



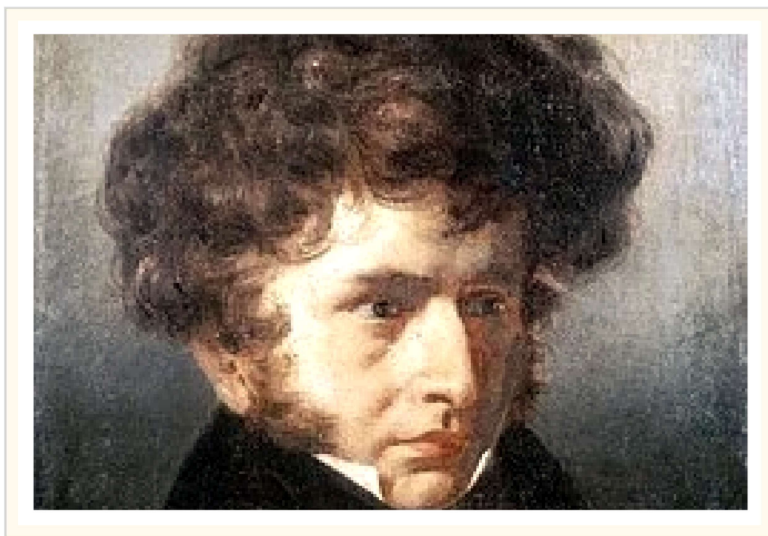
PACK TWO · A DEEPER DIVE

Composing & Orchestration

What each player can do, and how to ask for it on paper

Six sheets for the writing desk: every range on one ruler, transposition worked both ways, voices, the shape of a full score, and how a tune becomes an orchestration.

Orchestration is deciding who plays what — and when they stop.



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Hector Berlioz

His treatise on orchestration is still the most quoted book on the subject: he wrote down what each instrument could actually do, having asked the players.

COMES AFTER PACK ONE

Pack one covers the families, the seating, the beat and the keys. This pack assumes them and goes to the page.

What is in here

Reference sheets rather than reading matter. Keep the ranges and transposition sheets open while you write, and fill in the last sheet before you start a piece.

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HOW TO USE IT

Print the ranges and transposition sheets and pin them up. Everything else rewards a pencil: mark your own instruments, your own ensemble, your own ranges.

WHAT YOU NEED FIRST

Pack one, plus key signatures and intervals. The transposition sheet assumes you can name a major 2nd and a perfect 5th.

Ranges on one ruler

Every bar is drawn against the same seven octaves, so you can see who overlaps whom and which lines only the bass instruments can carry. These are sounding pitches – what the audience hears, not what the player reads.

Strings Woodwind Brass Keyboard & harp

C1 C2 C3 C4 C5 C6 C7 C8

STRINGS

Violin								G3 – E7
Viola								C3 – E6
Cello								C2 – C6
Double bass								E1 – G4
Harp								C1 – G7

WOODWIND

Piccolo								D5 – C8
Flute								C4 – D7
Oboe								Bb3 – G6
Clarinet in Bb								D3 – Bb6
Bassoon								Bb1 – Eb5
Alto saxophone								C#3 – Ab5

BRASS

Trumpet in Bb								E3 – Bb5
Horn in F								B1 – F5
Trombone								E2 – Bb4
Tuba								D1 – F4

KEYBOARD, HARP & TUNED PERCUSSION

Piano								C1 – C8
Celesta								C4 – C8
Glockenspiel								G5 – C8
Timpani								C2 – C4

SOUNDING, NOT WRITTEN

Every bar above is the pitch the audience hears. For clarinet, trumpet, horn, cor anglais, saxophone, piccolo and double bass the part on the stand looks different – the next sheet has all of them, with the interval and the key signature to use.

Transposing instruments

Several instruments do not sound the note on the page. Write the pitch you want to hear, then move the part — never the other way round. “In B $\flat$ ” simply means a written C comes out as B $\flat$.

