

Toward a historically faithful performance of the piano works of Antonín Dvořák

William Gunther

Google, Inc.

wgunther@google.com

Brian Kell

Google, Inc.

bkell@google.com

SIGBOVIK '18

Carnegie Mellon University

April 2, 2018

Concrete

The great Czech composer Antonín Dvořák (1841–1904) wrote many pieces for the piano, including the famous *Humoresque No. 7 in G-flat Major* [2]. Unfortunately, typical performances of these works today sound nothing like what the composer intended because most modern pianos are configured with a different keyboard layout. Through painstaking historical research, we have reconstructed the original Dvořák piano keyboard layout. We have applied this discovery by transposing the *Humoresque* so that it is playable on a modern piano, enabling the first historically faithful performance of this piece in over a century.

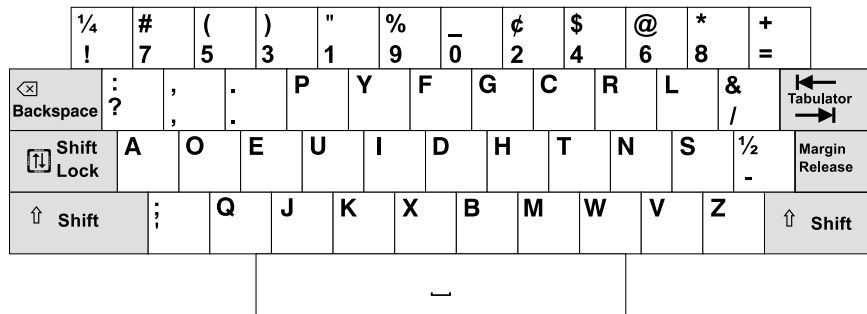


Figure 1: A Dvorak keyboard with the original or “classic” layout [3]. There are several variants of the Dvorak layout, but Dvořák was a classical composer, so this is almost certainly the one he used. Furthermore, this layout has 44 white keys (not counting the spacebar, which is clearly used only for rests). That is exactly half of the number of keys on a piano. Thus we may confidently conclude that the left half of Dvořák’s piano layout was just these 44 keys, while the right half was the same keys again with the Shift key held down.

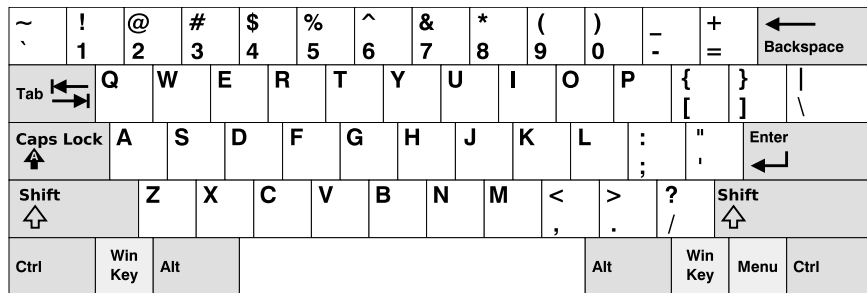


Figure 2: A modern QWERTY keyboard with the United States layout [4]. This layout has 47 white keys (not counting the spacebar), but obviously three of them are useless: nobody really needs the characters ‘~]}\\ [1]. This leaves 44 keys in the same positions as the keys of the Dvorak keyboard, which can then be mapped to the piano in the same way.

Humoresque No. 7 in G-flat Major

Antonín Dvořák

Poco Lento e grazioso.

leggero

* senza

Red.

3 5 4

p

dimin.

pp

Red.

9

f

dimin.

12

p

Red.

Red.

Red.

15 *ritard.* *in tempo*
fz *dimin.* *pp*
Red.

18 *Red.* *Red.* *Red.*

21 *cresc.* *Red.* *Red.*

23 *ritard.* *Red.* *Red.* *Red.* *Red.* *Red.*

26 *mf* *dim.* *f*

30

fz *dim.* *Red.* *Red.*

34

Red. *Red.* *Red.*

37

Red. *Red.* *Red.* *Red.*

40

dim. *pp* *Red.* *Red.*

43

Red. *Red.* *Red.* *Red.*

46

ritard.

Red. *

48

in tempo

f

Red.

51

dimin.

p

Red. *Red.*

54

dim.

ritard.

p dim. *pp*

Red. *Red.* *Red.*

Jfmsod;xfd No. 2 in A-flat Harmonic Major $\flat 6 \flat 5$

Antonín Qweřtý

Poco Lento e grazioso.

The first system of the musical score is written for piano in A-flat Harmonic Major (three flats) and 2/4 time. The tempo/mood is 'Poco Lento e grazioso'. The right hand features a melodic line with slurs and a 'leggiero' (light) articulation. The left hand provides a harmonic accompaniment with chords and single notes, marked with 'Red.' and 'senza' (without) symbols.

