Julian Bennett Holmes[*1]

[*]*Mannes College, New York City /*
Manhattan School of Music, New York City, United States of America
[1]julian@newschool.edu

In Defense of Augmented Intervals

ABSTRACT

Certain intervals have a bad reputation. Augmented seconds and fourths, most often, are targeted by theory teachers and textbooks as something students should avoid in their writing. But as I will show, not all augmented seconds and fourths deserve this bad reputation. Many scholars have examined other musical 'no-nos', — Heinrich Schenker, Carl Schachter, and even Johannes Brahms himself, for example, have studied parallel fifths in tonal music — but none has yet looked at augmented intervals specifically. Augmented seconds in particular are noted for the 'foreign' or 'exotic' effect they may lend to a passage of music. But not all augmented seconds have this effect, and I will use examples from Bach, Beethoven, Schumann, and more to show what causes one augmented second to sound 'exotic', and what causes another to blend right into the composer's usual, 'Western' harmony, often as merely a byproduct of an ordinary harmonic or melodic event. After I describe what causes an augmented second to fall into one category or the other, I will define a number of different classes of 'hidden' or 'integrated' augmented seconds. I use structural, Schenkerian analysis, as well as formal and functional-tonal analysis to examine the passages in question and to make these determinations.

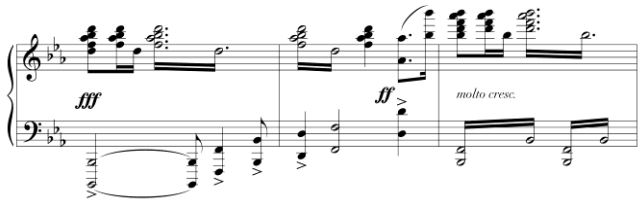
1. INTRODUCTION

Certain intervals have a bad reputation. In theory classes, students learn to avoid using these intervals, sometimes at all costs. Public enemy numbers one and two are probably the augmented fourth and the augmented second. But do these intervals really deserve their reputation? Aren't they used regularly by the greatest composers?

2. AUGMENTED FOURTHS

The augmented fourth is usually the first target of the theory teacher. In species counterpoint, of course, its melodic use is absolutely forbidden. And while this is appropriate for species counterpoint, students should not get stuck with the idea that augmented fourths are never to be used melodically. In cases both simple and complex, they have been used throughout history to great effect.

One of the most obvious cases of an integrated augmented fourth may be in the arpeggiation of the dominant seventh chord. The augmented fourth, naturally, occurs at the leap from the seventh of the chord to the third — from scale degree four to scale degree seven. In example 1, the top voice leaps from D-natural down to A-flat — a leap of an augmented fourth. But this sounds absolutely normal, because it is simply a leap from one member of the dominant seventh chord to another.



Ex. 1. Richard Strauss, *Ein Heldenleben* Op. 40, I.

Melodic figuration is another usual cause of augmented fourths. A chromatic incomplete neighbor can turn the leap of a fifth into one of an augmented fourth followed by a minor second.

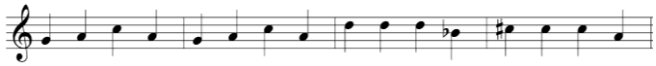
And then, of course, there are those cases where an augmented fourth really does have its own characteristic effect. These are the cases we were warned about in theory classes. The famous 'Petrushka' chord, for instance, is simply the simultaneous juxtaposition of two major triads whose roots lie a tritone apart.

So as you can see, some augmented fourths are really not as problematic as some people believe.

3. AUGMENTED SECONDS

But at least in the study of augmented fourths, students are taught how they naturally occur, how to avoid them, and how to resolve the ones that do occur. When it comes to augmented seconds, such instruction is usually skipped. They are to be avoided, we are told. William J. Mitchell, in his Elementary Harmony, includes at the end of chapter 11 a summary, which contains this warning: 'Avoid the melodic relationship of an augmented second…' Earlier in the chapter, Mitchell does indicate that these recommendations are for the beginning student only, but his warning against the augmented second stands alone in the chapter summary.

Many music students, I suspect, would be surprised to learn that Bach used an augmented second in one of his chorales, or that Beethoven used several in his Op. 131 string quartet. What little is generally taught about augmented seconds is that they sound culturally foreign — that they are present in the scales used by Gypsies, Jews (see example 2), and Hungarians, but not in the scales used by Bach, Beethoven, or Schumann.



