Introducing the

5-valve C Trumpet

by

Blackburn Trumpets

History and Perfection of an Old Design,
Advantages of the Extra Valves, Instructions,
Difficult Orchestral Passages made Easy,
Common Questions, and Additional Readings

by

David R. Hickman

A Brief History of Multi-Valve Brass Instruments

Valves have been used on brass instruments for nearly two hundred years. Early makers such as Adolphe Sax (1814-1894) produced instruments with two, three, four, five, and even six valves. Numerous other manufacturers produced cornets, trumpets, flugelhorns, horns, baritones, euphoniums, and tubas with more than three valves, and many of these are used today. Additional valves assist with technical facility, intonation, response, and accuracy.

The history of cornets and trumpets utilizing additional valves dates back to the first cornet virtuoso, Joseph Jean-Baptist Laurent Arban (1825-1889) who, with the help of Adolphe Sax, developed the "Cornet-Arban," a 4-valve cornet that had two sets of valve slides (like the modern double-horn) which played (usually) in the keys of B-flat and alto G. The instrument was developed somewhat late in Arban's career; he wrote his second method book, *Nouveau Cornet-Arban: Enseignement du Conservatoire* (c1880), for this instrument after returning to his cornet teaching post at the Paris Conservatory following a six-year tour of Europe and Russia. (Henri Maury taught there while he was away.) However, due to Arban's lack of touring in his latter years, and his death about ten years after designing the new cornet, the popularity of the Cornet-Arban did not spread outside of Paris.

One of Arban's students, Merri Franquin (1848-1934), taught at the Paris Conservatory from 1894 to 1925. Working with the well-known French manufacturer Jérôme Thibouville-Lamy (1833-1902), Franquin developed a 4-valve C trumpet as early as 1878. The fourth (piston) valve bypassed a section of the main tuning slide, placing the trumpet in D. The instrument was revised in 1915 and was required of all conservatory trumpet students. Roger Voisin of the Boston Symphony Orchestra popularized this instrument in America. Other French makers including Millereau and Milliens produced copies of this instrument. However, the relatively small bore and bell diameter of the Franquin trumpet were not acceptable to most American trumpeters.

Beginning in the 1960s, C/D trumpets were built by William Tottle, Robert Giardinelli Band Instrument Company, Ron DeVore, and others, usually from standard large-bore (.462-inch) Bach C trumpets. The fourth valves of these custom trumpets were usually rotor valves taken from (French) horns, possessing a .468-inch bore, causing the instrument to feel stuffy because of the relatively large differences between piston and rotor bore sizes. Nonetheless, many professional trumpeters including Armando Ghitalla, Wilfredo Cardoso, Dennis Schneider, Michael Chunn, Earl Gaar, and David Hickman performed on these instruments for much of their careers.

In 1916, Merri Franquin and the Thibouville-Lamy company developed a 5-valve C trumpet. Like the 4-valve instrument, the fourth valve raised the pitch a whole step, placing the instrument in D. The fifth valve lowered the pitch a minor third, placing the instrument in the key of A. (Franquin wanted a trumpet capable of reaching many of the lower notes previously composed for alto trumpets in G, F, and E-flat.) When the fourth and fifth valves were operated together, the trumpet was placed in the key of B-natural. Although this instrument was quite successful in Paris because of its better accuracy (causing many non-conservatory musicians to claim that Franquin and his students were "cheating" by playing "secret weapons"), the instrument was not made after Franquin's death. (Franquin had also developed an experimental 6-valve C trumpet, but it did not reach any real success.)

New Designs of the 5-Valve C Trumpet

Armando Ghitalla may have been the first to design the modern 5-valve C trumpet. His design was made into a prototype by Kenzo Kawasaki of the Yamaha Corporation during the late 1970s, and was a regular C trumpet with two additional rotor valves in the main tuning bow. The thumbs of each hand pushed long rods that operated the rotors; the fourth valve placed the trumpet in D, and the fifth valve placed it in B-natural. Operating both valves together caused the instrument to play in the key of D-flat, a very useful key. Ghitalla stated that he liked to perform the Tomasi *Concerto* (first two movements) on this instrument, utilizing the keys of D and D-flat during many of the difficult runs. Ghitalla's instrument was never perfected, however, and therefore was never put into production.

In 2013, Bryan Ewing, a DMA student at Arizona State University, developed another 5-valve trumpet in the same keys. His design uses two rotor valves: the fourth (ascending) valve is placed after the front tuning bow, and the fifth (descending) one is located in the bell stem. This design helps distribute the weight of the instrument in a more balanced way than Ghitalla's trumpet. Mr. Ewing's instrument was constructed from various parts of cornets and trumpets available to him, and because of the mismatch of bore sizes, serves mainly as an experimental prototype.

Working with custom trumpet maker Clifford Blackburn, David Hickman commissioned a prototype 5-valve C trumpet in 2013. Blackburn utilized four piston valves (the fourth is a descending valve that lowers the instrument a semi-tone, to B) and a rotor valve in the main tuning bow that raises the pitch a whole step, to D. When the fourth and fifth valves are used together, the instrument is placed in the key of D-flat. This instrument went through several small revisions, and was perfected into a professional model in February 2014. It is now commercially available to the public. It is very free-blowing and possesses a large orchestral tone.

How to Play the Blackburn 5-Valve C Trumpet

When only the first three valves are used, the trumpet plays normally as any C trumpet does. The overall intonation is exceptional, even without the use of alternate fingerings. The tone is full and rich, largely due to the bell's metal—Ambronze, an alloy that has a high percentage of copper, some zinc, and a small amount of tin that gives it a nice brilliance of tone and structural strength.

The fourth valve lowers the pitch of the instrument a half step. When locked down with the little swivel bracket, it becomes a trumpet in B-natural, and is perfect for passages such as those found on pages 7 and 15 of this booklet. In addition, depressing all four pistons can make the low F below the staff easily accessible.

The fifth (rotor) valve raises the pitch of the instrument a whole step, and allows the instrument to play in D. It also has a small hook bracket that can lock the instrument in D if desired. Many of the excerpts contained in this booklet show how the instrument can quickly shift from C to D, allowing difficult passages to be played more easily. Passages on pages 5, 6, 8, 11, 12, and 13 depict how extended passages can be played on the D trumpet when the fifth valve is locked down. Playing extended passages in the key of D-flat is accomplished by locking down the fourth and fifth valves. See pages 13, 14, and 15 for examples.

To tune the 5-valve Blackburn trumpet, move the fifth valve lever forward to place the instrument in the key of D. Tune the concert A (written second-line G) by adjusting the large tuning bow. Once in tune, lock the slide in place with the screw clamp. Next, place the trumpet in C, and tune the concert A again by adjusting the narrow slide that extends out of the rotor valve. When the D and C sides of the horn are in tune, the trumpet is ready to play.

Trills

The Blackburn 5-valve C trumpet makes numerous difficult trills very easy to play. The following examples are just a few of the more obvious adantages the additional valves provide.

