Solving Elgar's Enigma

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On June 19, 1899, Elgar's opus 36, Variations on a Theme, was introduced to the public for the first time. It was accompanied by an unusual program note:

It is true that I have sketched for their amusement and mine, the idiosyncrasies of fourteen of my friends, not necessarily musicians; but this is a personal matter, and need not have been mentioned publicly. The Variations should stand simply as a "piece" of music. The Enigma I will not explain—its "dark saying" must be left unguessed, and I warn you that the connexion between the Variations and the Theme is often of the slightest texture; further, through and over the whole set [of variations] another and larger theme "goes" but is not played . . . So the principal Theme never appears, even as in some late dramas—e.g., Maeterlinck's "L'Intruse" and "Les sept Princesses"—the chief character is never on the stage. (Burley and Carruthers 1972:119)

After this premier Elgar give hints about the piece's "Enigma," but he never gave the solution outright and took the secret to his grave. Since that time scholars, music lovers, and cryptologists have been trying to solve the Enigma. Because the solution has not been discovered in spite of over 108 years of searching, many people have assumed that it would never be found. In fact, some have speculated that there is no solution, and that the promise of an Enigma was Elgar's rather shrewd way of garnering publicity for the piece. Others have even argued that the larger Enigma was a joke or a hoax; that Elgar never had any Enigma but instead tricked people to search in vain (Rushton 1999:64). Elgar refused to validate any solution offered during his lifetime, and therefore no solution can ever be proven beyond the shadow of a doubt. However, the composer offered a series of hints that provide a rubric for evaluating the plausibility of various solutions.

Julian Rushton (1999) establishes a set of five requirements based on Elgar's hints, arguing that any solution must satisfy each and every one of them. The composer's first two hints are given in the program notes quoted above. First Elgar writes that there is a "dark saying" involved; and second, he notes that the "Theme goes throughout the piece but is not heard." Later, Elgar gave a third hint when he said on several occasions that it was extraordinary that no one had guessed the Enigma because it was so "well known." The composer's fourth hint was given to his close friend Dora Penny (who later wrote about Elgar under her married name, Mrs. Richard Powell). He

Example 1: Elgar's "Enigma" theme, mm. 1-6.



said that she, of all people, should have guessed it. In 1929 Elgar offered a fifth hint in a note that accompanied the "Duo-Art" pianola rolls of his Variations published by the Aeolian Company. He drew attention to the pairs of notes in the first and second bars before adding that "the drop of the seventh in the Theme [bars 3 and 4] should be observed" (Kennedy 1968:91). The first six measures of the "Enigma" theme are given as example 1.

Two more hints will be explored by us here, and one of those hints provided the impetus for this article. In October 1911, Elgar wrote additional program notes for a performance of the "Enigma" Variations. He included the qualifying phrase, "This work, commenced in a spirit of humour . . ." (Kennedy 2004:68), suggesting that the solution might be lighter in character than many writers on Elgar's music have presumed until now. We argue that a seventh hint could be found in the wording of his dedication, "To My Friends Pictured Within," since it could be considered a "variation" of "To My Circle of Friends." It is this hint that led us to a new solution.

This article explores the possibility that *pi*, the ratio of the circumference of a circle to its diameter, is the solution to Elgar's Enigma. It will be shown in the pages that follow how *pi* satisfies all of Elgar's hints: the five hints that Rushton identifies as well as the two other possible hints identified above. We also discuss the implications of "solving" the Enigma, especially as they relate to the piece's popular reception and understanding Elgar's compositional process.