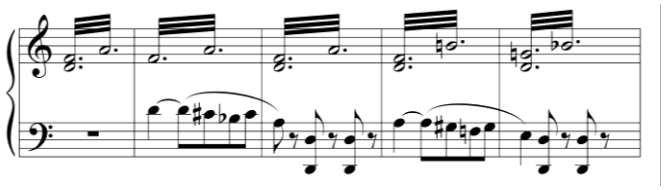
Ex. 2. 'Yiddish Lullaby' (from 'Der Groyser Yiddish Verterbukh').

But, as my examples will show, the admonition against augmented seconds was not heeded by the great composers — there are plenty of examples of augmented seconds that don't sound at all foreign. So why is it that some augmented seconds sound foreign, evoking the East or some mystical cul-

ture, while other augmented seconds blend seamlessly into the texture of Western classical harmony — so seamlessly that, often, we don't even notice them at all? It appears then that there are two camps of augmented seconds: the foreign-sounding, and those that are integrated into the Western norm. I'll now show what causes an augmented second to fall into one camp or the other.

3.1 Foreign-Sounding Augmented Seconds

There are some augmented seconds that sound blatantly foreign. These seem to have been used intentionally by the composer in an attempt to make their music sound exotic, such as in example 3. Here, Bizet obviously wants to evoke Spain, though an augmented second can do a pretty good job of recalling many other foreign cultures too. The D-minor tremolo saturates the harmonic space, leaving no room for the melody to imply any sort of harmony. The result is that the melody sounds like it is constructed from a type of D-minor scale, but one that includes a C-sharp. The C-sharp doesn't seem to lead back to the tonic here, because the D-minor tremolo prevents us from hearing any implied dominant harmony, and anyway, the note doesn't resolve back to D, but rather continues down to the B-flat. The return to C-sharp, which this time moves to A, further confirms that this C-sharp isn't functioning as a leading tone moving back to the tonic, but rather is simply a functionless member of this apparently foreign scale.

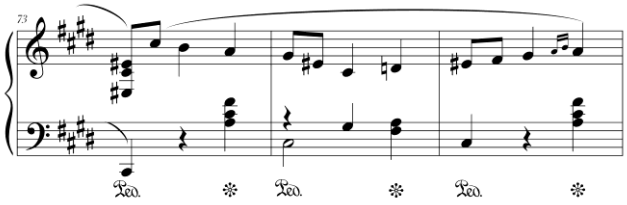


Ex. 3. Bizet, *Carmen*, Prélude.

The augmented second shown in Example 4 also sounds totally foreign — like something from 'the East', perhaps with Tatar or Turkish origins — perhaps a remanence of ancient Polish modes. It's not a specific connotation, but it doesn't sound anything like Western harmony.

Here, we are solidly in the key of C-sharp major. The D-natural, then, is part of a Neapolitan sixth, or Phrygian II, chord. As the Phrygian name indicates, this chord has modal origins, which is one reason the augmented second here sounds foreign to Western tonality. But not all Neapolitan chords have this effect — in fact, the vast majority sound right at home in Western classical harmony. This one, however, is different. Rather than resolving to a V chord, as Neapolitan chords usually do, it moves right back to I. I've never seen a harmony book mention a motion directly from the Neapolitan to the tonic without an intervening dominant, as part of a simple tonic prolongation and without any dominant implication. This, therefore, is essentially 'wrong' harmony. In addition, I think the effect of the chromatic D-natural is heightened because the other chromatic tone in the Neapolitan chord, A-natural, was set up by the minor-IV chord in the previous measure. Our ear has already been 'primed' for the A-natural by this modal-mixture chord, and so the D-natural has full command of our attention. The D-natural is also highlighted because it is in the top voice.

Neapolitan sixth chords are chromatic, but not intrinsically modulatory. That is, they contain tones that are not part of the scale of the key, but they don't suggest motion away from the current key, as some chromatic chords do. Rather, Neapolitan sixths can reinforce a key by strengthening its dominant. So, when the D-natural of the Neapolitan chord and E-sharp of the tonic triad are juxtaposed, as they are in Example 4, they are both creatures from the same world — members of a scale that contains an augmented second at its bottom. As no such scale exists in Western tonality, a scale containing an augmented second is inherently foreign, with the exception of the harmonic minor scale. But in that scale, the augmented second is at the top, and logically results from the motion towards the tonic, whereas in this case, the augmented second is at the bottom of the scale, essentially in the 'wrong' place.

