Johann Sebastian Bach's Music is Speeding Up: Fake News?

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Johann Sebastian Bach’s Music is Speeding Up: Fake News?

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Abstract—This study in cultural informatics investigates the claim made in 2018 by several news media that performances of Johann Sebastian Bach’s Double Concerto in D Minor, his compositions in general, and of classical music as a whole are becoming ever faster. Data for a total number of 19,660 releases in five of Bach’s compositional categories from between 1950 and 2019 are retrieved from online database Discogs, of which 2,999 are analyzed historically for speed increase. For the Double Concerto, we do find a slight speedup, but surprisingly enough, West European recordings speed up much more than non-West European recordings. And whereas the Brandenburg Concertos and several cantatas do speed up significantly, the Trio Sonatas for Organ and Suites for Cello Solo actually tend to slow down. We review the original claims in light of this new evidence, and contextualize our findings by relating to studies on musical development, the pace of life in urbanized communities, and begin to construct a scientific hypothesis for explaining our findings.

Keywords—Music; Tempo; Violin Concerto; BWV 1043; Bach; Data Analysis; Online Data Retrieval; Fake News.

I. INTRODUCTION

Johann Sebastian Bach (1685-1750) is undoubtedly one of most revered classical composers in our time. Spanning nearly 1100 compositions ranging from huge oratoria such as the Saint Matthew Passion, BWV 244 through Brandenburg Concertos, BWV 1046 - 1051 to works as small as the Sonatas and Partitas, BWV 1001 - 1006 written for a single violin only, many regard these works as the best that classical music has to offer. Today, all of Bach’s compositions have been conveniently indexed by a BWV (Bach-Werke-Verzeichnis, literally Bach works catalogue) number, categorizing the late master’s work in different genres like cantatas, concertos, or harpsichord works. But the details of everyday performance are not undisputed: many classical compositions have separate movements, which are often annotated with a ‘tempo’ or ‘style’ indication. Traditionally, in Italian (even for German composers), annotations, such as presto (‘rapidly’), adagio (‘slowly’), vivace (‘lively’) and allegro (‘cheerful’) leave plenty of room for interpretation on behalf of the musician (see Figure 1).

Late 2018, several news articles appeared claiming that the compositions of Bach, and classical music in general, are being performed ever faster. First published by the Rolling Stone, the article featured a record label’s study showing “performances of Bach are almost 30 percent faster than they were 50 years ago” [1]. From there, the news spread like wildfire. An article on iNews - Britains Most Trusted Digital News Brand claimed that “performances of classical music [...] are now one third quicker than they were 50 years ago” [2]. They also cite a highly positioned music scholar when giving an explanation: “It’s a basic change in taste from the rather weighty concert style of previous years towards something that is more light, airy and flexible.” Or, as the international radio station Classic FM so aptly phrased it: “classical music performances are taken at a greater lick” [3]. Even more confident was broadcaster WQXR, stating that “Bach is undoubtedly getting faster” and like Rolling Stone, they also provide an explanation for the speedup: “Society speeds up? Music speeds up.” But even research institutions like the Smithsonian Institution, administered by the US Government, reported the news [4]. “Johann Sebastian Bach’s music may be timeless, but [...] even the compositions of [Bach] are not immune to todays breakneck speed of life.” and “Clock the last 40 years and you’ll find the beat getting relentlessly faster.”

So Bach’s music, or classical music in general, is speeding up because life is speeding up. Interesting find, but the problem is that it isn’t true. Or partially, at best. Or for some recordings of some concertos released at some places only, to be precise. The news published by Classic FM, WQXR and Smithsonian all refer back to Rolling Stone, which appears to be the source of the news, but the lack of (academic) references, the apparently thin basis for the conclusions (three recordings of Bach’s Double Violin Concerto in D Minor, BWV 1043) and the seemingly reckless adoption of the news by other media raises questions about the scientific validity of the claims. Is Bach’s music really speeding up lately, or is this another prime example of fake news?

Fake news is a denomination that has seen a rapid increase since the 2016 United States presidential election, even though it conceptually existed long before [5]. Historically, the term has been used to describe disinformation serving different goals than objective reporting, such as political gains or social unrest. In the ages of digitization, fake news seems to find its way to people much easier, with visits to fake news sites originating from social media at a much higher rate than visits to real news sites [6]. It is estimated that in the months prior to the 2016 U.S. elections, every American adult had been exposed to at least one fake news story [7].