INSTRUMENT	SOUNDS	SO THE PART IS WRITTEN	KEY SIGNATURE
Piccolo	an octave higher	an octave lower than it sounds	as concert pitch
Clarinet in B $\flat$	a major 2nd lower	a major 2nd higher	two sharps more
Clarinet in A	a minor 3rd lower	a minor 3rd higher	three flats more
Cor anglais in F	a perfect 5th lower	a perfect 5th higher	one sharp more
Trumpet in B $\flat$	a major 2nd lower	a major 2nd higher	two sharps more
Horn in F	a perfect 5th lower	a perfect 5th higher	often none — accidentals instead
Alto saxophone in E $\flat$	a major 6th lower	a major 6th higher	three sharps more
Tenor saxophone in B $\flat$	a major 9th lower	a major 9th higher	two sharps more
Double bass	an octave lower	an octave higher	as concert pitch
Guitar	an octave lower	an octave higher	as concert pitch

WORKING IT OUT, BOTH WAYS

- 1 Concert to written:** move the note *up* by the instrument’s interval. Concert F for a B $\flat$ clarinet becomes written G.
- 2 Written to concert:** move the note *down* by the same interval. A horn in F reading G sounds C.
- 3 The key signature moves with it.** Transpose the key by the same interval and write that signature at the head of the part — except for the octave transpositions, which keep the concert signature.
- 4 Check the extremes afterwards.** A comfortable concert line can transpose into the top of an instrument’s range — look it up on sheet one again. And say which pitch you mean: “your written D” and “concert D” are different notes.

WHY THEY EXIST AT ALL

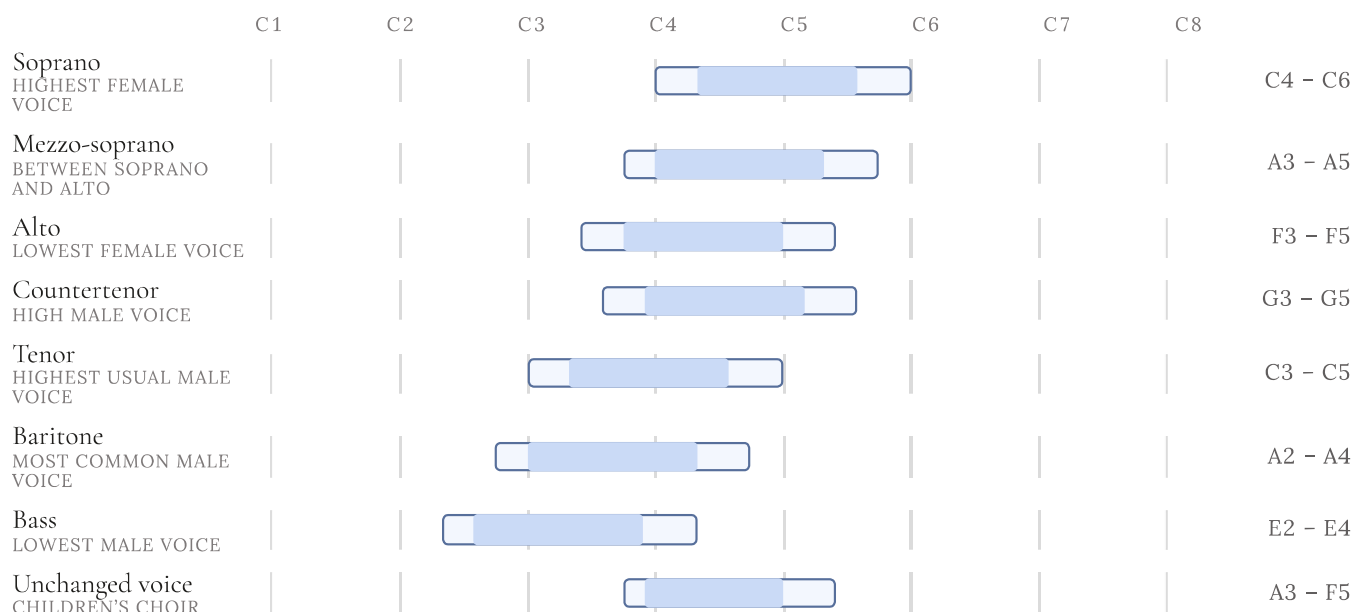
A family of instruments of different sizes can share one set of fingerings if each part is written in its own key. A clarinettist reads the same shapes on the B $\flat$ and the A instrument.

FLAT KEYS ARE KINDER

Concert flat keys turn into easy sharp-free keys for B $\flat$ and E $\flat$ instruments — one reason wind bands live in B $\flat$, E $\flat$ and F.

Voice types and ranges

A voice is not a machine: the top and bottom of a range exist, but they cost effort. The paler ends of these bars are notes a trained singer can reach; the middle is where a line can live for a whole movement.



Full range – reachable Tessitura – comfortable for a whole movement

HOW A CHOIR STACKS UP

Four-part choir writing is SATB – soprano, alto, tenor, bass – and the parts should keep their order, with no more than an octave between soprano and alto or alto and tenor. Tenor and bass may sit further apart; that gap is what makes a chord sound grounded.