Previous Solutions

Although the majority of Enigma solutions offered in the past were based on identifying a countermelody, Elgar never said that the Enigma was a melody or a tune.¹ Indeed, it is possible—and even probable, as we will argue—that the solution is something entirely unmusical. One popular theory, originally suggested by Dora Penny's husband Richard Powell, was that the Enigma theme is a countermelody to "Auld Lang Syne." Elgar flatly denied that "Auld Lang Syne" was the solution, and, in October 1912, was so annoyed that Penny persisted in suggesting "Auld Lang Syne" as the hidden theme in the "Enigma" Variations that he ended their friendship on the spot (Kennedy 2004:134). In the first edition of her Elgar biography published in 1937, Penny wrote, "My husband's solution... is admittedly plausible and is supported by cogent argument. Nevertheless, I personally have never found



Example 2a: The "Enigma" theme with "Auld Lang Syne" in Bb major.

it convincing." In the 1949 reprint of the book, Penny wrote that due to some new evidence of a "rather private nature," she believed that the case for "Auld Lang Syne" was much stronger than she had originally thought. However, she stated that she did not feel justified in publishing the new evidence, and, even if it were made known, she did not suppose that everyone would be convinced (Powell 1949:130).

This solution does not make much musical sense. Two possible pairings of "Auld Lang Syne" with the Enigma theme are given as example 2; example 2a shows the "Auld Lang Syne" in Bb major against the G minor Enigma theme, and example 2b shows both melodies in G minor. In both examples, the pairings hardly sound convincing. In addition to the awkward counterpoint each of the pairings create, there are two main reasons why "Auld Lang Syne" is not a viable countermelody in either of these keys: (1) the length of the two melodies are incompatible; and (2) where "Auld Lang Syne" ends, the Enigma theme does nothing to support its final cadence gesture of dominant to tonic.²

Theodore van Houten (1976) put forth another solution based on the fact that the first five scale degrees of the Enigma theme are the same as those found in the chorus of "Rule Britannia" where the words, "never, never" are sung. Van Houten suggests that in the hint "So the principal Theme never appears," Elgar is telling us, "the principal Theme, 'never,' appears." Van Houten suggests that when Elgar said "Dorabella, of all people, should have guessed it," he was making a reference to her surname "Penny," and on the back of the new Victorian penny there was a depiction of Britannia ruling the waves. He finds significance in the thirteenth variation, which he hears as depicting a voyage on a steam ship because of a distinctive quote

Example 2b: Elgar's "Enigma" theme with "Auld Lang Syne" in G minor.



from Mendelssohn's "Calm Sea and Prosperous Voyage," and because Elgar instructs the percussionist to roll the timpani utilizing two pennies on the drums' heads, creating a metallic rumble reminiscent of a steam ship's engine. Van Houten writes that this is meant to remind us that Britannia rules the waves. He also calls on the fact that the friend depicted in the fifth variation, Richard P. Arnold, had a house on Britannia Square where Elgar stayed just before writing the variations. Although Van Houten suggests that "never" is a "dark saying," the connection is tenuous because it is highly conjectural. He makes no attempt to relate it to the 1911 hint about the work being "begun in a spirit of humour," nor does he address the hint given by Elgar in 1929 regarding the "crochets and quavers" and "the drop of the seventh." Thus, Van Houten's theory has several compelling elements, but falls short of satisfying all of Elgar's hints.

A third theory, offered by James M. Nosworthy (1977), is that the Enigma is related to the slow movement from Mozart's "Prague" Symphony, K. 504. He does not claim a countermelody solution, but simply that a melody was the inspiration: the first five scale degrees of the Enigma theme are the same as those found in the slow movement of the Mozart. Moore (1991) cites Elgar's well-documented love of Mozart, and the fact that the premiere of the Enigma Variations in 1899 shared the program with Mozart's "Prague" Symphony as evidence, however it is likely that Hans Richter, who conducted that concert, was the one who chose the 1899 program, and Richter never claimed to know what the solution to the Enigma was. Rushton addresses some of the other flaws in this theory: "The Mozart theory involves neither a dark saying nor 'another and larger theme'; nor does it meet the 'Dorabella' criteria, for the 'Prague' is surely not so well known as to be considered obvious" (1999:69).



Example 3: Elgar's "Enigma" theme with "Twinkle, Twinkle Little Star."

A fourth theory that answers several of the hints is a solution of "Twinkle, Twinkle Little Star," detailed by Patrick Turner (1999). This solution answers the hint about a dark saying because its text implies a clear night sky and it is humorous because its source is a common children's song. It is impossible, however, to relate to this solution to the 1929 hint about the "crochets and quavers" and "the drop of the seventh." Example 3 illustrates how the Enigma theme would fit as a countermelody to "Twinkle, Twinkle, Little Star."