Even though fake news only reaches a small part of the overall audience [6] [8], Facebook and other social media started tagging and removing fake news in order to combat the distribution of mis- and disinformation [9]. Despite these efforts, scientists Gordon Pennycook and David Rand found that tagging fake news stories creates an implied truth effect:
once a story is not tagged as fake news, it is more likely
to be deemed reliable [10]. An earlier study at McMaster
University found that a statement, whether true or false, is
more likely to be believed if it expresses information that
‘feels familiar’ [11]. But repetition also results in something
like an implied truth effect: in an experiment by Frederick
Bacon, people were given a number of statements and told
that half of these were false. Even with this explicit aforesaid
instruction, people rated the repeated statements to be more
reliable [12]. In Danielle Polage’s experiment “Making up
History: False Memories of Fake News Stories”, half of the
subjects were given a fake news story to read [13]. Five weeks
later, the exposed subjects did not only find it to be more
believable than the control group, but they were even more
likely to believe that they actually heard the story from a source
outside of the experiment. But most famous in this context
might be the groundbreaking work by American psychologist
Elizabeth Loftus. Her team has done extensive research on
‘false memories’, and found that people’s recollection of an
episode might be corrupted even from hearing disinformation
afterwards [14]. These studies collectively show that human
memory is dynamic, susceptible to disinformation, and can
easily integrate fake news as genuine facts – even to the extent
of one’s personal history.

Regrettably though, efforts of verification seldomly find
their way to the audience most susceptible to fake news [8].
Fact checking, dismissing false claims and disposing of mis-
and disinformation are at the core of scientific practice. It
is therefore hard to overstate the shock that went through
the academic world when Dutch social psychologist Diederik
Stapel was found to have engaged in large scale fact fraud,
and as of 2019, almost 60 of his publications have been
retracted [15] [16]. Since then, verification and the replicability
of research is seriously gaining traction, as witnessed in the
expansive work described in a publication by 24 authors
reproducing 21 social science studies from Nature and Science
[17]. But also economic disciplines do not escape scrutiny and
more recently, even famous computer science experiments are
being rigorously replicated, and even extended [18] [19]. An
interesting related development is the observation by Sacha
Epskamp from University of Amsterdam, that shows fast-paced
development of methodological developments and software
implementations might both facilitate and undermine repli-
cability [20]. Though Epskamp does not explicitly quantify
the term ‘fast-paced’, it is an interesting observation that the
pace of development appears to be speeding up in scientific
replicability too.

With a much more light-hearted objective, we aim to
contribute to the practice of fact finding by checking whether
Bach’s Double Violin Concerto is indeed being performed at
an ever faster pace, such as reported by Rolling Stone and
others. We will also investigate the more general claim that
Bach’s other compositions (or indeed all classical music) are
speeding up by analyzing his other two Violin Concertos, the
six Brandenburg Concertos, six well-known cantatas, the six
Trio Sonatas for Organ and the six Suites for Cello Solo.
Together, these categories cover a broad variety of composi-
tions with variations in ensemble sizes, instrumentations
and ‘compositional details’, such as polyphony, the number
of movements, and whether dedicated to liturgical service or
attaining a more secular occasion. We retrieve data for a total
of 19,660 Bach recordings released between 1950 and 2019
and analyze the historical development of their duration.

The rest of this paper is organized as follows: in Section II,
the methods for retrieving and analyzing the releases of Bach’s
works are detailed. The results of this analysis are presented
in Section III, where we also discuss possible explanations for
the found results. Finally, the conclusions of our research are
laid out in Section IV.

II. METHODS

The growth of the Internet and public availability of data
is both a blessing and a curse for scientists. Discogs is
a community-driven online database owned by Zink Media
TABLE I. THE NUMBER OF RELEASES IN THE DATA SET RETRIEVED FROM DISCOGS (‘TOTAL’) AND AFTER FILTERING (‘USED’) FOR EACH COMPOSITION IN THIS STUDY.