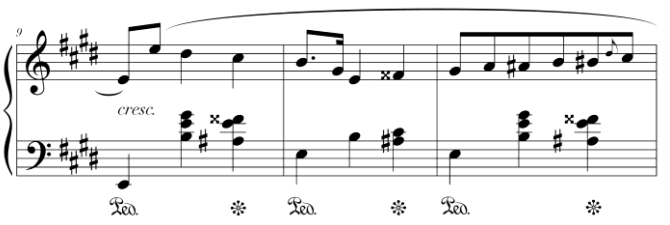


Ex. 4. Chopin, Mazurka Op. 41 No. 4.

3.2 Integrated Augmented Seconds

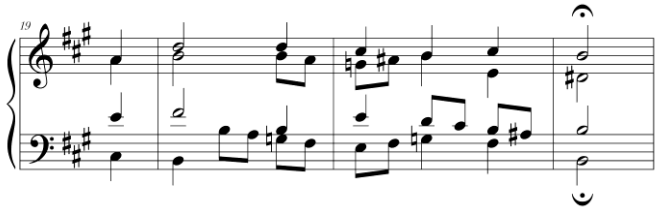
I've just shown a few examples of foreign-sounding augmented seconds. But their existence is a surprise to nobody — I'm really just confirming that their reputation as an 'exotic' interval may be a deserved one. To show, however, that they have other uses too, we'll need some examples of augmented seconds that don't sound foreign or exotic at all, but rather are perfectly integrated into Western harmony.

The augmented second shown in example, though it is from the same piece as example 4, blends seamlessly into the musical texture. I think the reason is clear: the augmented second is simply the result of usual Western harmony — a common-tone diminished seventh chord. By Chopin's time, common-tone diminished seventh chords had become an often-used chord, and they needn't be prepared in any voice other than the one with the common tone, similar to how the seventh in a V^7 doesn't need to be prepared, due to the frequency of that chord's occurrence.



Ex. 5. Chopin, Mazurka Op. 41 No. 4.

Example 6 is a similar case to Example 5. Here we simply have an augmented second resulting again from a common-tone diminished seventh chord. The relative popularity of common-tone diminished chords integrates this augmented second completely into the chorale's harmony. It sounds not the slightest bit foreign to Bach's usual harmony.



Ex. 6. J. S. Bach, Chorale No. 7, 'Nun Lob', Mein' Seel', Den Herren'.

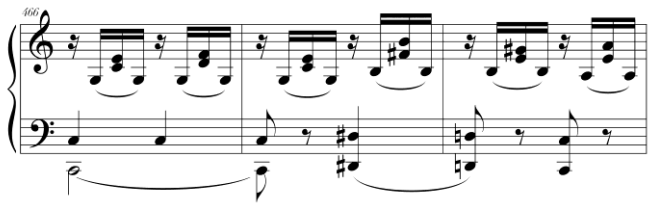
Another way to interpret the augmented second in this example is that it is the result of Bach's avoidance of a cross relation. The G-natural in the bass on beat 3 of the first complete measure of the example poses the danger of creating a cross relation with the G in the alto on the first beat of the next measure, if that second G were raised according to common practice. Bach may have found that leaving the second G as a natural, and thus creating an augmented second, was more palatable than the cross relation between G-natural and G-sharp.

3.3 Integration Through a Mediant Motion

One of the most common ways augmented seconds are integrated into the texture of Western harmony is through a motion to III. The step from the tonic to the applied leading-tone to III in a major key is an augmented second, and these are quite common. Let's look at a few examples.