While this solution pairs a melody of a suitable length, it still must be suspect because the listener must imagine the tune of "Twinkle, Twinkle, Little Star" in minor. This is not as difficult to accept, however, as is the poorly crafted counterpoint that results from the pairing.³ Elgar stressed many times that his solution was simple, and while the tune to "Twinkle, Twinkle, Little Star" is very simple, the counterpoint (which must be imagined) is not. If the correct piece in a puzzle is supposed to reveal itself based on how well it fits, then the awkward fit of this pairing suggests that we try something else. Only a year later, Stevens belittled the idea when he wrote:

If you have a friend who prides himself on his musical knowledge, try this one: 'Tell me the solution of Elgar's *Enigma*—and no wild guesses, like "God Save the Queen," or a Mozart symphony, a Brahms sextet, or (heaven forfend) "Twinkle, Twinkle, Little Star." (2000:3)

The solutions offered above have compelling elements, but they only work if one is willing to dismiss some of Elgar's comments; that is, if the hints are read selectively.

Finding Pi in the Enigma Theme

In his book on the "Enigma" Variations, Rushton writes: "In 1899 Elgar referred to the appearance of 'the principal motive (Enigma)' at a point in the finale, marked grandioso (cue 68) where the melody is derived only from bars 1-4" (1999:1). Elgar introduced the word "Enigma," but did not do so in the work's title. Patrick Turner writes: "The word appears over the theme at the very start of the work, and it is clear from the way it was added at a late stage to the manuscript full score, where it appears just alongside the metronome marking for the theme, the word applies only to the theme and not to the whole work" (1999:43). This is also supported by Elgar's notes on his 1912 Cantata Music Makers (a work in which he quotes his "Enigma" Variations in several places): "I have used the opening bars of the theme (Enigma) of the Variations" (Moore 1989:249). On the original full score, the word "Enigma" was written directly above the second bar line, exactly in the center of the first four measures. The position of the written word, "Enigma," could indicate that the Enigma was hidden in the first four measures. It is in these measures that the *pi* solution first appears.

The Enigma theme contains two different representations of pi. The first four notes are the scale degrees $3 \cdot 1 \cdot 4 \cdot 2$ in G minor, a pattern that matches the "decimal" approximation of pi, 3.142 (see example 4). The second, "fractional" approximation of pi is 22/7. This is a little more difficult to find, but Elgar's statement that "the drop of the seventh should be observed in bars 3 and 4" directs attention to it. There are exactly eleven notes before the two drops of the seventh occur. Said another way, eleven notes times two sevenths, or $11 \times 2/7 = 22/7$, which is the fractional approximation of pi. There is also a second way that 22/7 can be found in his first four measures. Elgar's reference to two crotchets and two quavers could be a hint at 22 and in the last sentence Elgar refers to bar 7, which could be a hint at a denominator of 7. Putting together the 22 and the 7 again gives us 22/7, the fractional approximation of pi. His 1929 hint gives us two different ways to arrive at fractional pi.

The *pi* solution, in addition to satisfying the composer's hints, offers a deeper understanding of how the work is related to Elgar's preference for mixing humor, friendship, and composition. To be convinced that Elgar would use such an esoteric idea for his work, we must know more about his interests outside of music.

Why Pi?

Pi is the mathematical constant defining the relationship between the circumference of a circle and its diameter. It is the concept of the circle that brings together *pi*, the structure of the variations, and the dedication. Elgar

Example 4: Musical representations of *pi* in the "Enigma" theme.



dedicated his Opus 36, *Variations on a Theme*, "To my friends pictured within." This wording could be a variation of the more idiomatic "To my circle of friends."