<table>
<thead>
<tr>
<th>Composition</th>
<th>Total</th>
<th>Used</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>BWV1041</td>
<td>893</td>
<td>149</td>
<td>16.685%</td>
</tr>
<tr>
<td>BWV1042</td>
<td>901</td>
<td>149</td>
<td>16.531%</td>
</tr>
<tr>
<td>BWV1043</td>
<td>1120</td>
<td>169</td>
<td>15.089%</td>
</tr>
<tr>
<td>BWV1046</td>
<td>1008</td>
<td>227</td>
<td>22.520%</td>
</tr>
<tr>
<td>BWV1047</td>
<td>1279</td>
<td>284</td>
<td>22.205%</td>
</tr>
<tr>
<td>BWV1048</td>
<td>1257</td>
<td>275</td>
<td>21.877%</td>
</tr>
<tr>
<td>BWV1049</td>
<td>1019</td>
<td>223</td>
<td>21.884%</td>
</tr>
<tr>
<td>BWV1050</td>
<td>1110</td>
<td>263</td>
<td>23.566%</td>
</tr>
<tr>
<td>BWV1051</td>
<td>911</td>
<td>205</td>
<td>22.503%</td>
</tr>
<tr>
<td>BWV106</td>
<td>918</td>
<td>24</td>
<td>3.703%</td>
</tr>
<tr>
<td>BWV111</td>
<td>414</td>
<td>28</td>
<td>6.763%</td>
</tr>
<tr>
<td>BWV116</td>
<td>756</td>
<td>44</td>
<td>5.952%</td>
</tr>
<tr>
<td>BWV170</td>
<td>309</td>
<td>24</td>
<td>7.767%</td>
</tr>
<tr>
<td>BWV173</td>
<td>549</td>
<td>10</td>
<td>1.821%</td>
</tr>
<tr>
<td>BWV208</td>
<td>525</td>
<td>6</td>
<td>1.143%</td>
</tr>
<tr>
<td>BWV255</td>
<td>713</td>
<td>61</td>
<td>8.555%</td>
</tr>
<tr>
<td>BWV256</td>
<td>410</td>
<td>47</td>
<td>11.463%</td>
</tr>
<tr>
<td>BWV257</td>
<td>346</td>
<td>47</td>
<td>13.584%</td>
</tr>
<tr>
<td>BWV258</td>
<td>684</td>
<td>53</td>
<td>7.749%</td>
</tr>
<tr>
<td>BWV259</td>
<td>568</td>
<td>54</td>
<td>14.674%</td>
</tr>
<tr>
<td>BWV260</td>
<td>462</td>
<td>53</td>
<td>11.472%</td>
</tr>
<tr>
<td>BWV1007</td>
<td>748</td>
<td>110</td>
<td>14.706%</td>
</tr>
<tr>
<td>BWV1008</td>
<td>514</td>
<td>93</td>
<td>19.261%</td>
</tr>
<tr>
<td>BWV1009</td>
<td>635</td>
<td>102</td>
<td>16.063%</td>
</tr>
<tr>
<td>BWV1010</td>
<td>520</td>
<td>89</td>
<td>17.113%</td>
</tr>
<tr>
<td>BWV1011</td>
<td>635</td>
<td>100</td>
<td>15.748%</td>
</tr>
<tr>
<td>BWV1012</td>
<td>650</td>
<td>93</td>
<td>14.308%</td>
</tr>
</tbody>
</table>

containing more than 11 million Digital Data Locations (DDL) for audio recordings such as CD’s, vinyl, digital bootlegs and promotional releases [21]. It is publicly accessible and offers an open Application Programming Interface (API), which can be used to query the database, making it suitable for quantitative analysis of historical releases [22]. Since Discogs offers a large quantity of different types of recordings, this source forms a valid representation of recordings from this era.

In order to retrieve the DDLs from Discogs, a search query is first sent to the API containing a search term (e.g., “BWV 1043”) which then returns a list of DDLs. Each DDL contains a pointer to the information from exactly one release, which can then be downloaded separately to obtain details about the recording.

Since Discogs is widely accessible without central moderation, the retrieved data might be invalid, incorrect or incomplete. One can therefore hardly escape the laborious task of manually sifting through the data returned by the API after issuing a query. To be suitable for analysis, the DDL has to meet three requirements:

- The DDL’s data must include a year of release;
- The DDL’s data must contain the entire work, and not just a single movement;
- Every used track in the DDL’s data must contain a valid value in their duration field.