C trumpet D trumpet

C trumpet D trumpet

C trumpet D-flat trumpet

C trumpet D-flat trumpet

C trumpet B-natural trumpet

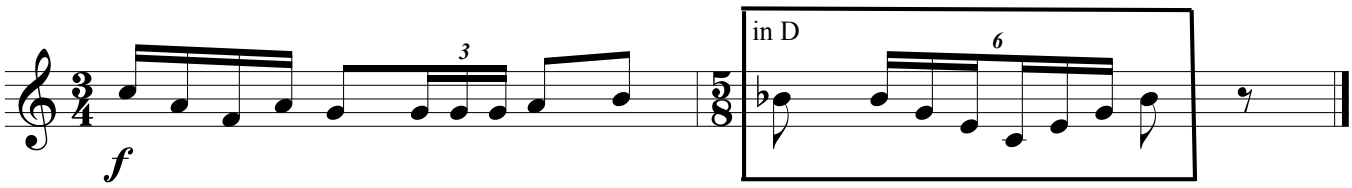
C trumpet B-natural trumpet

Histoire du Soldat

C Trumpet

March Triumphale du Diable

Igor Stravinsky

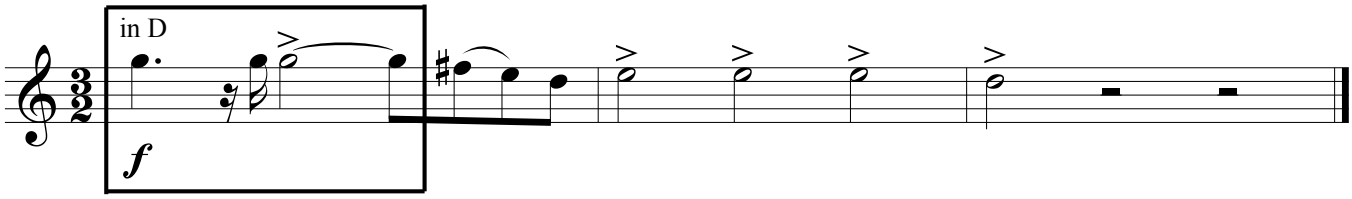


Symphony No. 2

C Trumpet

Jean Sibelius

Allegro moderato

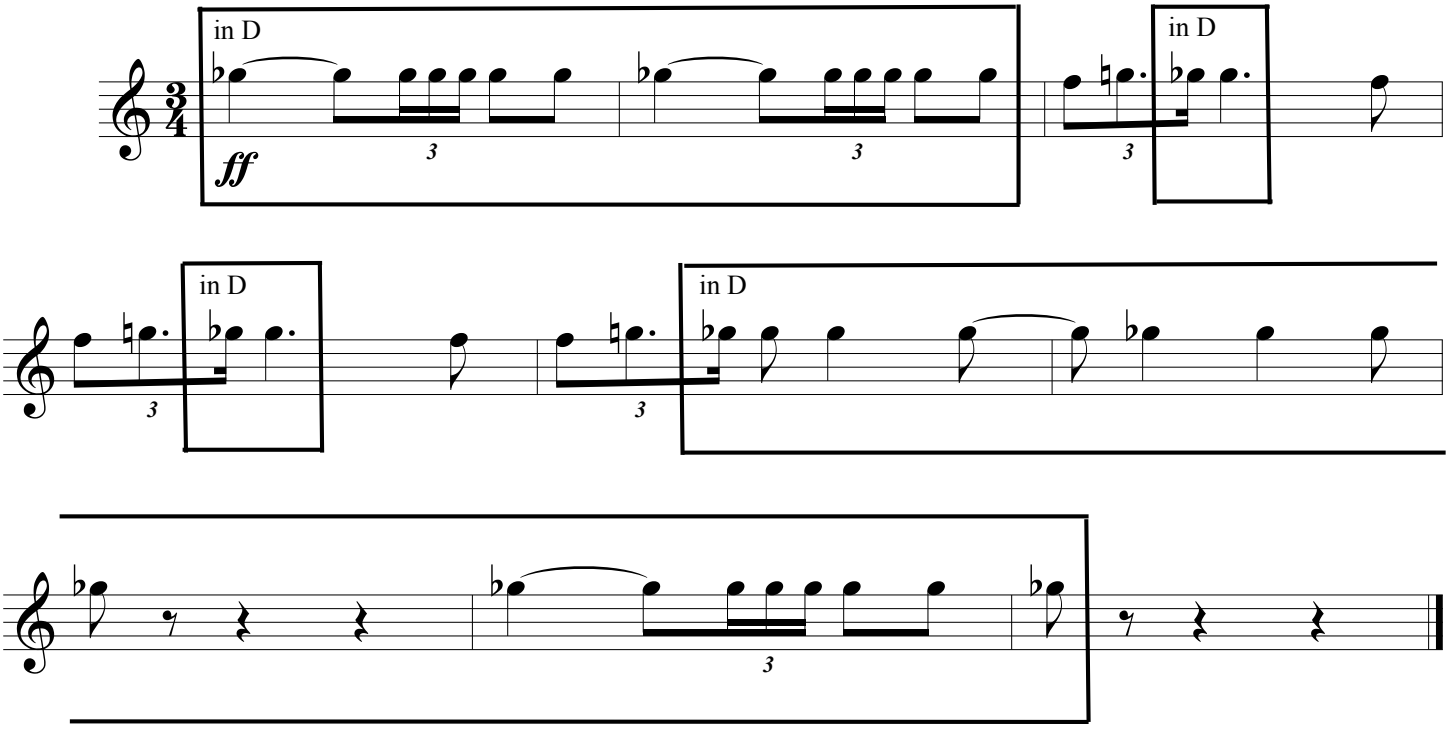


Symphony No. 4

C Trumpet

P. I. Tchaikovsky

Allegro sostenuto

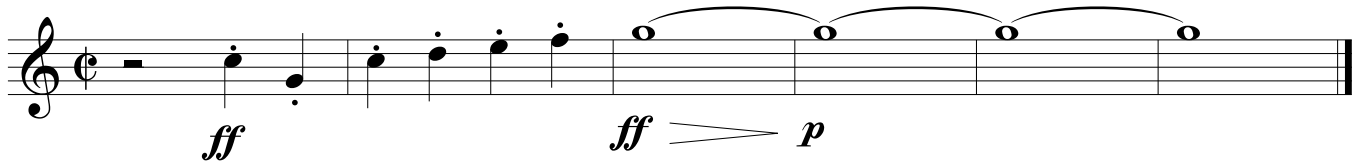


Symphony No. 1

D Trumpet

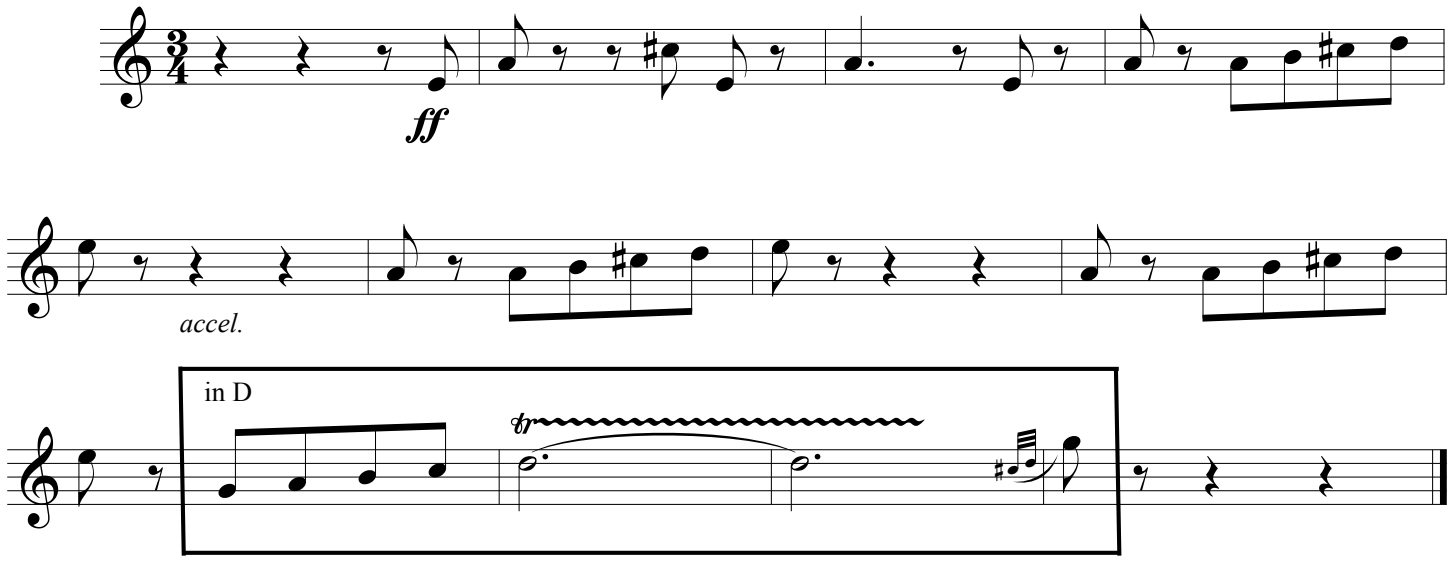
I

Gustav Mahler



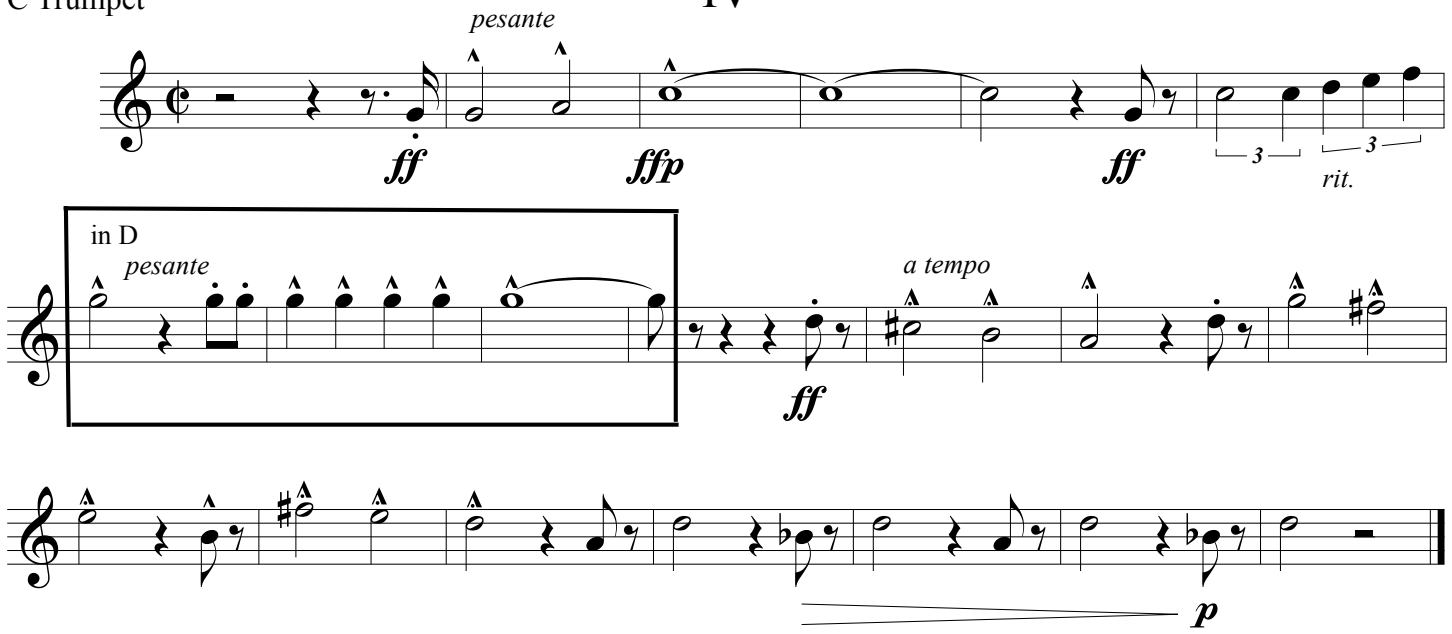
C Trumpet

II



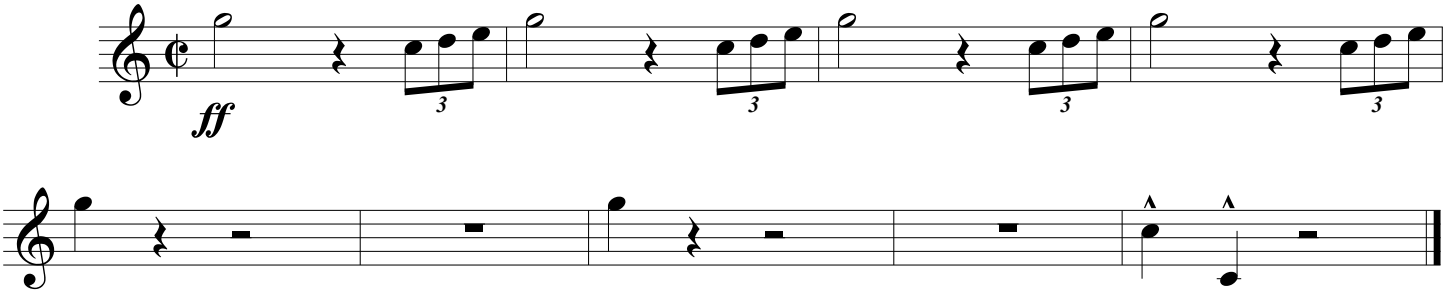
C Trumpet

IV



IV (cont.)