Elgar sometimes used the term "circle" in writing and conversation to refer to his group of friends. On May 3, 1911, Elgar wrote to Mrs. Sidney Colvin, "It is terrible to think how many human beings will be spared out of our little life's circle so much easier than my confidant & advisor, Pietro d'Alba" (Kennedy 2004:121). Later, speaking of his friend George Bernard Shaw, Elgar told Sidney Colvin, "He is the kindest-hearted, gentlest man I have met outside the charmed circle" (Nice 1996:84). Clare Wortley, who exchanged several letters with Edward Elgar, described her mother's companions as "a little circle of constant friends" (Moore 1989:5). Why did he not use the phrase "circle of friends" in his dedication? Perhaps he thought that would be too great a hint. If the hints are too direct, the puzzle is quickly solved and forgotten. A puzzle that is difficult to solve surely offers greater satisfaction than does an easy one.

Pi was in the news just one year before Elgar composed the *Enigma Variations*, due to the infamous Indiana *Pi* Bill of 1897, which tried to legislate the value of *pi* (Hallerberg 1977). The Indiana *Pi* Bill claimed that the value of *pi* was not accurately known, but could be calculated by "squaring the circle." Not only had this method been disproven by Ferdinand von Lindemann in 1882, but the value of *pi* had been calculated accurately to 152 decimal places by William Rutherford in 1841. This lapse in judgment by the Indiana legislature attracted worldwide attention and ridicule. The absurd story of the Indiana *Pi* Bill may have come to Elgar's attention and sparked his imagination; the situation would have delighted him, which would explain the impetus of the piece that "commenced in a spirit of humour ..." (Kennedy 2004:68).⁴

How likely is it that Elgar would have heard about the Indiana *Pi* Bill? Elgar enjoyed working on newspaper crossword puzzles when he traveled, and thus it was common for him to have a current newspaper handy. Dora Penny was also known to always have a newspaper with her when she traveled from town to town.⁵ She recounts a story about the time she sent Elgar a newspaper clipping about a football match involving his favorite team. He enjoyed the newspaper article so much that he thanked her by sending her a short musical note written to accompany the words of the sports writer, "He

banged the leather for goal" (Powell 1949:4). During a visit to Elgar's home in Malvern, R. J. Buckley observed, "Tacked to the wall was an uproarious illustrated joke cut from a German newspaper ..." (Powell 1949:34). Elgar was an avid collector of newspaper absurdities and jokes.

Elgar's wife Alice scanned newspapers daily for articles related to Elgar's music and kept a detailed archive of newspaper clippings and musical programs containing mention of his work. Penny assisted Alice in this work and sometimes they spent entire afternoons scanning newspapers and clipping articles for the archives.⁶ Eventually Alice asked Penny to take over the sole responsibility of keeping the archives, and Dora frequently received large packets of clippings from Alice for her to add to the archives.

If Elgar himself did not find a news article about the Indiana *Pi* Bill of 1897, it is very likely that either his wife, Penny, or his friend August Jaeger would have seen such an article and shared it with Elgar. If Penny in fact collected the story about the Indiana *Pi* Bill of 1897, it would explain why Elgar later said, speaking of the Enigma, "Dorabella, I thought you of all people would have guessed it" (Van Houten 1976:130).

While this connection is admittedly speculative, there are additional reasons for suspecting that Elgar was interested in mathematical expressions of naturally occurring patterns such as *pi*. Elgar had a sustained interest in puzzles of all kinds, including secret codes, anagrams, acrostics, and crossword puzzles (Kennedy 2004:31). Elgar's close friend Billy Reed wrote, "[Elgar] was a walking Enigma, always doing and saying the unexpected" (Reed 1939:54). Elgar biographer Robert Buckley noted that "During railway journeys, he [Elgar] amused himself with cryptograms; even solved one by John Holt Schooling, who defied the world to unravel his mystery" (Buckley 1905:41). Robert Anderson traced Elgar's love for riddles and describes this in more detail:⁷

He [Elgar] had collected articles by John Holt Schooling in the Pall Mall Gazette of January to May 1896. These dealt chronologically with various types of ciphers "From Late-Elizabethan Days" until "the present day." There was simple substitution of classical names for current ones, with Queen Elizabeth as Penelope and Sir Robert Cecil as Solon; a musical cipher from the reign of George II, which produced an absurd melodic line and arbitrary rhythms from "I have received yours of the sixteenth"; the numerical cipher of the Russian nihilists; and finally a declaration by Schooling that "the meaning of the cipher which now follows will never be solved by anyone."⁸ (Anderson 1993:113)

Although this interest in cryptograms does not directly point to pi as the solution, it makes the likelihood of a solution like pi seem much more plausible, since the pi solution is based on a substitution cipher like those described above.

