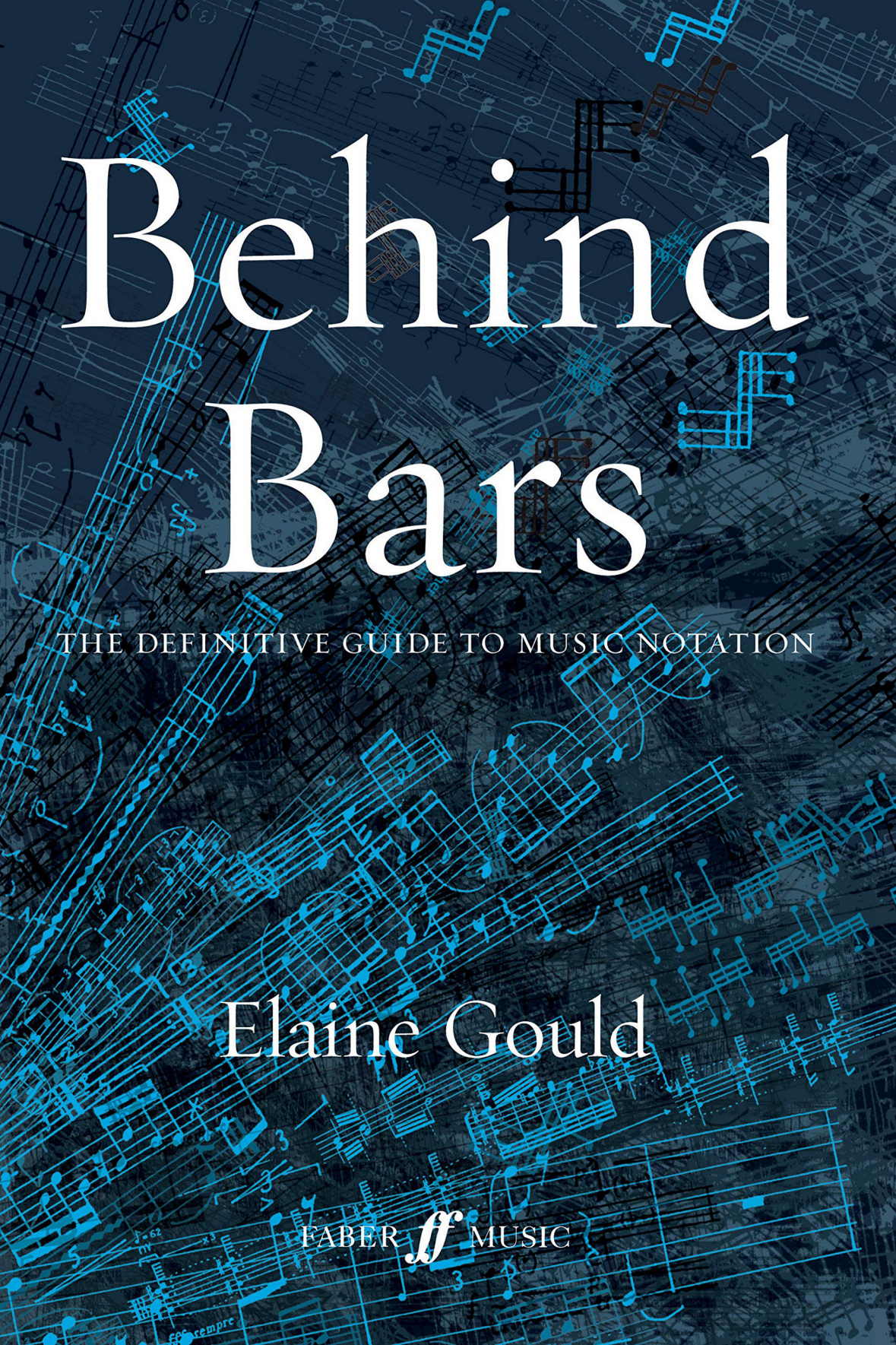


The background of the cover is a dense, overlapping collage of musical notation. It features various staves, notes, and symbols in shades of blue and white against a dark blue background. The notation is scattered across the entire cover, creating a textured, artistic effect.

Behind Bars

THE DEFINITIVE GUIDE TO MUSIC NOTATION

Elaine Gould

FABER *ff* MUSIC

BEHIND BARS

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to the Britten-Pears Foundation, Anthony Bolton and Carl Davis
for generous financial contributions towards the publication of *Behind Bars*.