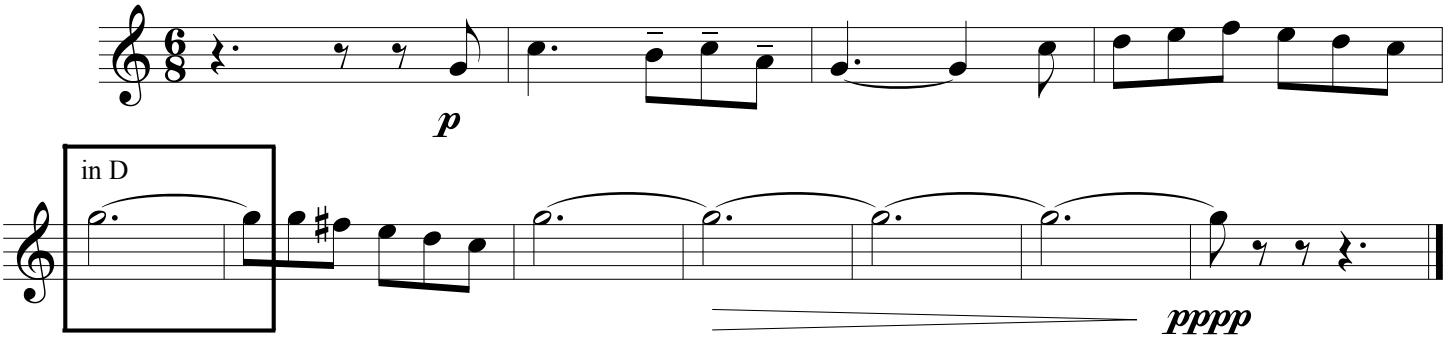
D Trumpet



Optional 2nd movement, "Blumine"

C Trumpet

Andante allegretto



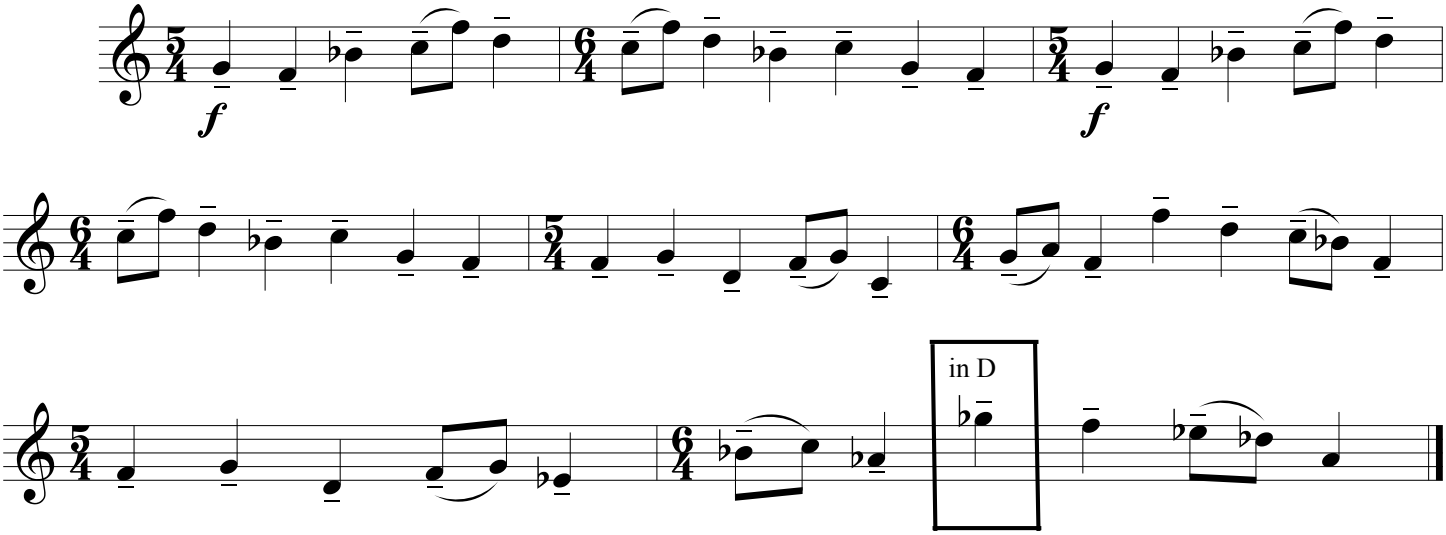
Tableaux d'une Exposition

Promenade

C Trumpet

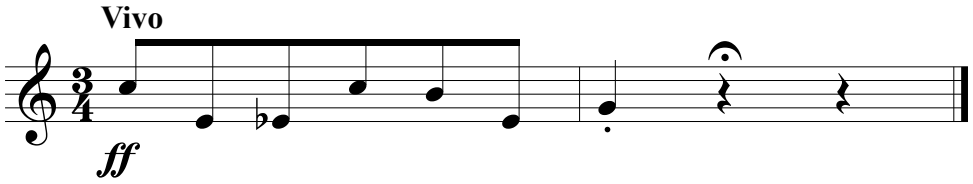
Modest Mussorgsky
orch. by Maurice Ravel