Figure 1: The "Dorabella Cipher."

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Elgar's most frequent games were those with language.⁹ The most famous of Elgar's language games is his 1897 note to Dorabella that was encoded in a cipher. This note (Figure 1), is widely known as the "Dorabella Cipher," and has been studied by cryptographic experts and cipher enthusiasts ever since. Like the Enigma theme, it has never been solved to everyone's satisfaction (Jones 2004:56). Note that the cipher (specifically the first three lines) is made up entirely of semi-circles joined together and presented in different orientations.

Even though Penny never solved the Dorabella cipher, Elgar may have believed she was the best suited to solving the Enigma's puzzle, especially if it involved a 3-1-4-2 cipher based simply on translating scale-degrees into numbers.¹⁰ If *pi* is in fact the solution to Elgar's Enigma, Elgar may have also believed she would have been especially able to solve the Enigma's puzzle because she likely would have spent some hours (maybe even days) trying to solve the Dorabella Cipher before giving up, and thus would have likely formed a mental association with Elgar's puzzles and the circle, since the Dorabella Cipher is composed entirely of semi-circles.

Penny saw the mischievous element of Elgar more than did others, so she should have considered looking for a humorous, not a serious, solution to the Enigma. Penny was twenty years younger than Elgar and came to know him because her stepmother was a close friend of Elgar's wife Alice. When the Pennys would come to visit, Elgar would entertain Dora while Alice would visit with Dora's mother. In October 1901, Elgar sent two letters to Penny, and at the end of each letter Elgar signed not with his name but with the first four notes of the "Enigma" Variations (Powell 1949:38). This could have been another hint to Penny that the solution to the Enigma was *pi*, since the first four notes form the scale-degree pattern 3-1-4-2. She had asked him many times about the Enigma, but he always refused to tell her the answer or to even answer any of her questions on the subject. Perhaps in spite of his firm outward stance he was discreetly trying to give her extra help.

It is also worthwhile to look at a few of Elgar's jokes in order to understand the mind of the man who created the Enigma. Jokes (Or "japes" as Elgar called them) were high points of enjoyment and pleasure in the composer's life, and some of these are even included in his musical scores. To cite just one example, Kennedy writes about Elgar's earliest surviving piece of music: "It opens in G major and the second of its two four-bar phrases ends in F sharp minor, a semitone down. 'Jape,' Elgar wrote in his sketchbook" (2004:12).¹¹ This contextual information supports a nonmusical solution, and especially the quirky, contemporarily relevant solution of *pi*.

The "Dark Saying"

The "dark saying" hint has caused many researchers to go off into the dusty corners of the library or to look through their glass darkly,¹² but as it turns out, this could be a pun based on a familiar nursery rhyme "Sing a Song of Sixpence":

Sing a song of sixpence, A pocket full of rye; Four and twenty BLACKbirds Baked in a pie. (pie = pi)

Blackbirds are certainly dark, and the reference to *pi* is cleverly concealed. One could even tie the number of blackbirds to the number of crochets and quavers in the first six measures: there are twenty-four "black dots" in the first six measures. Penny wrote, "At times, he would play all sorts of amusing things; bits from this and that, old songs, nursery rhymes—altered to suit his mood or in imitation of some other composer" (Powell 1949:123). It could be that "Sing a Song of Sixpence" was on Elgar's mind when he wrote the theme to his Variations. Using the phrase "a dark saying" to hint at this nursery rhyme and through it, to hint at *pi*, would be the kind of misdirection that Elgar seemed to appreciate in riddles, puzzles, and jokes in general.