*To my mother and brother
and to my many composer friends
for their boundless enthusiasm and encouragement*

Elaine Gould, in this wonderful monster volume, has written the equivalent of the Grove Dictionary for Notation. It is an extraordinary achievement, and if used by the next generation of composers and copyists will be a blessing for hard-working and long-suffering performers everywhere! Every chapter presents solutions and rules that will make our life easier, save rehearsal time and frustration, and will ultimately lead to better performances. What is important for a musician is to be able to spend rehearsal time on the music itself, without the hindrance of trying to decipher it. The clarity Elaine asks for is not a matter of dry rules or customs: it is part of the living texture of the music itself. I not only welcome her book unreservedly, but I would also pray that it becomes a kind of Holy Writ for notation in this coming century. Certainly nobody could have done it better, and it will be a reference for musicians for decades to come.

SIR SIMON RATTLE

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Introduction

In an age where computers can do it all for us, what need is there for expertise in, or even a working knowledge of, the principles of notation?

Many will believe that given a certain level of expertise, computer processing enables the user to produce music of the highest quality. Software will make layout and spacing decisions, and produce a beautifully sharp and precise page of music. The innovation of computer technology is indeed essential since most performers today prefer or expect computer-generated material even if some professionals still say that well-spaced hand copying, or a composer's manuscript, tell us more about the music than the impersonality of a computer-set page ever can.

But computer-generated music must satisfy best practices if it is to fulfil its function. I hope that a thorough understanding of the principles set out in this book will complement – indeed complete – the armoury of skills, shortcuts and techniques that the modern musician sitting at a computer has to hand. Computer software can take us so far; only the dexterity and subtlety of the human mind can make the ultimate informed choices notation frequently demands. The information presented in this book should therefore be relevant regardless of whether the user is sitting at a computer or undertaking the painstaking job of hand copying a manuscript. A computer programme will apply notation principles, but the operator must decide if these are the most apt solutions, and a trained eye is required to refine the settings and evaluate if the contents of the stave and the spacing on the page are really the most appropriate.

To take one example, there is a commonly held assumption that music software will extract satisfactory parts at the push of a button. Near-instant part extraction is of course an extraordinary achievement compared to the laborious nature of hand copying. Adequate parts can, however, only 'appear' if the raw material has been entered syntactically, if the user has a trained eye for spacing, and when care has been taken to account for performance conditions and skill levels.

The poor state of instrumental parts is frequently a source of anxiety for composers and performers alike since bad layout – poor spacing and ill-judged page-turns, for instance – can hinder a good performance. When a performer stumbles in rehearsal this is frequently because there is something wrong with the layout or the notation. Spending rehearsal time ironing out needless reading difficulties is unfair on the musicians, who will be hoping to invest their time and energy in the music. In my experience, professionals

are frequently too tolerant of poor presentation – they should be free to devote their minds to the performance, not to deciphering the part. The following letter from Mahler to his wife, Alma, (referring to the part copying of the Eighth Symphony) highlights the dangers of hasty decisions:

Munich [17 June 1910]

My Almschl,

I'm writing this to you just as a sign of life. What this copyist has done to me (the one who made such an affected, unpleasant impression on us at the time) is simply too dreadful. In every part, wherever an instrument has a longer passage of rests, instead of writing them out in full, the lazy pig has merely written *tacet* (which is normally done only when an instrument is silent for a whole movement). – So now, not only are the players unable to find their bearings, but when I, poor devil, want to change the orchestration, instead of simply writing in the necessary bars at the appropriate place, I also have to write out the entire *tacet* passage, and sometimes have to delete several lines to make room for it. This is wasting *hours and hours* of my time . . .

Your Gustav*

Although the wonders of computer technology can make it no more time-consuming to include all *tacet* bars than to omit them, it is essential to be able to judge the level of information the performer requires, so that we don't make similar blunders.

As musicians, we tend not to spend much time analysing why this or that piece of music looks good or bad, but there's no doubting that we can feel when something is not quite right, even if we don't know why. Musicians deserve the very best that the language of notation can provide, and the most elegant layout that can be achieved; in this way they will be free to give their all in performance. Through a mutual understanding of the rules and conventions of notation, the composer can 'speak' effectively to the performer, who then has the best chance of achieving a faithful interpretation of the composer's intentions.

In *Behind Bars* it is my aim to provide the tools for this purpose by reminding the reader of the practical requirements of performance as conveyed through accurate notation. It goes without saying that many of the views and practices expressed in *Behind Bars* are subjective. My own views regarding best practice are based on three decades of working with music notation,

* From *Gustav Mahler: Letters to his Wife*, translation © 2004 Antony Beaumont. Reprinted by permission of Faber and Faber Ltd

composers and performers, and I have attempted to present a clear, user-friendly guide, encompassing a wide variety of styles and taking account of different viewpoints. Any errors are my own.

It is my hope that the principles set out in *Behind Bars* will serve music into the twenty-first century and that musicians can be safe in the knowledge that they will understand each other for many years to come.