Allegro giusto



1. Gnomus

B-natural Trumpet

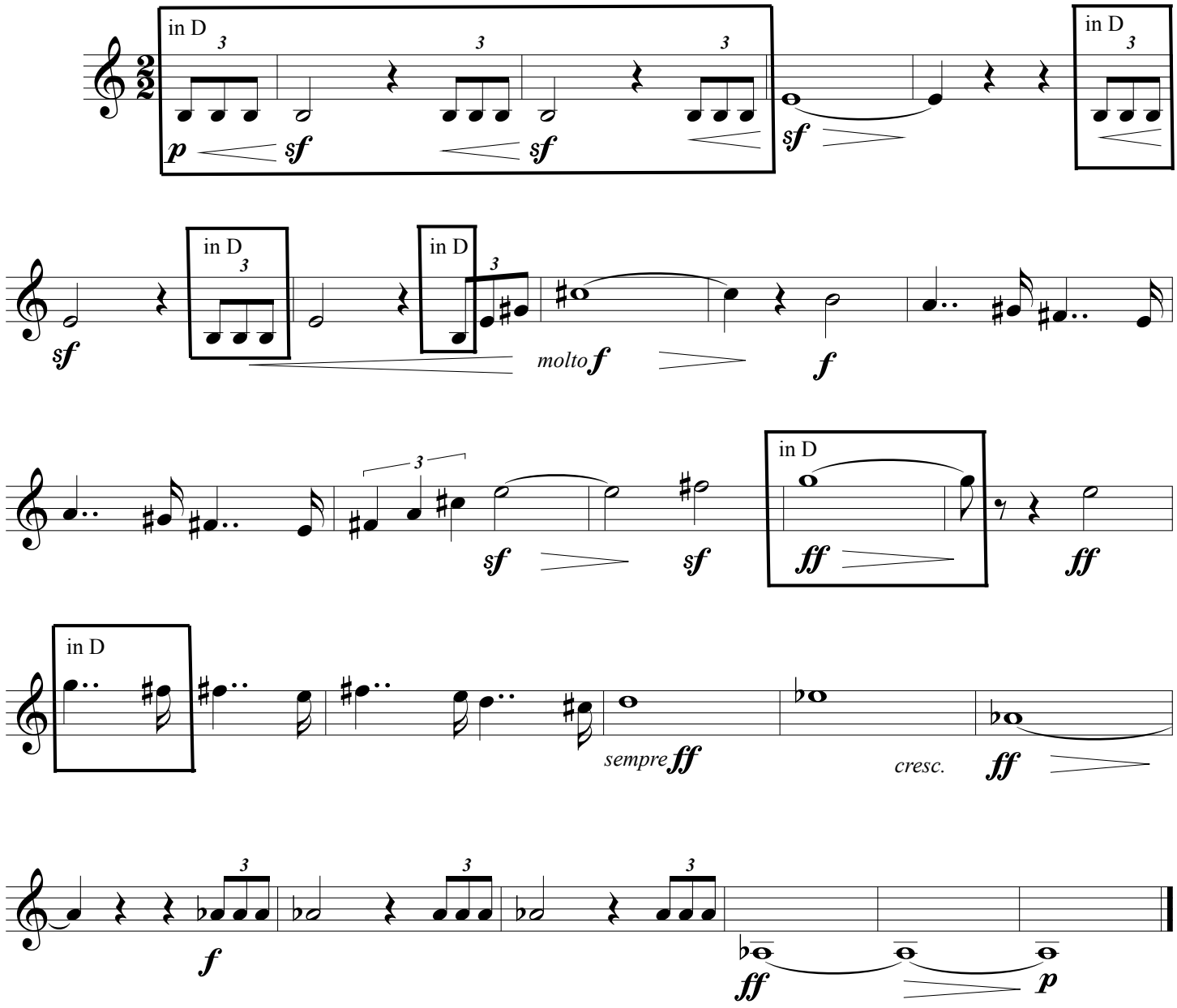


Symphony No. 5 in C-Sharp Minor

I. Trauermarsch

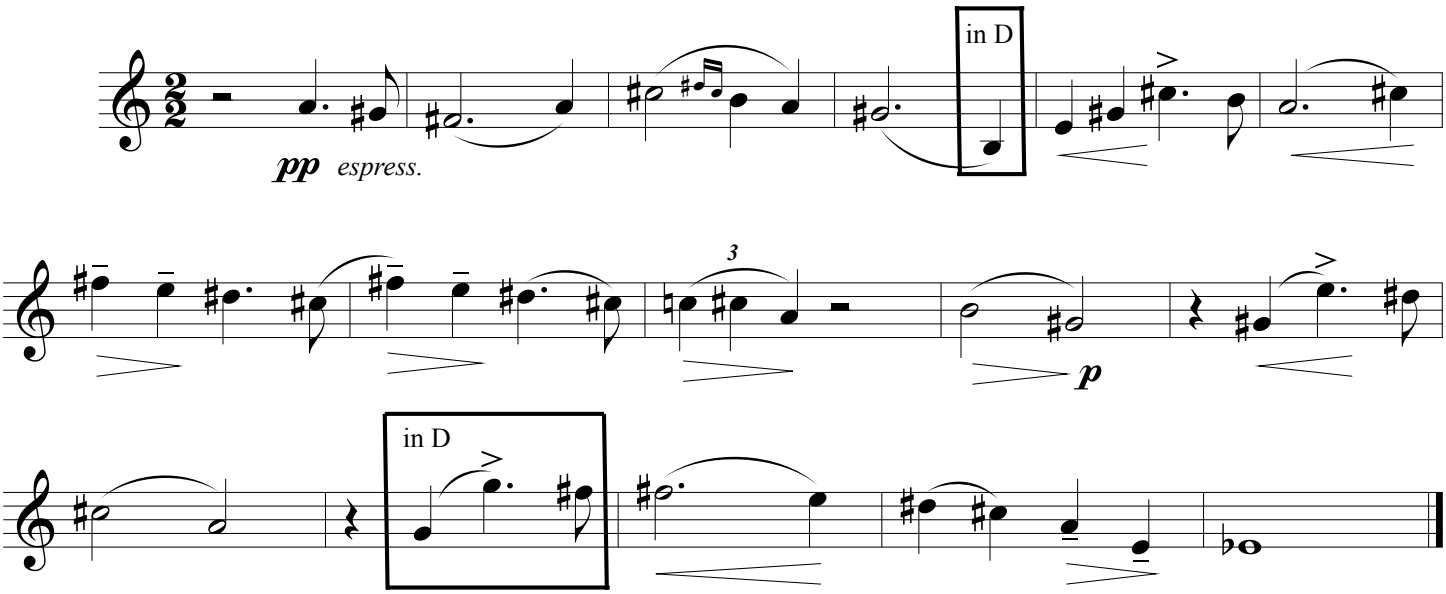
C Trumpet

Gustav Mahler



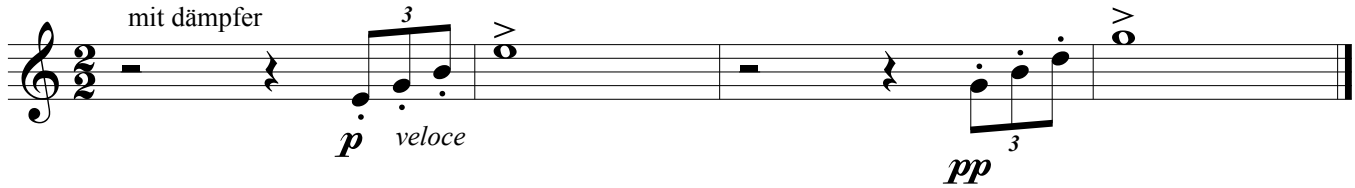
C Trumpet

I (cont.)



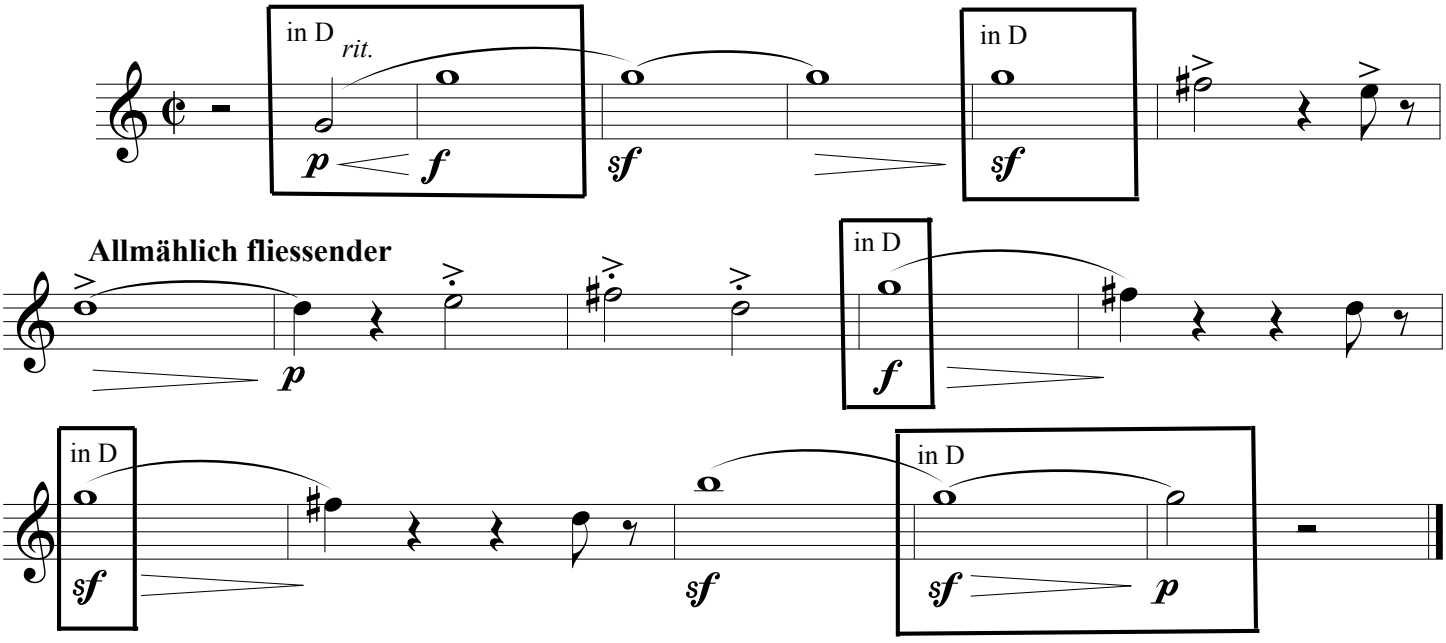
D Trumpet

I (cont.)



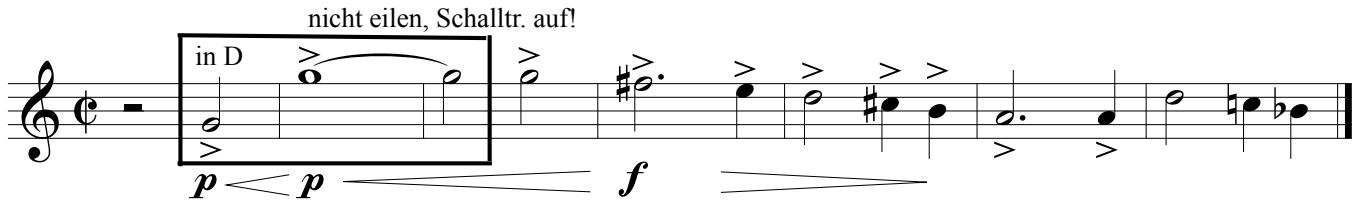
C Trumpet

III



III (cont.)