"So the Principal Theme Never Appears"

Elgar wrote that the "theme 'goes' but is not played . . . So the principal Theme never appears, even as in some late dramas—e.g., Maeterlinck's L'Intruse' and 'Les sept Princesses'—the chief character is never on the stage." Elgar may have been using the term "theme" in the literary sense: a unifying idea in a work of art. This would be the case if the solution were *pi*.

Penny wrote that "Critics have complained that Elgar never used the word 'tune' and that, consequently, the word 'theme' which he did use opens the door to the conclusion that the solution is an idea and not a tune at all" (Powell 1949:120). She also remembered that when she talked with Elgar about the Enigma, "we always spoke of the hidden matter as 'it,' never as tune or theme" (Powell 1949:119). Those thinking only in musical terms would be confounded by the thought of a theme that is never played and never appears, and that is why a counter melody was so often offered as the solution. However, if a counter melody really were the solution, logic dictates that the counterpoint it formed with the Enigma theme would be conventional enough to make its identity as the correct solution clear to anyone who heard the two played together. So far, no such counter melody has been suggested.

Conclusion

Elgar shared his Enigma secret with only two people: his wife Alice and his friend, August J. Jaeger. Jaeger said that the Enigma was "a bit of Elgar's humour" (Kennedy 2004:68). Elgar may have had regrets about it later when people took it so seriously that the Enigma took on a life of its own. Many people may have wrongly attributed great depth to his Enigma and Elgar might have realized it would be disappointing if the secret were revealed to be a joke. On October 24, 1898 he revealed his work to Jaeger using his own idiosyncratic style of prose, "Since I've been back I have sketched a set of Variations (orkestry) on an original theme: the Variations have amused me because I've labeled 'em with the nicknames of my particular friends—you are Nimrod . . . It is a quaint idea & the result is amusing to those behind the scenes & won't affect the hearer who 'nose nuffin'. What think you?" (Kennedy 2004:61).

To think that *pi* is the answer to Elgar's Enigma should not diminish the music in any way, though Elgar's concern that revealing the solution to the Enigma might affect the work's reception is understandable (if that was indeed his reason). Rushton (1999) speculates: "Perhaps, when the puzzle was not quickly resolved, Elgar became embarrassed by the solution, either because of its contrived complexity or, on the contrary, because of its banality" (65). Elgar might have become embarrassed if there was something comical about the nature of the solution, as has been suggested by Reed (1939:53), Burley and Carruthers (1972:120), Newman (cited in Kennedy 1968:96), and Young (1955:279). If there was a joke, the joke may have been that there was no solution, but referring to *pi* as part of a "dark saying" if

the intended reference was "Sing a Song of Sixpence" would have probably been equally embarrassing for the composer, at least when presented to the public. Though that kind of humor on Elgar's part was commonplace while he was among his circle of friends, Elgar may have believed it to be inappropriate for a concert hall.

If the solution were *pi*, would the music sound any different to listeners who were in the know? It is doubtful that anyone listening to the "Enigma" Variations would hear anything more or less than one of the most popular orchestral masterworks of the nineteenth century, regardless of whether or not they were aware of and believed in a particular solution to the Enigma. From a musicological position, however, the solution *pi* does explain certain compositional choices. Just as the awareness of musical ciphers in other pieces (such as using B-A-C-H to signify J. S. Bach) illuminates aspects of compositional process, so too would the *pi* solution shed light on how Elgar arrived at the interesting and unusual theme of the "Enigma" Variations.

Another relevant question is: if the solution were *pi*, would the work's reception change? On this point Norman Del Mar writes, "there would be considerable loss if the solution were to be found, much of the work's attraction lying in the impenetrability of the riddle itself" (1998:1). Because the "Enigma" Variations have been popular for over 100 years, it would be hard to imagine a solution having a significant effect on the reception of the work today. Del Mar asserts that a great deal of the work's current "attraction" is tied to the fact that the Enigma was not solved during Elgar's lifetime, but we would argue that what attracts people to the work is its sound, not its origins. The "impenetrability of the riddle" might have been appealing to those programming orchestral concerts at one point in the work's history, but if the work had not been appealing to listeners, few would have cared about the Enigma behind it, and it is doubtful that it would have found its way onto many orchestral concerts regardless of how cleverly conceived the Enigma may have been. The Enigma may have initially been a "foot in the door" that led to more performances shortly after the work was written. However, the work is now an important part of the orchestral performing canon, and it is unlikely that the Enigma alone was ultimately responsible for securing the work's place in that canon, and thus, a correct solution to the Enigma is unlikely to threaten its continued popularity.