The second system continues the piece, starting with a measure marked '3' and ending with a measure marked '5'. The right hand includes a triplet of eighth notes and a 'p' (piano) dynamic marking. The left hand continues its accompaniment, with a 'dimin.' (diminuendo) instruction. The system concludes with a repeat sign.

The third system begins with a measure marked '6'. The right hand features a melodic phrase with a 'pp' (pianissimo) dynamic marking. The left hand continues its accompaniment, marked with 'Red.' and 'senza' symbols. The system ends with a final cadence and a repeat sign.

9

Measures 9-11 of a piano piece. The key signature has three flats (B-flat, E-flat, A-flat). Measure 9 features a complex chordal texture in the right hand with a descending line in the left hand. Measure 10 has a forte (*f*) dynamic and a descending line in the right hand. Measure 11 is marked *dimin.* and features a descending line in the right hand. The left hand has a descending line in measure 9, a descending line in measure 10, and a descending line in measure 11.

f
dimin.

Red.

12

Measures 12-14 of a piano piece. Measure 12 has a piano (*p*) dynamic and a descending line in the right hand. Measure 13 has a descending line in the right hand. Measure 14 has a descending line in the right hand. The left hand has a descending line in measure 12, a descending line in measure 13, and a descending line in measure 14.

p

Red.

15

Measures 15-17 of a piano piece. Measure 15 has a descending line in the right hand. Measure 16 has a *ritard.* marking and a descending line in the right hand. Measure 17 has a *in tempo* marking and a descending line in the right hand. The left hand has a descending line in measure 15, a descending line in measure 16, and a descending line in measure 17.

ritard.
in tempo
pp
fz
dimin.

Red.

18

red. *

21

cresc. *red.* *

23

ritard. *red.*

26

mf

dim.

f

This system contains measures 26 through 29. The key signature has three sharps (F#, C#, G#). The music features a complex texture with multiple voices in both staves. Measure 26 starts with a mezzo-forte (mf) dynamic. Measure 28 includes a decrescendo (dim.) marking. Measure 29 begins with a forte (f) dynamic. The right hand has several rapid sixteenth-note passages, while the left hand provides a more rhythmic accompaniment.

30

fz

dim.

Red.

Red.

This system contains measures 30 through 33. The key signature remains three sharps. Measure 30 starts with a fortissimo (fz) dynamic. Measure 32 includes a decrescendo (dim.) marking. Measures 33 and 34 (at the start of the next system) are marked "Red.", likely indicating a reduction or a specific performance instruction. The musical texture continues with intricate right-hand passages and a steady left-hand accompaniment.

34

Red.

Red.

Red.

Red.

This system contains measures 34 through 37. The key signature remains three sharps. Measures 34, 35, 36, and 37 are all marked "Red.", indicating a reduction or specific performance instruction. The musical texture continues with intricate right-hand passages and a steady left-hand accompaniment.

37

Red. Red. Red. Red. Red. Red.

40

dim. pp Red. Red. Red. Red.

43

Red. Red. Red. Red.

46

ritard. Red. Red. Red. Red.

48

in tempo

f

Red.

Red.

51

dimin.

p

Red.

Red.

Red.

54

dim.

ritard.

p dim.

pp

Red.

Red.

Red.

Red.

References

- [1] Bringhurst, Robert. *The Elements of Typographic Style*, version 3.1. Hartley & Marks, 2005. For example, Bringhurst dismisses the tilde key: “In the eyes of ISO and Unicode, the swung dash found on computer keyboards is an *ascii tilde*—a character . . . meaningless to typographers.” He describes the backslash as “an unsolicited gift of the computer keyboard” with “no accepted function in typography.” And of the pipe character, he writes, “Despite . . . its presence on the standard ASCII keyboard, the pipe has no function in typography. This is another key, and another slot in the font, that begs to be reassigned to something typographically useful.”
- [2] Dvořák, Antonín. *Humoresque No. 7 in G-flat Major*, Op. 101, S. 123. N. Simrock, London, 1894. Reprinted in *Humoresques & Other Works for Solo Piano*, Dover Publications, 1994.
- [3] Optikos at English Wikipedia. *File:KB DSKtypewriter.svg*. February 10, 2010. https://commons.wikimedia.org/wiki/File:KB_DSKtypewriter.svg. Licensed under the Creative Commons Attribution-Share Alike 3.0 Unported license and the GNU Free Documentation License.
- [4] Wikimedia Commons contributors (Denelson83, Bodigami, Bencherlite, and Yes0song). *File:KB United States.svg*. December 27, 2010. https://commons.wikimedia.org/wiki/File:KB_United_States.svg. Licensed under the GNU Free Documentation License and the Creative Commons Attribution-Share Alike 3.0 Unported license.

Thanks to William Lovas for his piano performance during our presentation at the SIGBOVIK conference.