Historical context

The early twenty-first century is an appropriate time to re-establish principles of good practice that have governed notation over the last 150 or so years. New compositional techniques of the mid-twentieth century stimulated notational experiment and innovation, and that left a diverse legacy. Some innovations were indispensable to a specific compositional process but could not be readily transferred to another style. Some, however, have proved adaptable to a range of musical styles and include innovations that may be useful additions to the composer's vocabulary. (These techniques are discussed in Chapter 20.) The intention of *Behind Bars* is to encourage the use of established conventions where appropriate since what is familiar is of most help to the musician. The familiar can be read and understood quickly. There are often already so many different ways of notating the same thing that the invention of novel notation to give a score a particular uniqueness is unhelpful and potentially alienating. Unfamiliar notation takes much longer to assimilate; furthermore, the more complicated the notation, the greater the possibility is that it will create a barrier to the reader.

The notation innovations of the mid-twentieth century were duplicated in different parts of the world, with individual composers using or even inventing different notation for new methods of composing or new performance demands. Erhard Karkoschka's *Notation in New Music* (English edition, Universal Edition (London), 1972) catalogued many of these strands, which brought to light the lack of a common language. Kurt Stone's *Music Notation in the Twentieth Century: A Practical Guidebook* (W. W. Norton, 1980) sought to standardize the new notation symbols and procedures then in currency. Some of Stone's proposals have been adopted widely while others have not been found so useful. *Behind Bars* revisits notation in the light of scores written in the intervening years.

I have been highly selective in the choice of extended instrumental and vocal techniques included in this book, but it is intended that this should give the reader the facility to create notation for other techniques not in common use. Kurt Stone's book is still a valuable source for further examples of extended instrumental and vocal techniques, as well as for discussion of issues and trends in mid-late twentieth-century composition.

In the field of non-mensural notation, proportional spacing has proved a versatile tool: Chapter 20 discusses the most practical options. Inclusion of graphic notation is restricted to that which can be incorporated within a conventional framework and read on the horizontal time-space axis. Readers wishing to explore visual pattern or illustration *per se* are guided towards Karkoschka's book.

Skills of traditional engraving used to be passed down in publishing houses. In a post-engraving era, I have formulated conventions from analysis of historical engraving practices, consulting a cross-section of scores engraved over the last hundred years, as well as scores by known experienced engravers. In present-day classical publishing, the editions of Henle and Bärenreiter are notable models of good practice.

For the first time in its history, music notation is no longer only a prescriptive vehicle (a set of instructions for the performer) but has gained a descriptive function: to document sounds in the fields of electronic music and ethnomusicology. It is to be hoped that the section on electroacoustic music will provide useful tools and options in this rapidly changing area.

Behind Bars is in no way a history of music notation, but is a practical guide to present-day users who need to communicate their music accurately and effectively.

Using *Behind Bars*

Within the covers of this book, a clear, detailed hierarchy of headings should enable the reader to navigate the book easily and find information quickly. Related subjects are grouped together where practical; subjects that are treated elsewhere in different contexts are cross-referenced. In general, a topic is structured: definition – design – placing – use. Where practical, topics are handled as logical progressions from the elementary to the complex, and definitions are given where terminology is uncommon or potentially confusing. Foreign-language technical terms are used where they are in common usage in the English-speaking world, and such terms are presented in the text in *italic* – even though they may appear in roman type in a musical context. A basic knowledge of music theory is assumed.

Every facet of a piece of music, from general layout to the placing of symbols, is very much dependent on individual context. I have illustrated as many contexts as possible within the music examples, and introduce comparative examples to train the eye to distinguish good practice from bad. Where relevant I have chosen extracts from a variety of sources. There is no implied comment on musical merit in the choice of examples, nor in terms of the inclusion or exclusion of particular composers' works. References to scores in the text are likewise chosen simply for their notational attributes.

The mainstay of *Behind Bars* is to examine the complex set of rules based on unique or shared conditions. Effective communication results from establishing a convention and adopting a consistent approach. Where appropriate I have presented the rationale for certain conventions and rules, to make such conventions more memorable. Where new technical or compositional demands require new notation, I have proposed conventions that are simple, clear and, where possible, in keeping with traditional practice. Where conventions are not established, I have made my own recommendations. Not everyone will be in agreement with my conclusions, but they are based on my many years of working with composers and performers. My aim is to raise awareness of the many subtle and complex issues to be considered, and provide the tools to address them.

