Alexander Scriabin*. (E. Kuhn, Trans.). Verlag Ernst Kuhn, Berlin.
- Safonoff, W., 1916. *New Formula for the Piano Teacher and Piano Student*. J. & W. Chester, London.
- Schloezer, B., 1987. *Skriabin: Artist and Mystik*. (N. Slominsky, Trans.). Oxford University Press, Oxford.
- Shields, N., Dockrell, S., 2000. The prevalence of injuries among pianists in music schools in Ireland. *Med. Probl. Perform. Art.* 15, 155–167.
- Smith, K.M., 2013. *Skryabin, Philosophy and Music of Desire*. Ashgate Publishing Company, Burlington, USA.