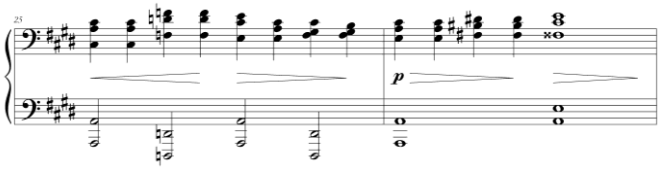
In example 7, the augmented second sounds completely native, or integrated, and it is again the result of a bog-standard harmonic event: a mediant tonicization. We start the example on a weakly-tonicized C major chord, which is III in A minor — the current key (and the key of the piece). To tonicize E major, V, which has a mediant relationship with III, Schumann uses a simple V^6/V chord, which results in the bass moving from C, the root of the III chord, up an augmented second to D-sharp in the V^6/V chord. The only unusual thing about this example is that now this D-sharp doesn't resolve upwards to E in the V chord, as we would usually expect it to, but rather resolves down to the D-natural, placing the dominant in 42 position. But this really has no relevance to our augmented second — by the time the D-sharp moves downwards, the augmented second has already sneaked by, most likely unnoticed. This is because C and D-sharp are, in this case, creatures from two different worlds. The C lives in the world of A minor, but the D-sharp lives in E major, the key of the dominant. When we hear the D-sharp, we are instantly transported, however briefly and weakly, to the region of E major, and we don't hear a scalar connection between the C and the D-sharp. That is, it is immediately clear that they are members of two different keys, and not members of a foreign-sounding scale containing an augmented second. The D-sharp is really heard in relation to the E, which is a backwards relationship. The ear holds that D-sharp in a sort of mental buffer, waits to process it, and then understands it in the context of the E, when that note is heard a moment later.

It is possible that the stealthy nature of this augmented second relies on the tempo of this section. At a much slower tempo, the motion from C to D-sharp might be heard separately from the C to E motion, resulting in the opposite effect: a foreign-sounding augmented second.



Ex. 7. Schumann, Piano Concerto in A Minor Op. 54, I, piano part.

Example 8 is another augmented second resulting from an applied dominant. It is beginning to seem as though this is the commonest way to assimilate an augmented second. The B-sharp here is a member of a chromatic $V^{6\text{-}5}$ chord — one that resolves in an unexpected way, but, as in example 7 (the previous Schumann example), by the time the chord resolves, the augmented second is long gone. Once again, the two members of the augmented second are members of different worlds: the A belongs to an A chord, while the B-sharp belongs to the world of C-sharp, and is part of a motion in that direction — once again a third motion.



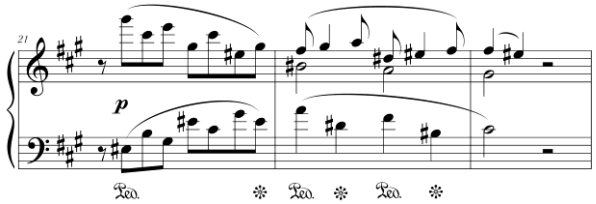
Ex. 8. Brahms, *Vier Ernste Gesänge* Op. 121 No. 3 (Jesus Sirach, Kap. 41), piano part.

And example 9 is yet another case of an augmented second resulting from a third motion — in this case, from E-flat to G. Perhaps these cases are best understood, most generally, as resulting from leading tones to a note a major third away.

Ex. 9. Schumann, *Waldszenen* Op. 82 No. 5: 'Freundliche Landschaft'.

Another common class of integrated augmented seconds is those that are really diminished sevenths inverted.

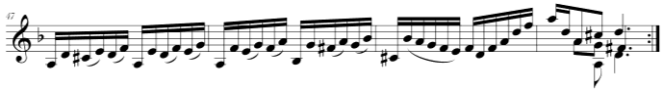
The second measure of example 10 contains an augmented second in the middle voice. This one also sounds completely integrated, because this augmented second really functions as a diminished seventh. In this case, both members of the interval (B-sharp and A) are just chord tones in a diminished seventh chord containing B-sharp, D-sharp, F-sharp, and A — VII^7/V in F-sharp minor.



Ex. 10. Franck, *Variations symphoniques*. Piano part.

