Annotation: Unbeknown to the author of this paper at the time of writing the similarity between Chopin's op 68.4 and the Tristan Chord passage has been noted previously by Maciej Gołąb (Über den Tristan-Akkord Bei Chopin, Chopin Studies 3, pp. 246-256, 1990)

LHE 18.11.2011

The Tristan Chord in Context

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Abstract

The Tristan Chord is possibly the single most famous chord in music history. In fact, we might not exaggerate if we claimed that much of Richard Wagner's fame is based upon *Tristan und Isolde* where the Tristan Chord powerfully opens the overture. However, this chord does not only open the overture of the opera but can be found throughout the opera and forms the backbone during the *Liebestot*.

Now, the Tristan Chord has received attention by numerous musicologists stretching more than over one century. Most of these musicologists focus on the harmonic or hermeneutic analysis of the passage. However, little interest seems to exist in the question of the ontogenesis of the Tristan Chord passage. Although the similarity between the Tristan Chord and Liszt's "Ich möchte hingehen" has been observed within the existing literature, the fact that the Tristan Chord and its entire surrounding passage are identical with a passage within Chopin's op.68.4 has not been noted.

This paper briefly touches on the observation made as by major musicologists in regards to the Tristan Chord, and touches on pre-runners of the chord as found within the music by earlier composers. However, there will be two focus areas.

Firstly, op 68.4 by Chopin survives only in an original fragment and has undergone a complex editorial process which will be disseminated. Secondly, the question will be asked if Richard Wagner can rightly be accused of intellectual copyright theft or not. This issue itself will be divided into three questions of a) whether Chopin's op 68.4 predates the opera *Tristan und Isolde*, b) whether Richard Wagner had access to the music and c) whether Richard Wagner would be motivated to commit copyright infringement. This last question will be supported by producing an estimated probability as to whether the Tristan Chord passage and Chopin's passage are identical by chance. It will be demonstrated that there exists overwhelming evidence to classify the Tristan Chord as a copyright infringement indeed, which puts into question who ought to profit from the Wagner logo.

1. Introduction

There exists little doubt that the Tristan chord has fetched attention within the community of musicologists and composers like no other. In fact, we might claim that any musicologist and composer who aspire to be of high raking will have made some remarks on the Tristan chord and a potential list of such highfliers contains names such as Dahlhaus (1970), Forte (1988), Hindemith (1940), Kurth (1920), Lorenz (1926), de la Motte (1976), Nattiez (1985), Schoenberg (1967) and Tovey (1939). But

even the year 2007 has seen several publications on the topic including Magee and McClatchie. However, while the vast majority of publications focus on analytical and hermeneutic issues, Vogel (1962) appears to be an exception in as much as he pointed out that the Tristan chord can be found in earlier works. Here, Vogel (1962) points to composers such as Purcell, Bach, Mozart, Spohr and Beethoven. Particularly Beethoven appears interesting as the Tristan chord appears consecutively 4 times during quasi-cadencial passages (op 31, No 3, first movement, bar 33 to 42) and in not entirely dissimilar meaning. However, what does seem as much striking as it is puzzling is the fact that none of these researchers and composers appear to have noticed that the entire Tristan chord passage can be found in the exact same key, harmony and melodic progression in a fragment by Chopin which later has to become known as op 68.4 by Chopin.

This paper will examine some of the more profound analytical observation in regards to the Tristan chord passage and will offer an alternative analysis based on virtual pitch. It will look at some of the pre-runners to the Tristan chord with an emphasis on Beethoven. This will be followed by a scrutiny of Chopin's fragment and whether the Tristan chord passage can be attributed to Chopin indeed and not to one of the editors. In a final step, the question of whether Wagner copied the passage from Chopin or not will be investigated.

2. The chord, the passage and its analysis

The piano reduction of the Tristan chord passage is the following one:



Figure 1: The Tristan chord passage as it appears at the opening of the overture

Possibly the first formal analysis of this passage can be found in Kurth (1920) who considers this to be a *dominantische Kadenz* (dominant cadence) moving from *b*-*major* 7th to *e*-*major* 7th with the implied *tonic* of *a*-*minor*. However, while the *e*-*major* 7th chord is clearly visible (2nd beat bar three), the same is not true for the *b*-*major* 7th. The chord at the end of bar 2 (*f*, *b*, *d*#, *a*) might seem similar to the *b*-*major* 7th chord, but the *f* in the bass destroys any actual similarity.