In order to (in)validate the results research reported by the various news media from Section I, we retrieved a total of 1120 releases from between 1958 and 2018 of Bach’s Double Violin Concerto. After manually filtering the DDLs, 169 valid, complete and correct data records were used for linear regression, plotting duration against year of release (see Table I). The applied method is as follows: for dataset \( D \), containing the DDLs with their years of release \( x \) and associated durations \( y \), a straight line

\[
f(x) = a \cdot x + b
\]

is fitted, where \( x \) denotes the year for which the fit is calculated. Values for \( a \) and \( b \) are calculated by

\[
a = \sum_{i \in D} ((x_i - \text{mean}(x)) \cdot (y_i - \text{mean}(y))) \sum_{i \in D} ((x_i - \text{mean}(x))^2)
\]

and

\[
b = \text{mean}(y) - a \cdot \text{mean}(x).
\]

For the Double Violin Concerto, the three movements (Vivace, Largo ma non tanto and Allegro) were also analyzed separately. To compare results to Bach’s other two violin concertos, 893 and 901 releases for BWV 1041 and BWV 1042 from between 1955 and 2018 were retrieved, from which 149 and 149 suitable data records were analyzed in similar fashion (see Table III).

Widening the scope, we extended the investigation to four more compositional categories, some of which are very different from the violin concertos. The second category, the six Brandenburg Concertos, BWV 1046 - 1051 are compositions of ensemble sizes comparable to the violin concertos, but with very different instrumentations including oboes, fagottos, trumpets, horns and “echo flutes”. For this category, we retrieved 6590 DDLs of which 1477 (equalling 22.41%) were usable after manually filtering the data.

Third was a collection of six popular cantatas (BWV 106, 131, 140, 170, 173 and 208), compositions that involve vocal soloists, duets and choirs. Though ensemble sizes can vary considerably from one recording to the next, cantatas are usually performed by significantly more musicians than both the violin and Brandenburg concertos. This specific selection of cantatas was partially enforced by the Discogs API which does not facilitate prefix free queries, and by the number of DDLs available for each cantata, which might reflect its popularity (see Table I). Although very many of the retrieved cantata DDLs contained a value for ‘year’, very few of those also had a value for ‘duration’, thereby still resulting in high dismissal; of 3471 retrieved DDLs, only 147 yielded suitable data, a mere 4.24%.

The fourth category was made up by the six Trio Sonatas for Organ, BWV 525 - 530. Although performed by only one musician, Bach’s organ compositions can be considered to be of ‘near-equal complexity’ to his concertos; in fact, organ-solo arrangements exist for several of Bach’s concertos, including BWV 1043. For this category, we retrieved 2983 DDLs of which 315 were usable after filtering, corresponding to a post-filter usability of 10.56%.

The fifth and final category is made up by data records for the six Cello Suites, BWV 1007 - 1012. These works, written for a single cellist only, largely consist of isolated melody lines accompanied by the accidental harmonization. Though Bach somehow managed to weave a sophisticated polyphonic style even in these sparse compositions, they are undoubtedly belong to the ‘smallest’ of Bach’s works. This category holds
593 data points after filtering, which corresponds to 16.02% of 3702 retrieved DDLs.

A subset of the retrieved entries from the filtered data set contained a value in the “country” field, indicating where the release was originally issued. Even though many individual countries are too thinly represented for significant analysis, collectively the values might provide some additional insight into our data (see Table II). We separately analyzed the West European releases, and categorized all others as either non-West European or ‘unknown’. Finally, all data used for the calculations in this section has been made publicly available for reproduction, replication and further investigation of our results [23].

### III. Results and Discussion

From the analysis as reported in Section II, it appears out that the reported speedup of the Double Violin Concerto contains a grain of truth, be it a tiny one. With a 5.31% decrease in duration over 169 recordings from between 1958 and 2018, performances of the work have indeed sped up slightly in the past 60 years (see Table III). This effect is not confined to any single one of its movements, with the duration of the *Vivace* decreasing by 5.09%, the *Largo* decreasing by 3.63% and the final *Allegro* movement decreasing by 8.45%. The speedup of this concerto however, is much more prominent in West European releases (10.74%) than in non-West European releases (4.85%) (see Figure 2). But the pattern is not entirely uniform across the violin concertos as a category. Although like the Double Concerto, recordings of the *Violin Concerto in E Major*, BWV 1042 sped up, by an average of 7.40% between 1955 and 2018, recordings the *Violin Concerto in A Minor*, BWV 1041 are actually slowing down on average, with a duration increase of 0.40% over the same period.