Moving on to example 11, we have a clearly polyphonic melody. The lowest note of each group of six sixteenth notes

belongs to the bass (in the first five groups, this is the first note, while in the sixth group, it is the second note), while the other notes are members of upper voices. The augmented second is in the bass, between the B-flat in measure 48 and the C-sharp in the next measure. This augmented second is assimilated in two ways. Although we are moving to D, the home key of G minor is still fresh in our ears, and the F-sharp shows that we are, for the briefest moment, back in G minor. The B-flat belongs to this key. When the C-sharp on the downbeat of the next measure is heard, it reminds us instantly that we were on our way to the key of the dominant, and it is to that key that the C-sharp belongs. Thus, these two notes are again members of two different worlds. As if that weren't enough to disguise this augmented second, however, the B-flat that immediately follows the C-sharp flips this interval into a diminished seventh, allowing us to hear backwards and partially reinterpret the bass motion as one of a diminished seventh, flipped into an augmented second.



Ex. 11. J. S. Bach, Sonata für Violine Solo, BWV 1001, Presto.

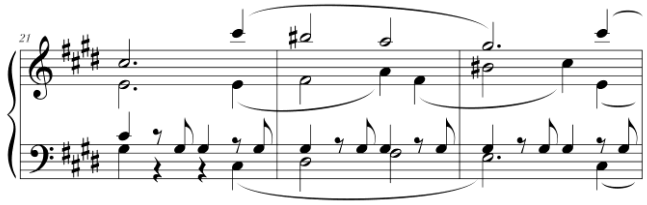
3.4 Integration Through Opposing Directions

The next class of examples mitigates augmented seconds by 'pointing' the two notes of the augmented seconds in opposite directions. A look at a few examples will make this clear.

In example 12, we would expect the augmented second to be immediately obvious to the listener — it is, unlike many of the other examples, in the melody, not in the bass or an inner voice. And yet it is quite difficult to notice when listening. This is an example of an augmented second whose members are from the same world, yet are really moving in two different directions. For the purpose of analysis, ignore the tenor voice (viola part) for now, as it simply functions as a dominant pedal tone. What remains is a very usual progression in C-sharp minor of I–VII^{6}–I^{6}–I. The augmented second is between the B-sharp, which relates backwards, and the A, which resumes the forward motion of the progression. Since these two notes don't really 'connect', but rather point in opposite temporal directions, the augmented second goes unnoticed. In addition, like the augmented second in Example 10, they are just chords tones in a diminished seventh chord, so, in a way, this augmented second is nothing more than a diminished seventh, inverted for melodic purposes.

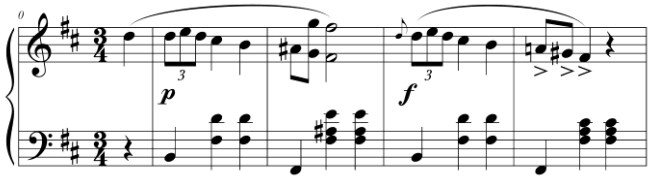
There is another augmented second is this example, but it is even more well hidden than the first. Starting in the second measure of the example, the alto voice (really the second-violin part) can be heard as a polyphonic melody. The upper voice of this melody moves from A, through B-sharp on the downbeat of the next measure, to C, while the lower voice moves from F down to E in the last measure of the example. The augmented second in the upper voice is mitigated by two factors here: one, that the lower voice of the polyphonic melody 'interrupts' the line, breaking up the augmented second; and two, that the B-sharp is nothing more than a chromatic incomplete lower neighbor of C-sharp, inserted into a skip from A to C-sharp.

The two augmented seconds in the Beethoven example show some of the most complex ways an augmented second can be assimilated into harmonic and melodic events.



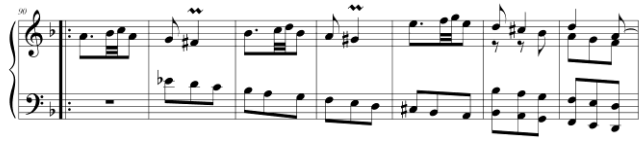
Ex. 12. Beethoven, String Quartet Op. 131, VII.

Example 13 is interesting. On the surface, it appears that the F in the top voice in the second measure of the example splits into two voices, and moves to both E and G-sharp. However, it is more likely that the G-sharp actually comes from the A at the beginning of the measure, which, in its movement to the F, created a polyphonic melody, which then becomes actual polyphony (two voices) at the end of the measure. In addition, the chord at the end of that measure is really a pickup, starting a phrase that continues into the next measures. There is essentially a formal break between the beginning of this measure, with the A and F, and the last chord, with its G-sharp. These factors serve to effectively mitigate the augmented second, and integrate it into Schumann's usual approach to harmony.