A second analysis some years later was offered by Lorenz (1926), and as much as this analysis clearly anchors the passage in *a-minor*, it reduces the passage to a two bar phenomenon which renders the passage almost unrecognizable (compare figure 2).



Figure 2: Lorenz's reduction of the Tristan chord passage

Most strikingly the harmony (f, b, d#, g#) has been entirely removed which de facto means that this reduction omits the Tristan chord itself and this in the light that this is the very chord which propelled this passage to unprecedented fame.

Adding to the overall existing confusion, Hindmith (1940) offered the following analysis (figure 3).



Figure 3: Hindemith's analysis of the Tristan chord passage

Quite rightly and in line with other analytics such as Nattiez (1987), Hindemith places the passage into the key of *a-minor/major*. He then exclaims that the passage is based on a 2 part counterpoint by omitting the alto and tenor part. The rational for this remains utterly unclear. However, how he arrives at the conclusion that the underlying harmonies are *f* for bar 1, g# for bar 2 and *e* for bar 3 is a mystery. Particularly the g# for bar 2 is truly amazing. The fact that he opens his analysis pompously with "The prelude to '*Tristan*' is one of the most beautiful examples of ingeniously worked-out two part counterpoint" does not help and we might feel inclined to dismiss this analysis all together.

Forte (1988), in his attempt to persuade us that pitch class theory is the long awaited promise finally fulfilled, understands the chord as the atonal set 4-27. Not only that this explanation does little to explain anything, it is based upon the hypothesis that the

passage is neither in a minor nor major key. This is a position which the author personally – alongside with the majority of other researchers - finds indefensible.

Quite unexpected perhaps, a more interesting analysis of the Tristan chord was put forward by the electric engineer Terhardt in 1982 (figure 4).



Figure 4: The roots to the Tristan chord according to Terhardt

Even without knowledge of Terhardt's virtual pitch theory, the claim that the chord *f*, *b*, *d#*, *g#* ought to fetch the root *c#* makes perfect sense. This is, we are simply dealing with the *c# major* 7^{th} 9^{th} chord without tonic in its first inversion (as pointed out by Terhardt). It seems unclear to the author why apparently no one before Terhadt had made this observation officially. Terhardt's assignment of the *c#* to the Tristan chord is in agreement with Hofmann-Engl's virtual pitch (1991, 1999).

Interestingly, the c# implies that we are in *a*-major rather than *a*-minor. If we agree to consider the 6th beat in bar 2 and the 1st beat in bar 3 to be passing notes, we might be inclined to interpret the *f* in bar 1 to be a quasi-passing note to *e*. If we are willing to agree to this, we get figure 5:



Figure 5: Roots to the Tristan chord passage treating *f*, *a* and *a*# as passing notes

As we will find later in the context of Chopin's op. 68.4, the idea to relate the passage to *a-major* rather than *a-minor* will be of great importance.

Summarising, we conclude that a number of interpretations of the Tristan chord passage have been discussed but the most satisfying one appears to be an extended form of Terhardt's interpretation.

2. Pre-runners to the Tristan Chord

While it is correct that pre-runners to the Tristan chord can be found, it might be difficult to sustain the claim that it can be found in the works of Purcell (Dido and Aeneas) or in the works of Bach (Cantata No 82) simply because whether these works contain the Tristan Chord or not depends on the interpretation of the figured bass instructions. However, it exists, according to Vogel (1962) within the works by Mozart (requiem) and Spohr (concerto for two violins). Even so, while Sphor's 'Tristan chord' passage contains a chromatic melodic line in the soprano just as does Wagner's prelude, it actually does not contain the Tristan chord (compare figure 6). Additionally, it can be found in op 81a by Beethoven, and we can safely assume that there are a variety of other compositions where the same chord has been made use of.



Figure 6: Passage taken from Spohr's concerto for 2 violins

However, op 31 No 5 (1st movement, bar 33 to 42) by Beethoven takes in a particularly interesting position. The extract is given below (figure 7).



Figure 7: op 31.5, first movement, bar 33 – 42 by Beethoven

Comparing this to the first eleven bars of the prelude (figure 8), we can observe two similarities. Firstly, the Tristan chord is surrounded by a cadencial passage without

resolution in both cases and secondly, both passages transpose the Tristan chord with Beethoven doing so three times and Wagner doing this two times.