C Trumpet

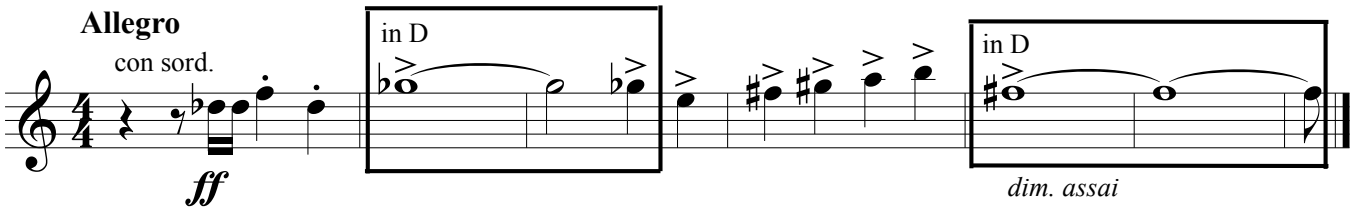


Le Coq d'Or

I. King Doden in his Palace

C Trumpet

Nikolai Rimsky-Korsakov

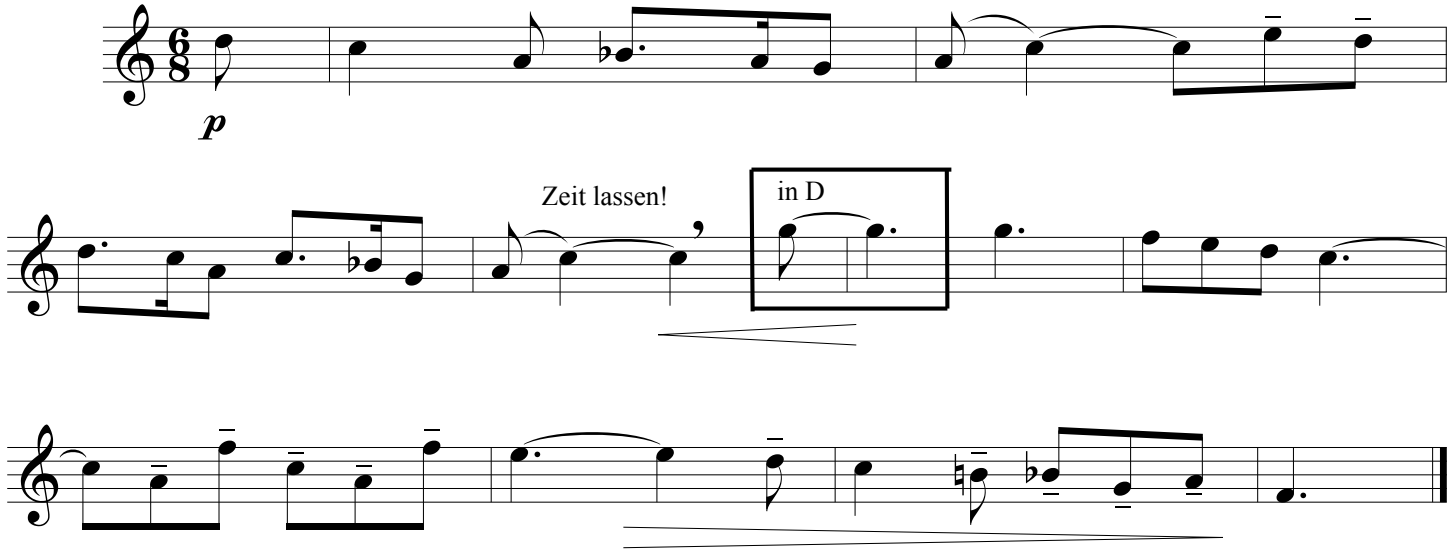


Symphony No. 3

III

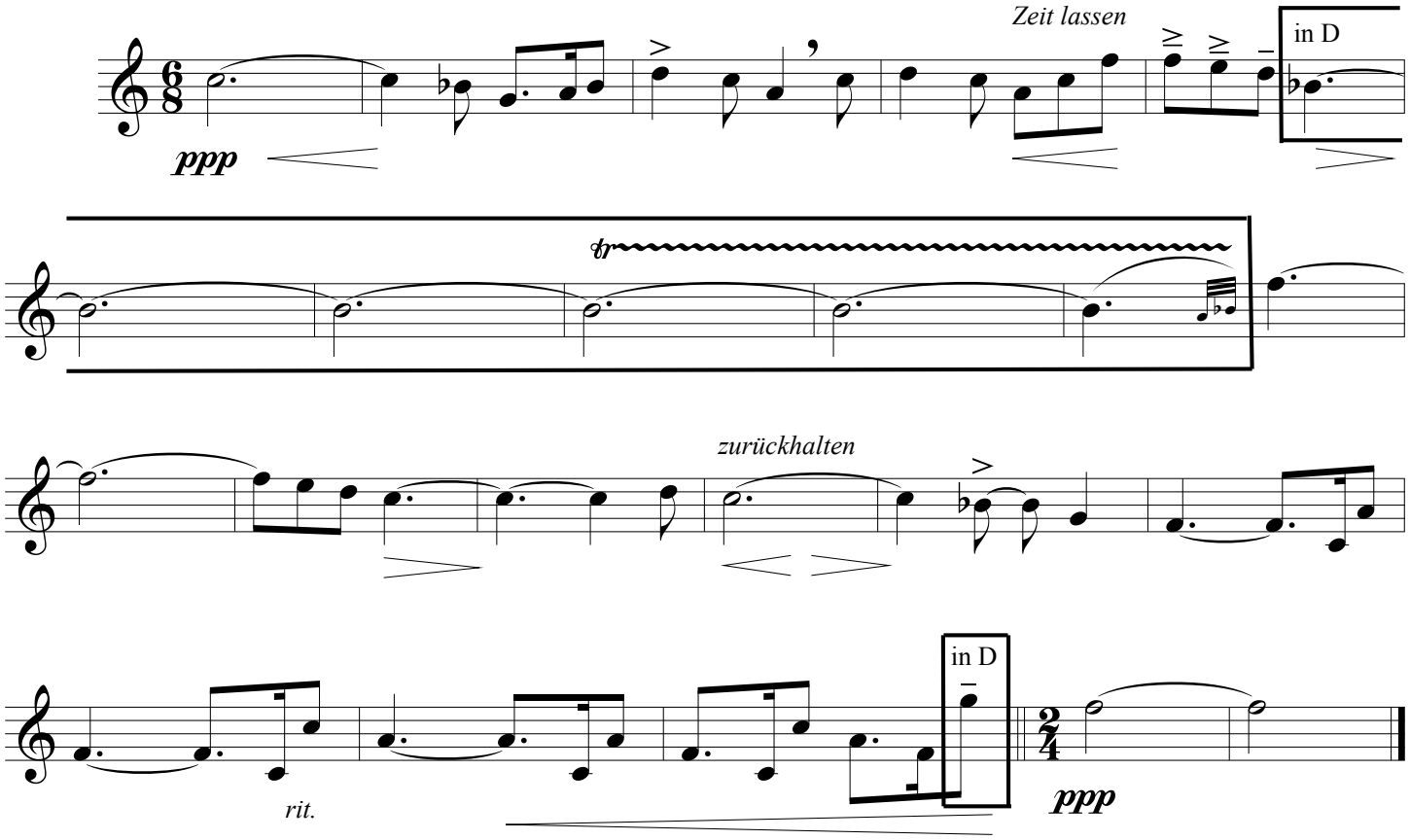
C Trumpet

Gustav Mahler



C Trumpet

III (cont.)