The Brandenburg Concertos are the only category in this investigation which have consistently been speeding up in recent history. But whereas the recordings of all concertos show a decrease in duration between 1953 and 2018, there are significant differences between the individual concertos,

<table>
<thead>
<tr>
<th>Composition</th>
<th>Continent</th>
<th>Number of releases</th>
</tr>
</thead>
<tbody>
<tr>
<td>BWV1041</td>
<td>West-Europe</td>
<td>119</td>
</tr>
<tr>
<td></td>
<td>East-Europe</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>North America</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Australia</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Asia</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>South America</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Unknown</td>
<td>4</td>
</tr>
<tr>
<td>BWV1042</td>
<td>West-Europe</td>
<td>114</td>
</tr>
<tr>
<td></td>
<td>East-Europe</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>North America</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Australia</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Asia</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>South America</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Unknown</td>
<td>4</td>
</tr>
<tr>
<td>BWV1043</td>
<td>West-Europe</td>
<td>126</td>
</tr>
<tr>
<td></td>
<td>East-Europe</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>North America</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Australia</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Asia</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>South America</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Unknown</td>
<td>5</td>
</tr>
</tbody>
</table>

with BWV 1048 showing a double-digit decrease in duration and BWV 1047 a mere 3.19%. But in this category too, the speedup appears to be mainly a West European phenomenon, with two of the concertos slowing down in non-West European releases. The six cantatas of this study show a rather eccentric pattern; although BWV 106, 131, 140 and especially BWV 173 show significant speedups, the other two (BWV 170 and 208) show a moderate slowdown in the period from 1957 to 2018.

Quite contrarily to the Violin and Brandenburg Concertos, recordings of the Trio Sonatas for Organ have slowed down considerably around the world. Showing an average increase in duration of 7.15% between 1950 and 2018, the only outlier in this category is BWV 529, which shows a slight decrease of 3.98% in duration. Similarly, the Cello Suites have also slowed down in recent history. On average, the duration recordings of these works have increased by 3.30%. Here, only BWV 1008 shows a decrease in duration of 8.29%, whereas BWV 1012 slowed down 10.87%. Moreover, the only speedups of these works are found in West European recordings; the rest of the world is actually slowing down.

The geographical origin of the releases appears to be an important indicator for its tempo development. Of the 27 compositions we analyzed, 18 compositions (66.6%) have increased in speed of performance in West European releases. However, the non-West European releases of the same 27 compositions, less than half (13 performances, 48.1%) could be confirmed speeding up. Three cantatas have insufficient non-European data though; excluding these brings the total to 13 out of 24 (54.2%). These numbers give rise to the interesting question if (or why) the speedups and slowdowns are related to the specific location, demographic or culture in which a release is being issued. But still, even for the works with the largest speedup across all categories in this investigation, cantata “Erhöhtes Fleisch und Blut", BWV 173, the decline in duration (18.39%) is nowhere near the 30% figure reported by the Rolling Stone and others.

The root of the difference might be the sparsity of the source data. The findings as presented by Rolling Stone were based on just three releases of BWV 1043: the version by David & Igor Oistrakh (1961, 17:15), one by Arthur Grumiaux & Herman Krebbers (1978, 15:42) and most recently Nemanja Radulovic & Tijana Mileosevic (2016, 12:34), indeed showing a 27.06% decrease in duration. However, if we cherry pick three different releases from Discogs roughly covering the same era (Milstein & Morini (1965, 15:40), Suske & Kröhner (1980, 16:42), Menuhin & Oistrakh (2016, 18:41)), the duration actually shows an increase of 19.19%. So, it seems that a set of three data points is simply too small for any definitive conclusions.