Figure 8: The first eleven bars of the Tristan prelude in a piano reduction

However, maybe the most striking exposure of Wagner to the Tristan chord before the completion of the Tristan prelude in 1858, is the anecdote as recorded by Witeschnik. This anecdote describes Liszt playing at Wagner's home in Bayreuth excerpts from his Dante symphony on the 27th August 1878. At one point, as Wagner appeared to notice a resemblance between a certain passage and a passage in his Walküre, Wagner is said to have exclaimed: "Listen, that's what I have stolen from you." Liszt is said to have replied: "Well, at least someone will hear it this way." This in addition that Cosima noted in her diary on 27th and 29th August 1878 that Wagner had confessed to her that he had "vieles gestohlen" (stolen a lot), prompted Wündisch (2004) to assume that Wagner had stolen the Tristan chord from Liszt's "Ich möchte hingehen" (bar 1 to 3, compare figure 9).



Figure 9: Bar 1 to 3 of "Ich möchte hingehen" by Liszt from 1844

As much as it correct that the Tristan chord appears in this passage, the fact that it is resolved into the relative tonic (deceptive cadence), while Wagner's prelude leaves the passage as did Beethoven without resolution, alters the musical meaning enough, so the author argues, to considers Wündisch's far stretched.

We can conclude with certainty that the Tristan chord appears in the literature before Wagner making use of it within his *Tristan and Isolde*. However, whether Wagner was aware of this is a question which cannot be answered as such. Even if we agree

that Beethoven's example bears some resemblance to Wagner's Tristan chord, the author argues that the position of the chords is quite different. This is, while Wagner resolves the Tristan chord into dominant 7th chord, Beethoven's Tristan chord progresses into a diminished chord.

3. Chopin's op 68.4

Op 68.4 by Chopin is a rather troublesome composition for more than one reason. According to Brown (1972) the first publication of the piece in question dates back to 1852. However, according to Kallberg (1996), it is unlikely that it was published before 1855. This is, we can trace it back with certainty to the supplement of the musical journal *Echo* published in its fifth year in Berlin in 1855. Kallberg is questioning the date 1852 further by referring to a letter from Wilhelmina Stirling to Ludwika Jędrzejewiczowa dated 12.12.1853 indicating that Fontana was still waiting to obtain a copy of Franchomme's edition. Whatever, the exact situation was, it appears to be agreed that the composition was published before 1858, and this is sufficient knowledge in this context as we will see later. Accepting Kallberg's view, we take it that the first publication of op 68.4 was an edition by Fontana in 1855.

A second troublesome issue is to do with the question of who exactly composed what. The fact, that Fontana printed the following remark on the first edition

Diese Mazurka ist die letzte Inspiration des Meisters, kurz vor seinem Tode; er fühlte sich bereits zu schwach um dieses Stück auf dem Piano selbst zu versuchen.

[This Mazurka manifests the last inspiration of the master, shortly before his death; - he already was too weak to try this piece himself on the piano.]

might have enhanced sales, but was a distortion of the truth and a deliberate distortion of the truth by Fontana.

In 1951, as Kallberg (1996) reports, Arthur Hedley was the first musicologist of the 20th century to view the apparently only existing original sketch of op 68.4 which at the time was in the position of a descendant of Franchomme. The sketch is now in the possession of the Fryderyk Chopin Society, Warsaw (compare Wróblewska-Straus, 1995).

Looking at the sketch (figure 10), it is no surprise that Hedely's discovery caused some furore. In fact, it prompted a number of authors to attempt to produce the most authentic rendition to what they felt was a betrayal by Franchomme and Fontana. As pointed out by Wróblewska-Straus (1995), there have been at least 6 attempts to reconstruct op 68.4 from the sketch. These attempts were undertaken by Arthur Hedley (1991), Ludwik Bronarski (1955), Jan Ekier (1965), Wojciech Nowik (1969), Ronald Smith (1975) and Miłosz Magain (1983). However, the question which is of interest in the context of the Tristan chord is clearly not who else produced yet another version of op 68.4, but whether the Tristan chord passage is part of Chopin's sketch, whether Franchomme 'composed' the passage or whether it was Fontana.

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Figure 10: Chopin's sketch for op 68.4

In order to answer this question, we enlarged the last bar of the first stave and the first bar of the second stave of the sketch which can be seen in figure 11.