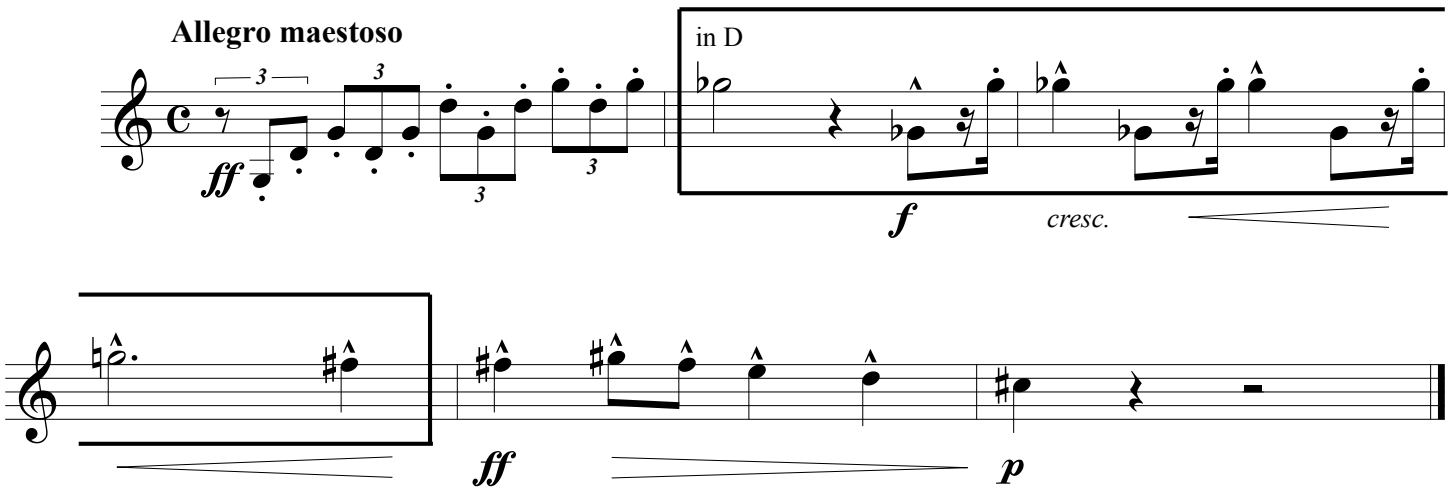


Symphony No. 2

C Trumpet

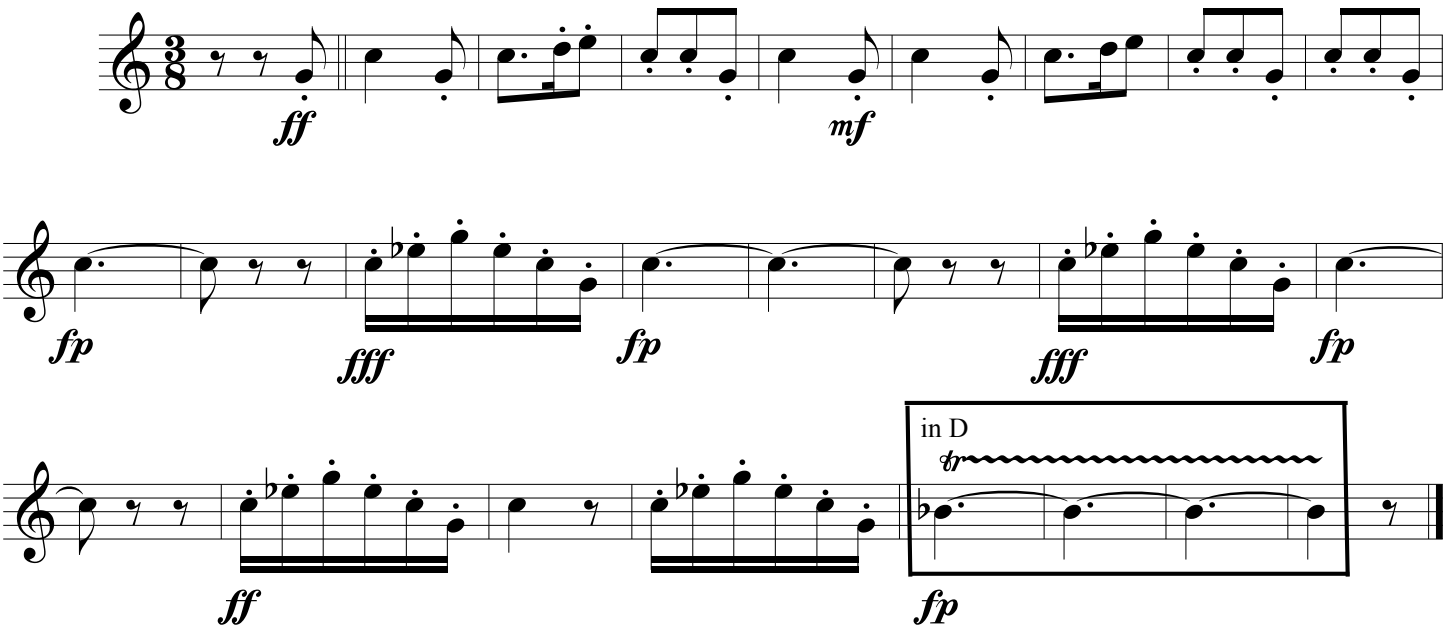
I

Gustav Mahler



III

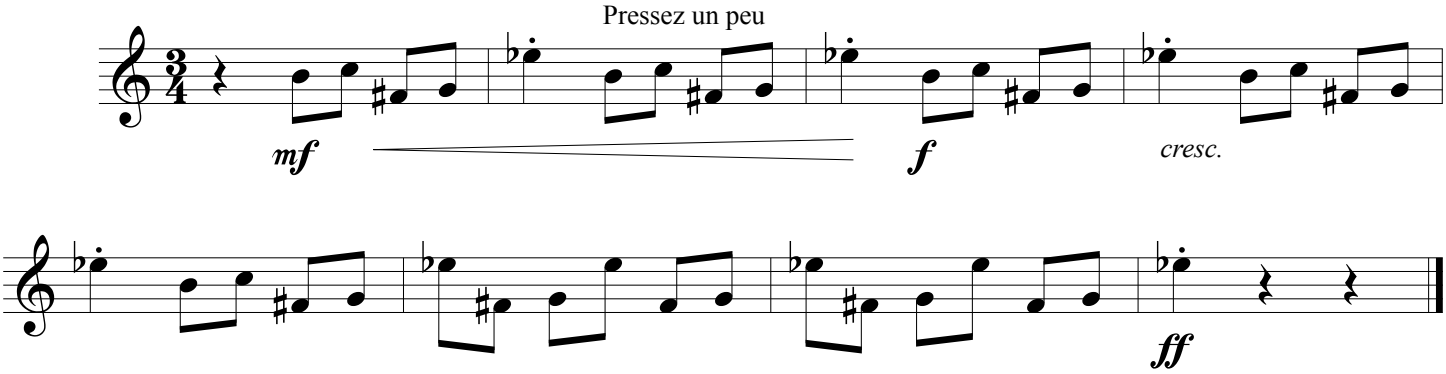
C Trumpet



La Valse

D Trumpet

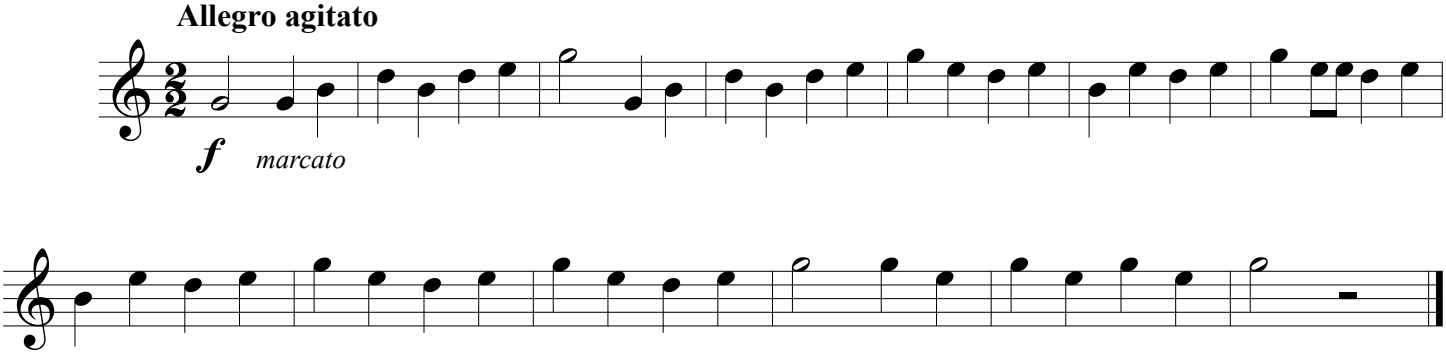
Maurice Ravel



Grand Russian Easter

D Trumpet

Nikolai Rimsky-Korsakov



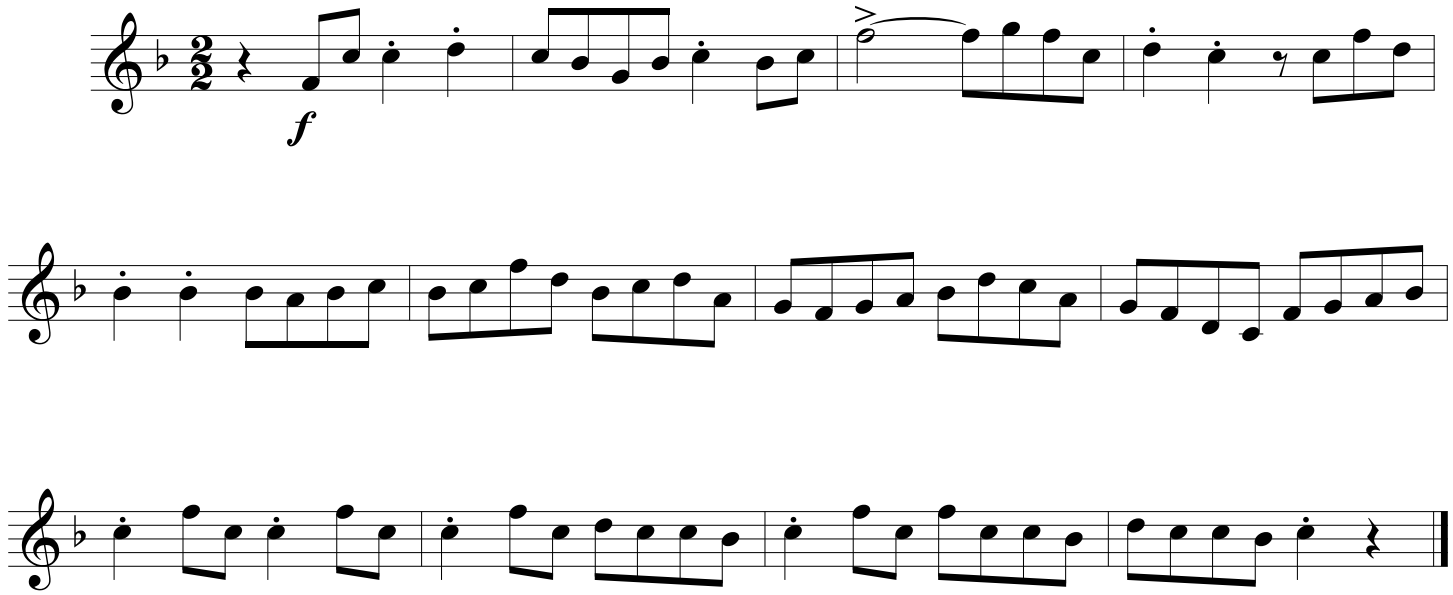
Piano Concerto in G

I

D Trumpet

Maurice Ravel

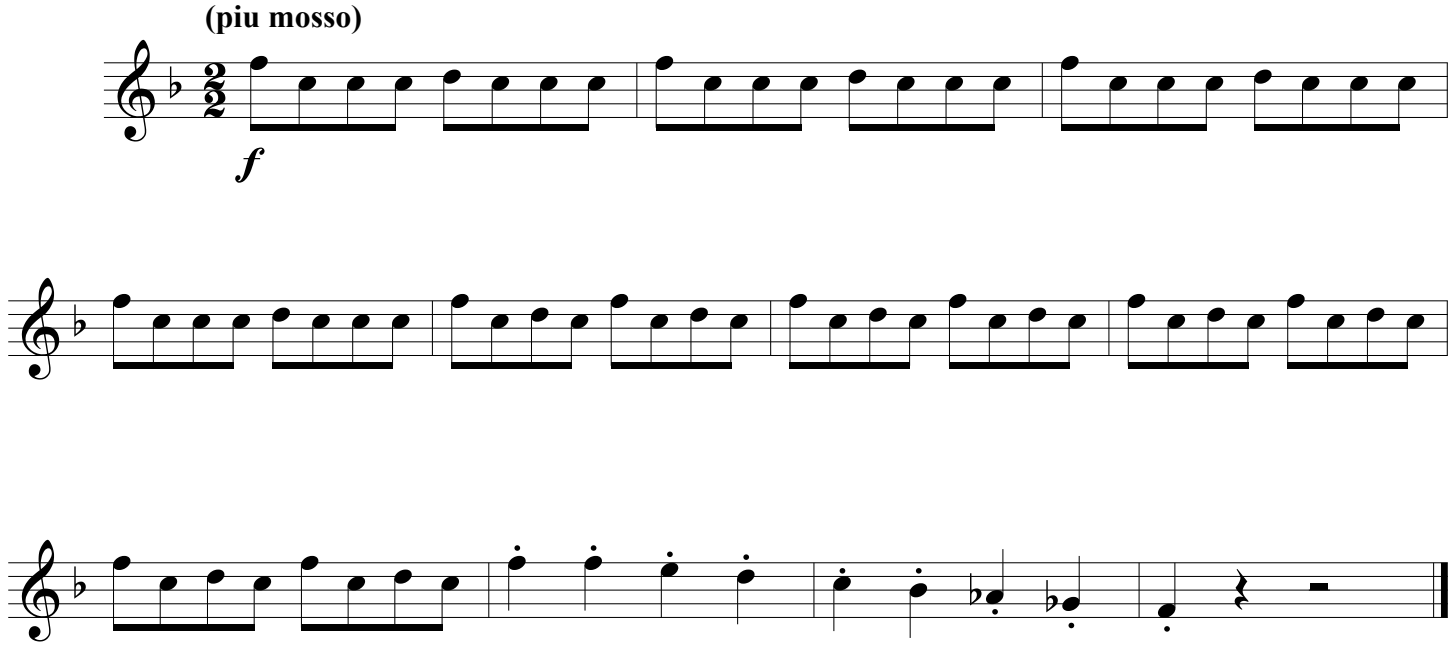
Allegramente



I (cont.)

D Trumpet

(piu mosso)