Music is changing though. A paper by Serra et al. [24] studied contemporary popular music between 1955 and 2010 using the Million Song Dataset [25]. By analyzing pitch, loudness and timbre, the researchers conclude that contemporary popular music develops towards less variety in pitch transitions and a more uniform timbre. Especially the loudness of pop songs has increased between 1965 and 2005, a trend which is sometimes dubbed the “loudness war, a terminology that is used to describe the apparent competition to release recordings with increasing loudness, perhaps with the aim of catching potential customers attention” [24].
In a report by Hubert Léveillé Gauvin, 303 U.S. top-10 singles from the period between 1986 and 2015 have been compared on various temporal properties like overall tempo (measured in BPM), time before the first lyrics, and time before the title is first mentioned. The study found that “attention-grabbing [tempo] principles” such as overall speed increased significantly, possibly driven by the “attention economy” [26]. But the speedup here is different, because classical music involves new recordings of the same old ‘songs’, whereas for most U.S. pop songs are first releases. Furthermore, their data set covers American pop songs, which are technically speaking from a different culture than West European classical music, so a definite relation is hard to forge. Still, the speedup in pop songs for the hypothesized purpose of attention-grabbing is too alluring to be left unnoticed in light of our findings.

And how could demographics play a role in the speedup of some of Bach’s works? Is the “pace of life” or the “speedup of society” to blame, as mentioned by the (experts in) various news media? There is some relevant scientific research. In a study by Levine and Norenzayan, the average pace of life, measured in walking speed, working speed, and the accuracy of clocks, has been investigated for 31 countries [27]. The researchers found significantly higher values in both Japan and the countries of Western Europe. The famous study “Growth, Innovation, Scaling, and the Pace of Life in Cities” by Bettencourt et al. shows that the population size of a city is positively related to its pace of social life [28]. With ever increasing numbers living in urban areas over the last century, especially in Western Europe, this would imply that the regional pace of social life is increasing accordingly [29]. The recent explosive growth of urbanization now has 80% of the European population living in urban areas, especially in Northern and Western parts [30]. A particularly interesting detail about this study, by Marc Antrop from University of Ghent, is that it covers an era...
from 1950, which largely coincides with ours. These findings therefore provide an interesting hypothesis, worthy of further exploration in future work.

**IV. Conclusion**

In this paper, we explored the historical tempo development in performances of Bach’s Double Violin Concerto, and of his compositions in general, following several online news reports which claimed significant speedups. We found these claims to be questionable on several points. Even though the Double Concerto has sped up slightly during the last decades, several other compositions slowed down, so there is no general trend for Bach’s work, let alone for classical music as a whole. Interesting discovery is that the speedup of the Double Concerto has sped up slightly during the last decades, several other compositions slowed down, so there is no general trend for Bach’s work, let alone for classical music as a whole. Interesting discovery is that the speedup of the Double Concerto has sped up slightly during the last decades, several other compositions slowed down, so there is no general trend for Bach’s work, let alone for classical music as a whole. Interesting discovery is that the speedup of the Double Concerto has sped up slightly during the last decades, several other compositions slowed down, so there is no general trend for Bach’s work, let alone for classical music as a whole. Interesting discovery is that the speedup of the Double Concerto has sped up slightly during the last decades, several other compositions slowed down, so there is no general trend for Bach’s work, let alone for classical music as a whole.

**TABLE III. The Increase in Duration for Releases in All Five Compositional Categories.** Total is the increase in duration for all releases, whereas INONWEST denotes the same values for West European releases only, and INONWEST for non-West European releases only.

<table>
<thead>
<tr>
<th>Work</th>
<th>Violin</th>
<th>Baroque</th>
<th>Cantata</th>
<th>Opera Trio</th>
<th>Cycle Suite</th>
</tr>
</thead>
<tbody>
<tr>
<td>BWV1041</td>
<td>1954 - 2018</td>
<td>-3.90%</td>
<td>-15.98%</td>
<td>-10.38%</td>
<td>2.40%</td>
</tr>
<tr>
<td>BWV1042</td>
<td>1955 - 2018</td>
<td>-5.00%</td>
<td>-17.08%</td>
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<tr>
<td>BWV1043</td>
<td>1956 - 2018</td>
<td>-4.48%</td>
<td>-16.07%</td>
<td>-10.39%</td>
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</tr>
<tr>
<td>BWV1044</td>
<td>1957 - 2018</td>
<td>-5.98%</td>
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<td>BWV1045</td>
<td>1958 - 2018</td>
<td>-6.42%</td>
<td>-16.07%</td>
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**REFERENCES**