CHILDREN'S AND YOUNG VOICES

Unchanged voices are comfortable from around A3 to E5 and tire quickly above that. Keep lines inside an octave, breathe often, and avoid long stretches at the very top – a tired choir sings flat.

WORDS COME FIRST

Put important syllables on strong beats and on higher notes. High vowels are hard to pronounce clearly: above the top of the stave, any vowel begins to sound like “ah”.

BREATHING IS COMPOSITION

Sing your line out loud. If you cannot get through a phrase in one breath, neither can they. Mark the breaths you intend, or the singers will choose their own.

Reading a score

A full score puts every instrument on one page, stacked in a fixed order. On the platform the strings are nearest; on the page they are at the bottom. Learn the order once and you can find any instrument in a second.

	1	2	3	4
Flutes				
Oboes				
Clarinets				
Bassoons				
Horns				
Trumpets				
Trombones & tuba				
Timpani				
Percussion				
Harp				
Violin I				
Violin II				
Violas				
Cellos				
Double basses				

Four bars of an imaginary score in D major. Every staff opens the same way: clef first, then the key signature (two sharps), then the time signature (4/4). Bar lines run through every staff: read down a column for the chord, across for the line. The gold blocks follow the tune — flutes, then first violins, then horns, landing in the cellos.

OPENING A SCORE FOR THE FIRST TIME

Read the instrument list on the first page — it tells you the size of the piece before a note is played, and in what order everything will appear below.

WHAT TO FOLLOW WHILE LISTENING

Follow the line you can hear most clearly, not the top staff. When the tune moves family, your eye moves with it.

FOUR THINGS THAT CATCH EVERYONE OUT

Clarinets and trumpets are written a tone high; horns a fifth high; double basses sound an octave below the notes you see; and a staff marked *a 2* means both players share one line.

OTHER KINDS OF SCORE

A short score compresses everything onto a few staves. A vocal score keeps the voices and reduces the orchestra to piano. A part holds one player's music, with cues for their entries.

Orchestrating an idea

Orchestration is deciding who plays what, and when they stop. Start from a tune, a bass line and a harmony you already like — then hand them out.

- 1 **Decide the layers first.** Nearly every texture is melody, bass, harmony and, sometimes, a moving inner line. Assign each layer to a family before you assign any single instrument.
- 2 **Keep the layers apart in pitch.** Melody clear of the harmony, bass well below it. Crowded middles are the commonest reason a full score sounds muddy.
- 3 **Double for colour, not for volume.** Flute an octave above a violin tune adds light; a second violin part in unison just adds violins.
- 4 **Give everyone rests.** Silence is what makes the next entry sound new — and wind and brass players physically need it.
- 5 **Change the scoring at structural points.** A new section should sound new: hand the tune to a different family rather than writing a different tune.
- 6 **Mark dynamics per instrument, not per page.** A trumpet's *mf* is a flute's *ff*. If you want to hear the oboe, mark the strings down.
- 7 **Check the extremes.** Every note inside the range on sheet one — and remember the top fifth of any range is loud and effortful, the bottom fifth quiet and slow to speak.
- 8 **Play it back, then cut.** First drafts are over-scored. Remove any part you cannot hear; the piece gets louder, not quieter.

FOUR TEXTURES WORTH STEALING

MELODY AND ACCOMPANIMENT

Tune in first violins or a solo wind; repeated chords in the rest of the strings; bass on cellos and basses. The clearest texture there is.

CHORALE

Four-part harmony in one family — horns, or divided strings. Slow, solemn, and merciless about wrong notes.

CALL AND ANSWER

A phrase in the strings answered by wind. Costs nothing, fills two bars, and makes an orchestra sound like a conversation.

TUTTI ARRIVAL

Everybody, briefly. Save it for two or three moments; a piece that is loud throughout has no loud moments.

Plan your piece

Fill this in before you write a single note. Decide the forces, the key, the tempo and who carries each layer — then the scoring is already half done.

TITLE

ENSEMBLE IT IS FOR

KEY & TIME SIGNATURE

TEMPO MARKING & CHARACTER

WHO CARRIES EACH LAYER

LAYER

SECTION A

SECTION B

SECTION A AGAIN

Melody

Harmony

Bass line

Colour & percussion

Dynamic level

SKETCH THE OPENING — MELODY ABOVE, BASS BELOW

THEN CHECK THREE THINGS

Is every note inside the ranges on sheet one? Does each player have somewhere to rest? Can you name, in one sentence, what the listener should notice at the halfway point?