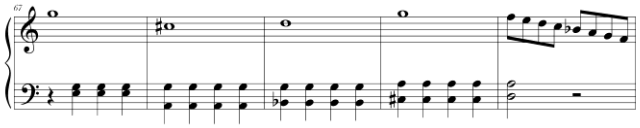
Ex. 13. Schumann, *Phantasiestücke* für Pianoforte, Violine und Violoncell, I (Romanza), Piano part.

In example 14, the augmented second, between C-sharp and B-flat (those two again!), is the result of two incomplete neighbor tones, one chromatic, one diatonic. C-sharp relates backwards to D, and B-flat relates forwards to A, which is the actual bass note in measure 94. The simultaneous augmented second between the two upper voices in measure 95 confirms these neighbor functions when C-sharp and B-flat again move outward by step to D and A, thus making absolutely sure we don't perceive this augmented second as a reference to 'foreign' harmony.



Ex. 14. Domenico Scarlatti, Sonata in G Minor K. 426.

Example 15 is almost exactly the same as example 1, except that here, the C-sharp has a stronger harmonic function as an applied leading tone to D, and not just as a chromatic lower neighbor.

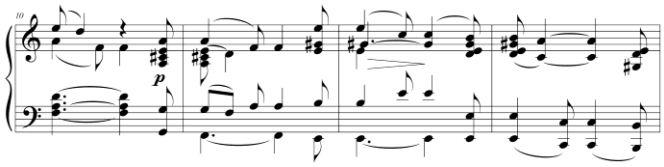


Ex. 15. Domenico Scarlatti, Sonata in C Major K. 309.

3.5 Other Means of Integration

Finally, let's look at a couple of more complex examples. These use unique means of integrating augmented seconds into their own harmony.

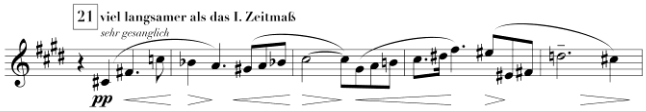
Example 16 requires a larger-scale analysis. While this augmented second is partially mitigated by the octave doubling which is added to the second note, making it sound like a diminished seventh, there is something else at work here. In fact, this is a case of an augmented second that is both modal, and, at the same time, completely native sounding, integrated into Chopin's harmony. Taken literally, the key signature indicates that this Mazurka is in the key of B minor, and it could be interpreted that way, with an ending on V. But it seems more likely to be in F-sharp the entire time, with a modal key signature of two sharps, and other modal aspects. In that case, the opening harmonies are not I–V–I–V, but rather IV–I–IV–I, which is a more modal progression. The G-natural is then a Phrygian element, and the A-sharp is an inflection from the major. So why doesn't this sound like a modal, 'foreign' piece? Because, I suspect, the ear focuses on smaller-scale aspects than the ones I've just discussed, and the usual mitigating factors dominate. Once again, the A-sharp appears, locally, to relate backwards to the B, while the G-natural pushes forwards to the F-sharp. And, as I mentioned before, the appearance of the diminished seventh certainly helps to mitigate this augmented second as well. At the end of the example, G-sharp is re-introduced, correcting the scale and confirming the key of F-sharp minor.



Ex. 16. Chopin, Mazurka Op. 30 No. 2.

Our final example, example 17, is rather difficult to understand. Schoenberg's tonality, at this point in his career, is about as advanced as can be, and this music may be some of the most chromatic tonal music ever written. Yet the augmented second, between B-flat and C-sharp, is a purely melodic one. The harmony here is relatively simple, and provides only the most minimal support for this extraordinary melody. The melody is actually rather simple as well, but highly decorated. It appears that the B-flat of the augmented second is really a reference to the B-flat at the beginning of the measure, and its relationship to A. When this figure is repeated in the next measure, there's more distance from that B-flat to A motion, and the chromatic B-flat is 'corrected' to a diatonic B-natural, essentially 'filling in' the augmented second, which has already passed unnoticed.

Another way of reading this melody is that the tones have been rearranged. The 'correct' augmented second here would be from A to B-sharp, which would then move up to C-sharp. Instead, the augmented second is between the B-flat and the C-sharp. So the augmented second, which by necessity is present in this melody, has been moved into a stranger and more beautiful position.