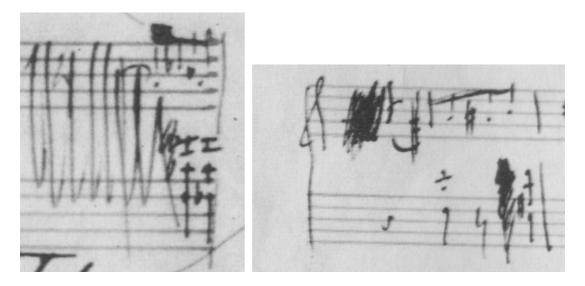


Figure 11: Showing the *Tristan chord* passage within Chopin's sketch to op 68.4

There can be no doubt that bar 14 of op 68.4 as published by Fontana in 1855 is close match to Chopin's sketch. However, bar 13 of this publication does somewhat differ more considerably when compared to the sketch.

We can agree that the melodic lines are somewhat identical. However, the two chords and in particular the Tristan chord are more problematic. While we can even go so far as to say that the second chord (*f flat, c flat, e double flat*) is rendered identically in Fontana's version, the first chord either reads: *e double flat, c flat* and *f* or *e flat* (if we accept that Chopin crossed out the first *flat* on purpose), *c flat* and *f*. It further appears that the first option is exactly what Franchomme read, when he produced his version in 1852 as can be seen in figure 12.



Figure 12: Franchomme's version of op 68.4 from 1852

Fontana's version in comparison reads (figure 13):



Figure 13: Fontana's version of op 68.4 from 1855

We might wish to argue that maybe a more elaborated or second fragment to op 68.4 existed, but the letter by Sterling written on the 18th June 1852 makes this an unlikely assumption. The letter reads:

[quote from Sterling's letter]

En attendant, je vous envoie par M^{me} P.[usłowska] ce que F[ranc]h.[omme] a pu débrouiller la derniere Maz[urka] écrite à Chaillot [que] tout le monde a cru parfaitement indéchiffrable, mais F[ranc]h.[omme] est parvenu à l'écrire. Il me l'a apportée d'abord sur deux morceaux de papier, comme il n'osait pas unir les deux parties, mais en y ajoutant une note (le mi) dans la Basse avec le si, cela fait un tout. Je sais que vous en serez contente.

[unquote]

[While waiting, I send you through Mme P.[usłowska] that which F[ranc]h. [omme] was able to unravel of the last Maz[urka] written at Chaillot [i.e. rue Chaillot, Chopin's penultimate address], [which] everyone believed perfectly indecipherable, but F[ranc]h.[omme] managed to write it out. He brought it to me first on two pieces of paper, as he did not dare to unite the two parts, but in adding one note (the e) in the Bass to the b, that made a whole. I am sure you will be satisfied.]

Translation: Kallberg

Hence, it seems most sensible to assume that Fontana based his edition on Franchomme's deciphered version altering the *e double flat* of chord one to *e flat* and inserting the *e double flat* only for the second chord.

We conclude that op 68.4 was firstly published in 1855 by Fontana containing the Tristan chord. Whether the Tristan chord was intended by Chopin remains slightly unclear, but both Franchomme and Fontana seem to have thought that it did.

4. The writing of the prelude to *Tristan und Isolde*

We know that op 68.4 was published in 1855 and that it was talked about at least from 1852 on and that Franchomme produced a first version to it in the same year. The sketch itself appears to date back to 1845 to 1849 (Kallberg, 1996). However, a minimum requirement to support a claim that Wagner stole the Tristan chord passage from op 68.4 is, that Wagner's composition does not predate 1855. Hence, the question: When did Wagner write the prelude to *Tristan und Isolde*?

There are two primary sources which put an exact date to the completion of the prelude. These are Wagner's autobiography *Mein Leben* and Wagner's letters (ed. John N. Burk). Additionally, a secondary source supports both primary sources (Bailey, 1985).

Wagner sent off the first act to *Tristan und Isolde* on the 3rd April 1858 and just a few days later on the 7th April 1858, he instructed a servant to deliver a letter together with the penciled draft of the prelude to Mathilda Wesendonck in order for her to trace over the script with ink.