The solution we offer veers away from the musical path chosen by others, but it addresses the hints more thoroughly. It also fits Elgar's personality and reputation as they emerge from the recollections of his friends and biographical details. Far from a simple musical joke, the *pi* solution itself is potentially elegant. It makes use of the ancient relationship between music and numbers, and is touching in that it relates the circle, as a universal symbol of unity, eternity, and equality, to the feelings Elgar had for his "friends pictured within."

Notes

1. In 1998, Norman Del Mar wrote an excellent summary of the current feelings about Elgar's Enigma: "The Enigma Variations, as this work is always called, is without doubt the best known and most often played of all Elgar's compositions. Apart from its intrinsic qualities, which are certainly of the first rank, its popularity is to some extent due to the subtitle 'Enigma,' which has given rise to so much speculation over the possible solution to the riddle of the theme, conjectures ranging foolishly enough from Mozart to 'Auld Lang Syne' played backwards. The controversies, which have arisen quite recently all over again (as commentators continue to discover that the melody can be made to 'fit' with yet another motif from the inexhaustible repertoire), have fortunately not reached any conclusive solution. Elgar himself, who loved conundrums, merely said that with the melody 'goes' a well-known theme, which is not alluded to in the variations themselves. It would be safe to say that had Elgar had any intention that the mystery should one day be solved, he would have helped to bring about such an end to the arguments instead of further confusing the issue by implying that the 'theme' forming a counterpoint need not necessarily be musical at all" (1998:1).

2. In B^k major, while "Auld Lang Syne" jumps from F to B^k, the Enigma theme jumps from F down a seventh to G, effectively eliminating the possibility of hearing the authentic cadence there that is part of the original setting. In G minor, while "Auld Lang Syne" jumps from D to G, the Enigma theme jumps from F down a seventh to G, and while they do end on a unison, the denial of G minor's leading tone, F[#], by the presence of a sustained F^k once again undercuts the cadence. The G minor setting of "Auld Lang Syne" also requires the listener to not only imagine a tune that isn't there (as all of the countermelody solutions do) but to imagine it in a minor key when the melody is in fact in a major key.

3. The counterpoint created disobeys many of the basic rules of composition at the time, including: (1) the first two measures each end with a dissonant fourth that is unresolved; (2) there are parallel seconds on the third and fourth beats of m. 2; (3) there are unprepared and unresolved seconds on the second beat of m. 3, and m. 3 also ends with similar motion into a consonance (with the upper voice leaping down into it); (4) an unresolved second ends m. 4; and (5) there is a dissonant voice exchange between G and A on the third and fourth beats of m. 6, where one should find an authentic cadence instead if these melodies were truly intended to work as a counterpoint.

4. The story of the Indiana Pi Bill (#246) of 1897 was amusing to anyone who appreciates the folly of government trying to meddle in academic affairs. Indiana's proposed law would have legislated the method to be used for calculating pi and it would have inaccurately fixed the value of pi anywhere between two and four depending on how the wording was interpreted (Hallerberg 1977). The Bill was passed in the House but was stopped in the Senate by the efforts of Professor C. A. Waldo, a well-respected mathematician, who was in attendance to monitor progress on pending educational legislation. Professor Waldo lobbied many of the Senators explaining that the proposal was ludicrous. He pointed out that the Indiana Pi Bill of 1897 was based upon a theory which had been disproven thirteen years earlier by Ferdinand Lindemann. Professor Waldo was shown a copy of the bill and asked if he wanted to meet its author. He replied that he was already "acquainted with as many crazy people as he cared to know." All those involved in promoting the Indiana Pi Bill suffered public ridicule.