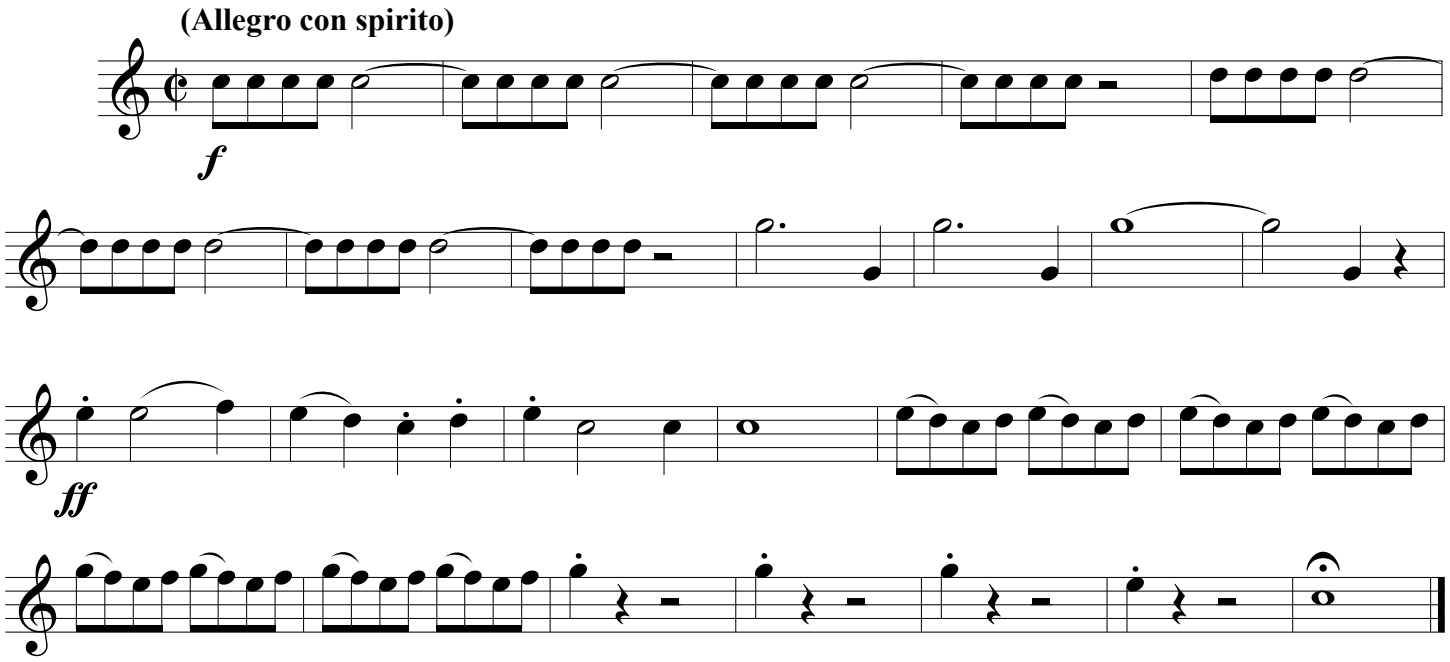


Symphony No. 2

IV

D Trumpet

Johannes Brahms

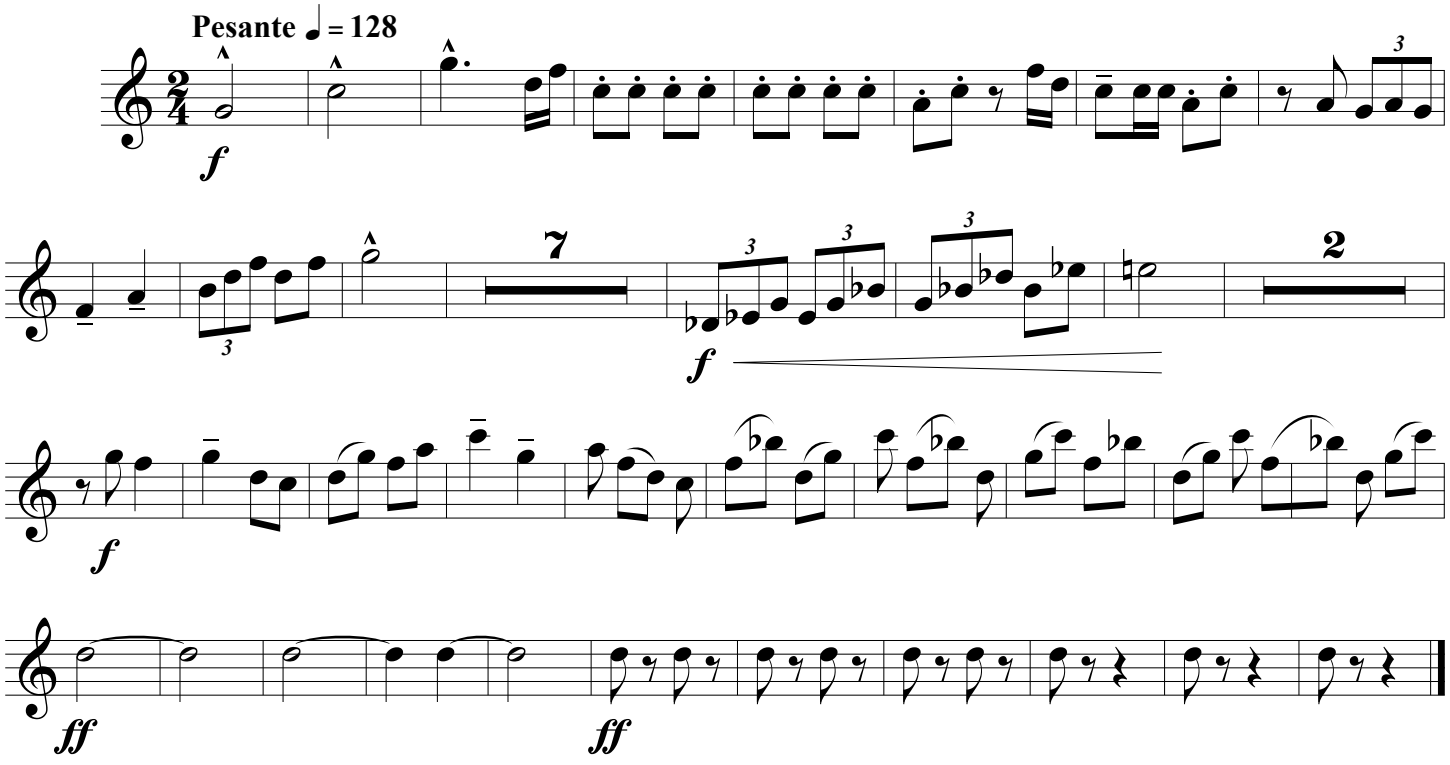


Concerto for Orchestra

V

D-flat Trumpet

Béla Bartók

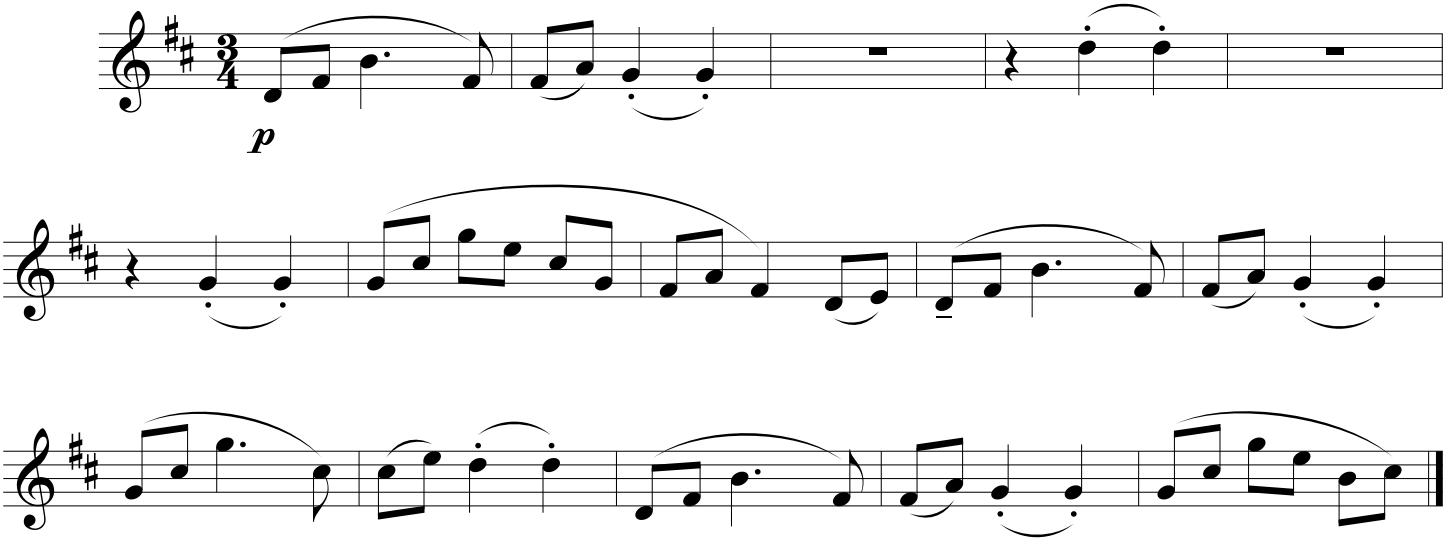


Petrouchka
(1911)

D-flat Trumpet

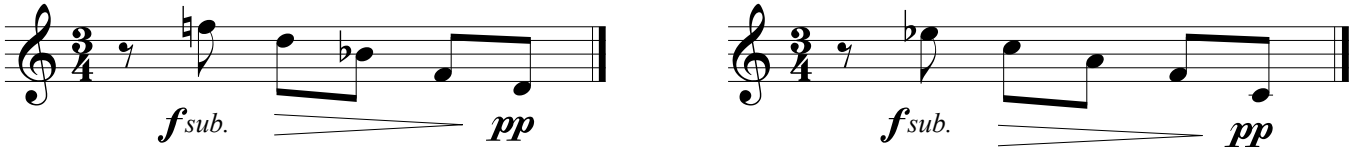
Igor Stravinsky

Cantablile sentimentalmente



Petrouchka (cont.)