In spring 1858, Otto Wesnedonck had made available a small house in close proximity to his own villa in Zürch for Wagner to write on his *Tristan und Isolde*. Some sort of infatuation between Wagner and Mathilda Wesendonck ensued prompting much speculation in years to come on whether the two had a platonic or sexual relationship as well. Considering that Wagner was accompanied by his then wife Minna and that Mathilda was married to Otto renders this infatuation pathetic in either case. At least this appears to be the stand Minna Wagner had taken.

Unfortunate for Richard and his lover Mathilda, Minna intercepted his love letter sent together with the prelude on the 7th April 1858. Fortunate for us, this means we can put an exact date for the completion of the prelude and unfortunate for Richard, this event made his departure from Zürch necessary. Yet again, Richard was on the run.

5. Wagner's knowledge of Chopin

Quite clearly, Wagner was well aware of Chopin existence.

Firstly, we might want to take into account that Chopin was a well established figure as a composer of international status. In fact, we might go so far as to say that Chopin was a *super star*. Not only can we conclude this from Schumann's (1831) response in the *Allgemeinen Musikalischen Zeitung*, but Kallberg's (1982) painstakingly precise analysis of Chopin's late manuscripts and editions leaves no doubt that this was the case.

Additionally, Chopin's late lover George Sand had a close relationship with Franz Liszt who did not only support Wagner by performing his music (e.g. delivering the second performance of the Tristan prelude during the *Tonkünsterversammlung* between the first and fourth of June in 1859), but also a very personal relationship in later years through the marriage of Wagner to Wagner's second wife Cosima, who was the daughter of Liszt. The fact, that Liszt had a good relationship with Sand and that he was kept informed about Chopin, is documented within the following letter written by Sand to Liszt probably in spring 1841 (La Mara, 1895):

[quote]

Monsieur Liszt

Cher vieux, Je vous remercie de la pipe que vous m'annoncez et que je n'ai pas reçue. Je sais d'avance qu'elle sera charmante, et ne le fút-elle pas, elle ne me sera pas moins chère, venant de vous.

Pourvu que vous ne veniez pas avant 3 heures, je vous recevrai tonjours, sauf à vous faire attendre 3 minutes pur sortir des limbes du sommeil oû je suis encore quelquefois à cette heure-là. Chopin est malade aujourd'hui, et moi aussi; mais nous n'en sommes pas moins vivants pour vous aimer de cæur.

[unquote]

This letter does not surprise if we take into account that it was Liszt himself who introduced Sand to Chopin in 1836, and it was Liszt (1841) who reviewed one of Chopin's more important concerts which took place on the 26th April 1841 in Paris. The fact that Liszt (1852) also produced the first biography on Chopin shortly after his death in 1849 just adds momentum to our argument that Wagner must have had substantial insight into Chopin's oeuvre.

However, we face the particular problem with Wagner's *Mein Leben* (1963) written in 1880 which does not once mention the name Chopin. True, that Wagner might not wish to mention every composer, but looking at the list of composers he does mention, we might wonder:

Composer	Occurrences within Mein Leben
Liszt	194
Beethoven	50
Meyerbeer	42
C. M. Weber	31
Mendelssohn	26
Berlioz	17
Mozart	16
Domizetti	10
Schumann	9
J.S. Bach	5
Spohr	3
Johann Strauß	2
Brahms	1
Chopin	0

Table 1: Indicating how often Wagner mentions major composers in his	
autobiography Mein Leben	

Not only does this table confirm Wagner's close relationship with Liszt, but it seems to indicate that he either was unaware of Chopin, considered him to be too unimportant or did not want to mention Chopin for personal reasons.

Cosima Wagner's diary (1978 edition) is most interesting in this context as she noted in her diary that Chopin's music was clearly part of the Wagner home. For instance, Cosima reports, that on the 18th July 1872, Rubinstein played Chopin at their home. A few months later Liszt does the same on the 4th September 1872. On the 6th March, Richard and Cosima quarrel over Chopin, on the 31st of October 1874, Richard explains that he disapproves of Chopin's modern style only to be found playing himself Chopin on the 31st December 1879 after he apparently improvised in Chopin's style on the 20th August 1879. There can be no question that Richard was more than aware of Chopin, but clearly deeply jealous about Chopin's apparent success.