5. Dora Penny mentions in her own biography of Elgar that she had stopped to buy a newspaper along the way home sometimes because her family "would have thought it odd if she had not done so" (Powell 1949:20).

6. Dora's diary entry on May 4, 1899 states, "Did news-cutting nearly all day. Home at 7" (Powell 1949:17). In November 1899, Dora noted in her diary that she and Alice sat by the

fire and "did newspaper cuttings all the evening" (Powell 1949:25). In Dora's diary on May 10, 1901 she wrote, "did (newspaper) cuttings most of the day" (Powell 1949:35).

7. Anderson also provides two more anecdotes regarding Elgar's fascination with ciphers. In 1912, "When about to arrive (visiting the Stuart Wortleys), Elgar enciphered the word 'Walls' by means of the Russian nihilists' numerical square and wrote the message 'am coming'" (Anderson 1993:121–22). At the end of 1924, "perhaps to entertain a child, Elgar made use again of cryptic symbols similar to those in the Dorabella letter of 1897. He showed how they could be made to write 'Marco Elgar' and also 'a very old cipher'" (Anderson 1993:156).

8. Elgar's progress toward the key-word "*COURAGE*," can be seen on a discarded sketch for *Cockaigne*; and in his "cryptogram box" (now at his Birthplace Museum) are nine sheets of lucid explanation on how Elgar solved the supposedly insoluble problem (Anderson 1993:113).

9. He created the name "Carice" for a song's dedication by constructing an anagram from his wife's name, Caroline Alice. He later gave that created name to his baby daughter. He used a similar technique in creating a name for the larger house he moved into after the success of the "Enigma" Variations. Burley and Carruthers write, "Edward called the place Craeg Lea and challenged me to guess how he had found the name. But by some stroke of luck, I realized that the key lay in the unusual spelling of 'Craeg' and immediately saw that the thing had been built up anagrammatically from (A)lice (C)arice (E)dward ELGAR. I think he was a little annoyed that this mystification had fallen flat" (Burley and Carruthers 1972:132).

10. At the time Elgar was writing the Variations, Dora was very active musically. She wrote, "I was so mixed up with tunes in those days; Choral music, Church music, and orchestral music-and then my own solo singing, scenes from opera, songs, ballads, and so on" (Powell 1949, 119).

11. The literature on Elgar thoroughly documents the composer's life-long pursuit of humor. After studying scores of Beethoven symphonies in July 1873, Elgar was inspired to write the Credo for the St. George's choir where his father was the organist and accompanist (Kennedy 2004:17). This Credo drew heavily from the themes of three Beethoven symphonies. He ascribed the work to "Bernhard Pappenheim" (pope's home). In May of 1901, Elgar called to Dora, "Child come up here. I've got a tune that will knock 'em-knock 'em flat." Then he played his Military March No. 1 in D, and afterwards pointed out with delight that it started on E-flat (Powell 1949:35). While interviewing Elgar in preparation for his excellent biography, William H. Reed apparently did not realize that he had been pulled into one of Elgar's jokes. Reed wrote, "He (Elgar) was busy orchestrating the two Folk Songs of Eastern Europe (paraphrased by Pietro d'Alba and Edward Elgar)" (1939:109). Pietro d'Alba was the name Elgar used to call his daughter's pet rabbit. Elgar used the "talented" rabbit in several other jokes. In 1907, Elgar composed a part-song, "Owls," which he dedicated "to my friend Pietro d'Alba" (Kennedy 2004:108-109). Two songs written in 1909-1910, "The Torch" and "The River" were attributed to Pietro d'Alba (Kennedy 2004:114). "On the evening of 2 June 1927, Elgar conducted the BBC Chorus and Orchestra in a program of his works. He closed the broadcast with a very personal valediction: 'Good night, everybody. Good night, Marco'"(Anderson 1993:159). Marco was Elgar's beloved spaniel.

12. Adams (2000) has attempted to relate the "dark saying" to the biblical reference "For now we see through a glass darkly..." in Corinthians 12:12, and uses the possible relationship as a starting point to explore how Victorian attitudes toward sexuality might have influenced Elgar's idiosyncratic modes of expressing himself.

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