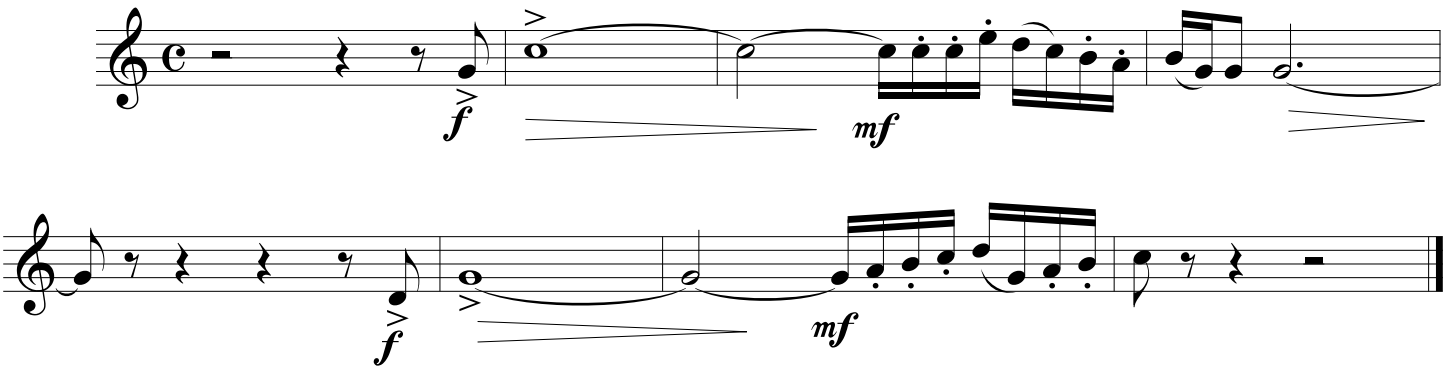
D-flat Trumpet



Capriccio Italien

D-flat Trumpet

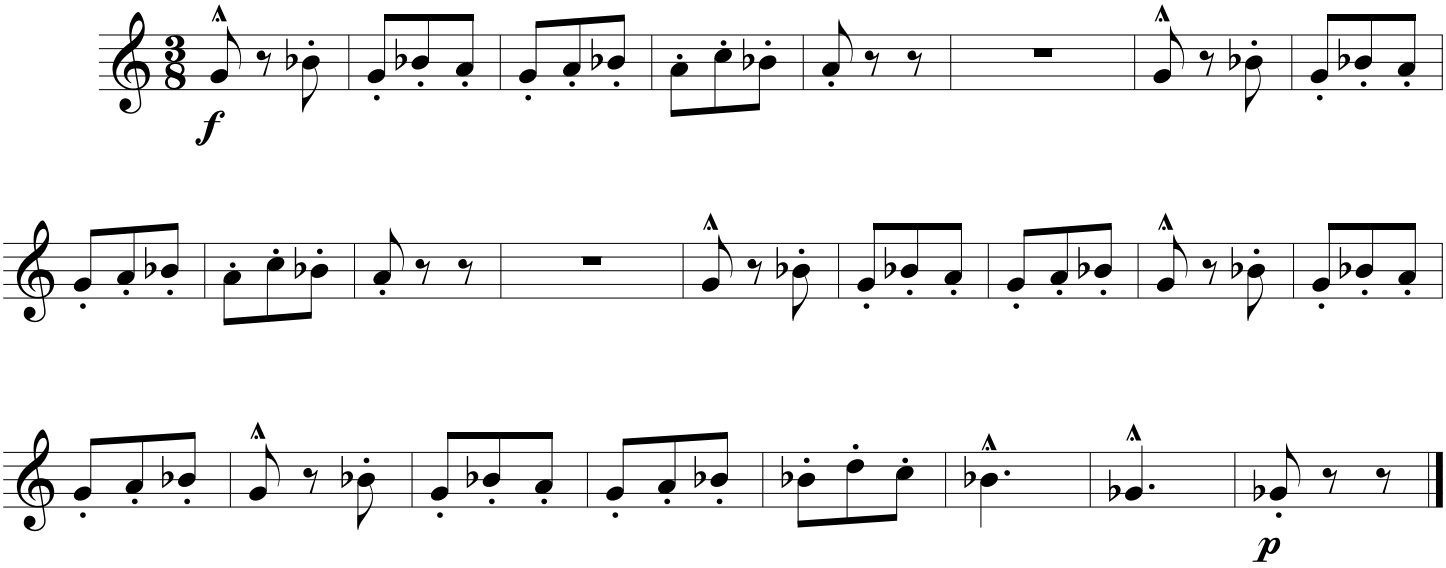
P. I. Tchaikovsky



L'Apprenti Sorcier

D-flat Trumpet

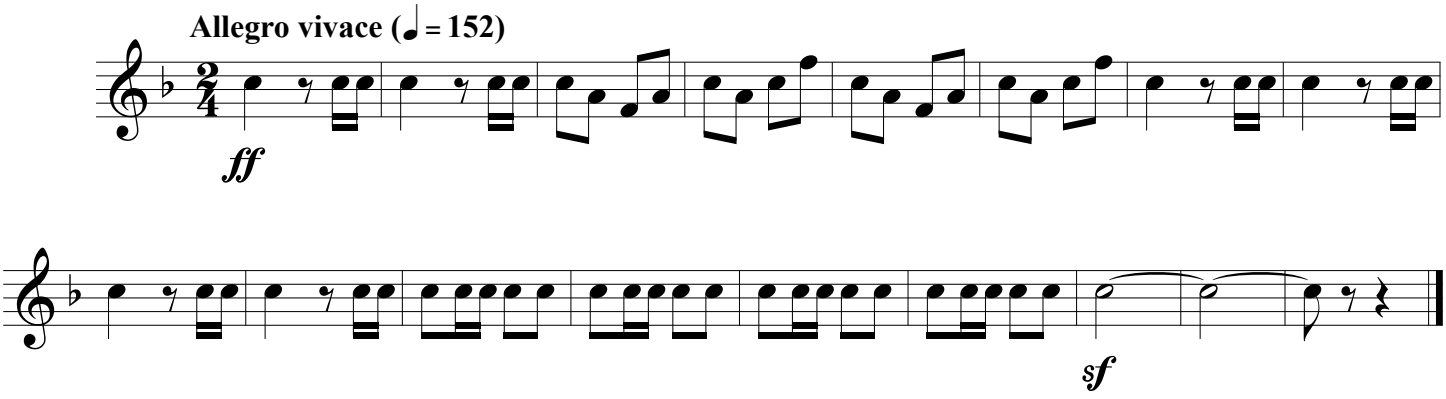
Paul Dukas



Guillaume Tell Overture

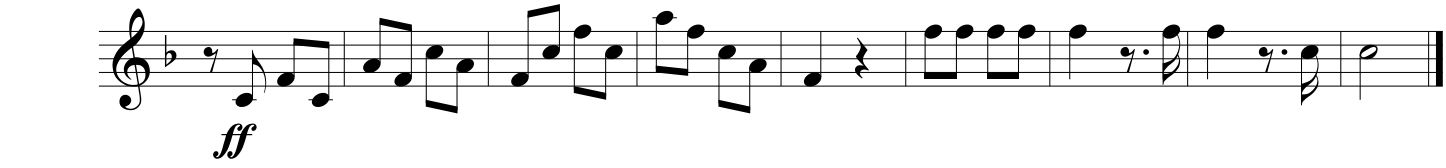
B-natural Trumpet

Gioacchino Rossini



Guillaume Tell Overture (cont.)

B-natural Trumpet



Common Questions

Q. *Is the 5-valve trumpet really four trumpets in one?*
A. Essentially, yes. However, it is designed to be a C trumpet that can play in other keys when it is advantageous to do so.

Q. *When changing instrument keys on the 5-valve trumpet, is there a change of tone color?*
A. No. It is amazing how evenly each key sounds when the additional valves are used.

Q. *Will the 5-valve trumpet fit in a standard trumpet case?*
A. Yes.

Q. *Does the sound of the 5-valve C trumpet work well with other brands of trumpets typically used in professional symphony orchestras and military bands?*
A. Absolutely! Like all Blackburn trumpets, the tone is full, dark, and powerful. It can be described as the perfect American orchestral sound.

Q. *Before the modern 5-valve C trumpet, were any trumpeters playing on D-flat trumpets?*
A. Yes, indeed. William Vacchiano (New York Philharmonic) created a D-flat trumpet by pulling the slides of his D trumpet; Thomas Stevens (Los Angeles Philharmonic) had a C trumpet shortened to D-flat; Donald Green (Los Angeles Philharmonic) made a D-flat trumpet by placing a C trumpet bell on an E-flat trumpet; David Hickman created a D-flat trumpet by cutting down a C trumpet. There were others, as well.

Q. *Depending on how players hold the instrument, can the rotor valve lever be adjusted to work easily with each person's unique hand grip?*
A. Yes. When ordering a 5-valve C trumpet, Mr. Blackburn will discuss this issue with the buyer. Linkage adjustments can be made to accommodate various sizes of hands and operation preferences.

Q. *How long will it take to adjust to using the two additional valves, and know when each should be employed?*
A. By playing through some of the excerpts contained in this booklet, most players understand the function of the added valves within minutes. It should take only a month or so for the player to feel that changing instrument keys is second nature.

Q. *How much does the Blackburn 5-valve C trumpet weigh?*
A. A standard C trumpet weighs about 2 lbs. 8 ozs. The Blackburn weighs 3 lbs.

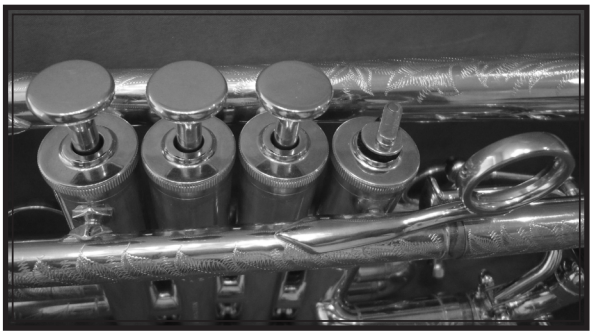
Q. *How long will it take for my Blackburn 5-valve C trumpet to be made?*
A. This depends on the number of orders ahead of you. Like most custom trumpet builders, it can take weeks or months. Check with the company for an approximate order turn-around time.

Q. *How much does a Blackburn 5-valve C trumpet cost?*
A. Current (2014) pricing is $7000, which includes silver plating. Custom engraving and gold plating are at an additional cost.

Custom Hand-Engraving by
Sherry Huntley, Artistic Engraving

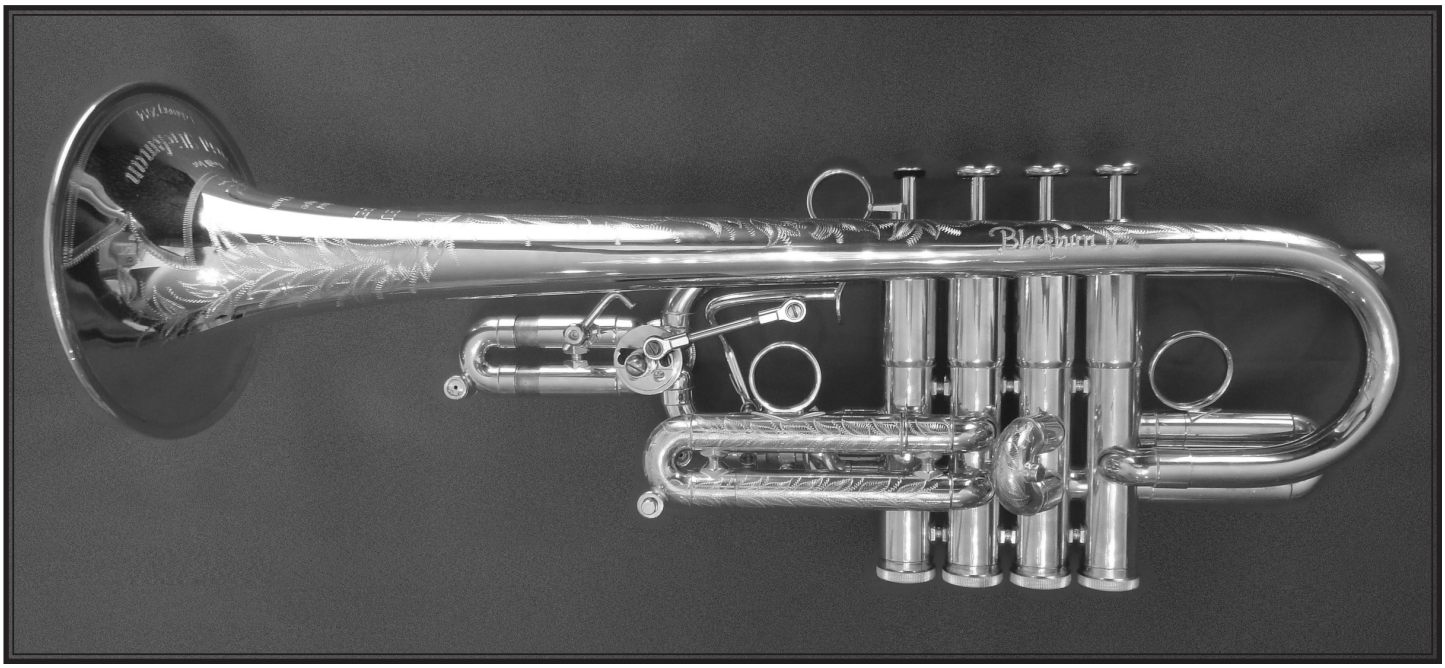
5th Valve Rotor Unlocked

5th Valve Rotor Locked



4th Valve
Swivel
Lock

Blackburn
Trumpets
means
high quality
craftsmanship
and
materials



Gold Plating by Anderson Plating, Elkhart, Indiana
Photos by Miriam Hickman

Additional Readings

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See David Hickman talking about and demonstrating the
Blackburn 5-valve C trumpet on YouTube.