6. Estimated probability of random similarity

Interpreting Wagner's melody as a prolonged g# followed by a, a# and b and interpreting Franchomme's and Fontana's version as an ornamented g# followed by a, a# b, we get:

Wagner:	<i>g# g# g# g# g# g# g# a a# b</i>
Franchomme:	g#b a#g#g#g#g#a a#b
Fontana:	g#b a#g#g g g# a a#b

We, obtain a melotonic (pitch) similarity of 65% between Wagner and Fontana and 80% between Franchomme and Wagner (with $k_1 = 1.9 * 10^{-5}$ and $k_2 = 3.3 * 10^{-6}$, compare Hofmann-Engl, 2003).

Additionally, Franchomme's harmony progression $(f, c^b, e^b, a^b) - (f^b, c^b, e^b, b^b) - (f, b^b, d, g^\#) - (e, g^\#, d, a^\#) - (e, g^\#, d, b)$ seems random in terms of its dissonance/consonance progression. This is, the sonance factors (compare Hofmann-Engl, 1990, 1999) predicting the degree of dissonance (from 0 (noise) to 1 (single tone)) are the following ones:

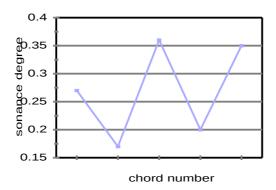


Figure 14: Sonance progression according to Franchomme

Fontana's progression on the other hand $(f, c^b, e^b, a^b) - (f^b, c^b, e^{bb}, b^b) - (f^b, b^b, d, g^{\#}) - (e, g^{\#}, d, a^{\#}) - (e, g^{\#}, d, b)$ is a clear build-up of the dissonance and its resolution into $e g^{\#} d b$ (compare figure 15).

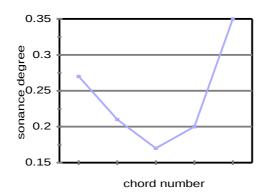


Figure 15: Sonance progression according to Fontana

Now, considering that Wagner's melody is substantially more similar to Franchomme's version (23%), we will assume that Wagner based his prelude on Franchomme's version. Wagner, noticing that the two middle chords do not support the passage, deletes those two chords, deletes the embellishment of the g# and obtains the exact passage for his Tristan chord passage.

Further, the *f* and *a* in the previous bar gets reversed to *a* and *f*. Finally, the semitone between *a* and *g*# leads easily to adding another minor second to *f* by adding *e* creating the symmetrical pitch set: *e*, *f*, *g*# *a*. This would explain the opening melody: $a f e a^b$.

An estimated probability could be the following: If we agree to put a large probability to the dominant chord - e, g#, d, b - (as it forms the quasi-end) of 80%, an exaggerated probability to make use of the Tristan chord of 10% and the probability for the

melody to be similar by chance as estimated as 20% (100% - 80%), we obtain: 01. * 0.8 * 0.2 = 0.016. This is, we can assume safely that the similarity between Chopin's and Wagner's passages is with great certainty not chance, but the result of Wagner copying from Chopin.

7. Would Wagner copy Chopin

We established that there exists a high probability that Wagner copied from op 68.4. However, in order to close this case, we might wish to ponder upon the question whether Wagner would want to copy Chopin or whether the similarities between op 68.4 and the Tristan prelude are one of those rare and strange occurrences without further meaning.

Firstly, as mentioned above Wagner admitted to Cosima Wagner that he stole much from others (diaries 27th and 29th August 1878). This is certainly not a good starting point.

Secondly, the fact that Wagner does not mention Chopin once in his autobiography, although Chopin formed a large part of his life, might be seen as indicative that Wagner wanted to hide the fact that he stole from Chopin as well.

However, the third and maybe strongest argument arises from Fontana's selling strategy of op 68.4 claiming that this was Chopin's last work. Considering that the German Romantics had an obsession with last sayings and external signs such as storms (compare Steen, 2003), we can assume with great certainty that op 68.4 would be of particular interest to all living composers including Wagner.

8. Conclusion

We set out showing that a few isolated pre-runners exist do the Tristan passage. We further established that op 68.4 by Chopin underwent a long editorial process. However, the Tristan passage can be found in high similarity in the sketch to op 68.4. We then established that Wagner was very familiar with Chopin and that the similarity between the Tristan chord passage and op 68.4 are related beyond reasonable doubt. Finally, taking Wanger's general conduct and attitude into account, we conclude that Richard Wagner had access to op 68.4 – probably in form of Franchomme's edition - and that Wagner copied the passage by deleting two chords and a melodic embellishment.