Ex. 17. Schoenberg, Kammersymphonie No. 1 in E Major Op. 9, I (Sonata, Allegro), First violin part.

4. CONCLUSION

Although I've discussed ways of 'integrating' or 'assimilating' augmented seconds into a context of Western harmony, this way of thinking is actually backwards. In those examples in which augmented seconds are integrated into the texture, it is surely not the case that the composer decided to use an augmented second, and then chose a method by which to hide it. Rather, the augmented second is simply a byproduct of the intended melodic or harmonic event.

In the case of foreign-sounding augmented seconds, however, the augmented second is a tool used by composers. In these cases, I think it is likely that, after deciding to write a 'foreign'-sounding piece or passage, the composer determined that using an augmented second would further this goal — and the augmented second does indeed prove to be a very effective tool for making a passage sound foreign, as in examples 5, 6, and 7.

However, when we are taught in theory classes, or by theory textbooks, to avoid augmented seconds, I think this advice is somewhat misguided. As these examples show, there are many contexts in which an augmented second is not something to be avoided, but rather a relatively benign byproduct of various melodic or harmonic events, such as a mediant tonicization, or the arpeggiation of a diminished seventh chord. In these cases, the augmented second causes no harm. And if an augmented second does nonetheless stick out, announcing itself as something from a foreign culture, there are plenty of mitigating techniques one can use to reduce or eliminate this effect. These mitigating techniques could be analyzed and taught.

So, the goal here is to find characteristics that classify augmented seconds as sounding foreign or native in the context of Western tonality. From these examples we can now infer a few distinctions: in the 'native' camp, we find augmented seconds resulting from usual harmony such as common-tone diminished chords, diminished seventh chords, sudden changes of key, applied chords, third motions, etc. — essentially, notes which belong to two different scales; and in the 'foreign' camp, we find augmented seconds with modal origins, those resulting from 'wrong' harmony (such as in example 4) and, in general, anything that makes the augmented second sound like a scale step.

Why is it, then, that augmented seconds seem to have even worse a reputation that augmented fourths? Of course, a second, augmented or not, is a step, while a fourth is a leap. Perhaps part of the issue is that a step has only for context its immediate neighbors, which, really, is not much context at all, while a leap is heard as an arpeggiation, and is therefore heard in the context of an entire chord. More context always offers more opportunity to mitigate the sound of augmented or otherwise altered intervals — an augmented fourth can be heard as part of a dominant seventh chord, an augmented sixth

chord, or with one of its tones as a neighbor to a chord tone in an ordinary triad, for example. An augmented second has none of these advantages. It is simply part of a linear succession of steps, and so it is somewhat more complicated, then, to successfully mitigate an augmented second than an augmented fourth.

Another issue is that the augmented second is basically part of a scale, while the augmented fourth is harmonic in nature. While harmony has continuously evolved over the centuries, with nearly every decade bringing new innovations, scales stayed essentially the same for hundreds of years. The major and minor scales are so fixed in our minds, essentially immutable, and so an augmented second has the potential to cause quite a disturbance, as a distortion of these scale steps, major and minor seconds, to which we are so accustomed. An augmented fourth, on the other hand, has the potential to sound like just another harmonic quirk. Fourths always have polyphonic significance, implying some sort of harmony, and augmented fourths are often essentially diminished fifths. Seconds don't have any sort of polyphonic significance by nature, and are much less easily inverted. When augmented seconds are inverted to diminished sevenths, they invariably acquire harmonic significance, which mitigates their 'foreign' quality completely, as in Example 11.

So really, these intervals, the augmented fourth and augmented second, don't deserve their bad reputation. Both are simply enlarged versions of ordinary intervals — the augmented second is essentially a modified step, while the augmented fourth is a modified leap. And as I have shown, both intervals, if treated with care, can not only blend seamlessly into Western harmony, but can also be useful tools in voice leading, in the construction of melody and harmony, and in the writing of music itself. These two augmented intervals can sometimes lend color to a moment of music, but more often they are nothing more than inadvertent byproducts of rather more benign bits of voice-leading, harmony, and melodic construction.

KEYWORDS

Tonality, Interval Theory, Chromaticism.

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