Considering the enormous impact the Tristan passage had over more than 150 years, we might be willing to view this as one the greatest thefts in music history.

References

Bailey, R. (1985). *Richard Wagner: Prelude and Transfiguration from "Tristan and Isolde"* (ed. Norton Critical Scores series). New York: W. W. Norton

Brown, M. J. E. (1972). *Chopin: An index of his works in chronological order* (2nd rev. edition). London

Dahlhaus, C. (1970). *Die Beduetung des Geistlichen in Wagners Musikdramen*. Oldenbourg Verlag, Munich

Forte, A. (1988). New Approaches to the Linear Analysis of Music. Journal of the American Musicological Society, Vol. XLI (2): 315-348.

Hindemith, P. (1940). Unterweisung im Tonsatz. Berlin

Hofmann-Engl, L (2003). *Melodic similarity and transformations: a theoretical and empirical approach*. Keele University, PhD thesis

Hofmann-Engl, L. (1999). *Virtual Pitch and Pitch Salience in Contemporary Composing*. Proceedings of the VI Brazilian Symposium on Computer Music at PUC Rio de Janeiro

Hofmann-Engl, L. (1990). *Sonanz und Virtualität*. MA Thesis, TU Berlin (unpublished)

Kallberg, J. (1996). *Choipin at the boundaries: sex, history and musical genre*. Harvadr Press, Camb. Mass.

Kallberg, J. (1982). *The Chopin sources: variants and versions in later manuscripts and printed editions.* PhD these, University of Chicago

Kurth, E. (1920). Romantische Harmonik und ihre Krise in Wagner's Tristan. Berlin & Leipzig

La Mara (1985). Briefe hervorragender Zeitgenossen an Franz Liszt. Nach den Handschriften der Weimarer Liszt-Museums mit Unterstützung von dessen Custos Geheimrath Gille . Leipzig

Liszt, F. (1852). Chopin. M. Escudier, Editeur, Rue Richelieu 102, Paris

Liszt, F. (1841). *Review to Chopin's concert form April 26 1841*. Revue et Gazette musicale de Paris, May 2nd 1841

Lorenz, A. (1926). Das Geheimnis der Form bei Richard Wagner. Berlin

Magee, B. (2007). *The Secret of Tristan and* Isolde. Philosophy (82): 339-346 Cambridge University Press

Motte, de la, D. (1976). Harmonielehre. Bärenreiter Verlag, Kassel-Basel-London

McClatchie, S. (2007). Review of : *The Tragic and the Ecstatic: The Musical evolution of Wagner's Tristan und Isolde* (Chafe, E.). Music and Letters 88(3): 492-495, Oxford University Press

Nattiez, J-J. (1987). *Music and Discorse: Toward a Semiology of Music*. (Translated by Abbate, C.). Princeton University Press

Schoenberg, A. (1967). *Fundamentals of Musical composition*. Faber & Faber Ltd, London

Schumann, R. (1831). *Ein Werk II*. In: gesammelte Schriften (ed. ed. Kreisig, M, 1914), Breitkopf & Härtel

Steen, M. (2003). The Lives and Times of the great composers. Lebrecht, London

Terhardt, E. (1982). Die Psychoakustischen Grundlagen der Musikalischen Akkordgrundtöne und deren algorithmische Bestimmung. In: Tiefenstruktur der Musik (ed. Dahlhaus C. & Krause M.). TU & AdK Berlin

Tovey, D. F. (1939). Essays in Musical Analysis. London

Vogel, M. (1962). *Der Tristan-Akkord und die Krise der modernen Harmonie-Lehre*. Verlag der Gesellschaft. zur Förderung d. Systematischen Musikwissenschaft, Düsseldorf

Wagner, C. (1978). Cosima Wagner's diaries (ed. Gregor-Dollin, M & Mack, D; transl. Skelton, G). Collins, London

Wagner, R. (1951). Letters (ed. J. N. Burk). The Burrell Collection, London

Wagner, R. (1963). Mein Leben. Paul List Verlag, Munich

Wróblewska-Straus, H. (1995). *The autograph manuscript of the Mazurka in F minor Op.* 68, *No. 4 Sketch*. Opusclu Musealia, 8-9

Wündisch, S. (2004). Richard Wagner und das Urheberrecht. Wissenschaftsverlag, BWV Berlin