ELAINE GOULD
January 2011

Acknowledgements

Many fellow musicians have (willingly or inadvertently) helped me to form the opinions expressed in this book, and have given generously of their time and expertise. It is impossible to name them all here, but the following, many of whom are leading exponents of contemporary music, deserve special mention since their opinions have helped to shape the content of the subject matter relating to their instruments:

woodwind players: Philippa Davies, *flute*; Melinda Maxwell, *oboe*;

Ian Mitchell, *clarinet*; John Orford, *bassoon*

brass players: Bryan Allen, *trumpet*; Stephen Roberts and

Michael Thompson, *horn*; Simon Wills, *trombone*

percussionists: Richard Benjafield and David Hockings

pianists: Ian Brown, Stephen Coombs, Ian Pace and Clive Williamson

organists: Christopher Bowers-Broadbent, Colm Carey and David Goode

harpists: Christina Rhys, Helen Tunstall and Hugh Webb

guitarists: Tina Jones and Alan Thomas

string players: Ivor McGregor, *violin*; Bridget Carey, *viola*;

Judith Mitchell, *cello*; the late Corin Long, *double bass*

singers: Lesley-Jane Rogers and Mary Weigold

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There are some key figures without whom this book would not have materialized, and I owe them an immense debt of gratitude: to John Carewe for his sound and practical advice over the years regarding the requirements of a conductor; to Colin Matthews and Michael Durnin, who read the first complete draft; to Richard Emsley for his painstaking work on the music examples; and especially to my fellow editor Paul Tyas, for his thoughtful

advice, unique expertise in producing the music examples, invaluable comments on final proofs, and not least for his tolerance of my exacting standards. On a personal note, I am grateful to my brother, Allan, for typing numerous drafts, and to my mother for her support and understanding.

Beyond these, I must express thanks to my first editor, Wendy Thompson, for commissioning the book and having faith that I could write it; to Richard King for adding focus to a generation of rewrites and proposing a restructure; to Jill Burrows, my designer and indexer, whose expertise and skill have made the content of the book a joy to behold; and to my final editor, Kathryn Knight, who uncomplainingly inherited this enormous project: for her enthusiasm, diligence, patience and huge reserves of determination to see the book through innumerable proof stages. Many other colleagues at Faber Music have provided help, encouragement and support, particularly Sally Cavender, and, of course, the Faber Music house composers.

I may never have aspired to embark on the writing of this book without the inspiration of two teachers who instilled in me high standards of excellence and whose consummate professionalism and craftsmanship have been a source of inspiration: calligrapher Joan Pilsbury and composer John Casken.

Finally, I am immeasurably grateful for the patience, tolerance and, above all, support of long-suffering friends, family and colleagues over twenty years. A labour of love on this epic scale would never have been completed without them.

E.G.

I

GENERAL CONVENTIONS

1

Ground Rules

The stave 5

Clefs 5

Noteheads 9

Stems 13

Tails 15

Beams 17

Ledger lines 26

Octave signs 28

*Using ledger lines or octave
signs* 32

Rest symbols 34

Barlines 38

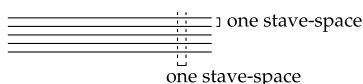
Rhythmic spacing 39

Spacing symbols 41

The staff

The five-line staff

The size of every notational symbol is measured in proportion to the staff size. A staff-space is the distance between two staff-lines and is used as a measurement for notational symbols and spacing in this book.



(For *Staff sizes*, see p. 482; for choosing an appropriate staff size, see *Performance conditions*, p. 557.)

The single-line staff

USES

- to notate instruments of indefinite pitch
- to notate sounds of indefinite pitch (e.g. percussive sounds) produced on pitched instruments
- to notate vocal sounds of non-specific pitch
- to notate a cue line of rhythm
- as an option to show approximate pitch

(See also *Spoken text in rhythm*, p. 457; *Non-text sounds: Other effects*, p. 460; *Rhythmic cue line*, p. 576; and *Options to show approximate pitch: On a line or grid*, p. 641.)

Clefs

Clef position

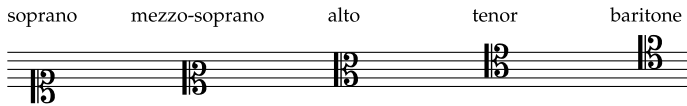
There are four clefs in common use. It is important to place each on the staff so that it centres precisely on the relevant staff-line.

The treble (or G) clef winds around the G line; the bass (or F) clef winds around the F line, and its dots fall each side of the F line:

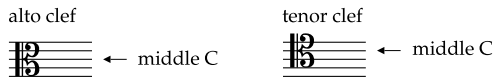


C CLEFS

These centre on whichever line is to be designated as middle C. The five clefs are:



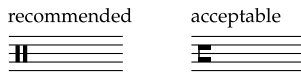
The C clefs in common use are the alto and tenor clefs. The alto clef centres on the middle stave-line. It covers the height of the stave. The tenor clef centres on the second stave-line down. It is the same height as the alto clef (the height of the stave), but placed one stave-line higher:



The other C clefs are used to replicate the original clefs of early music vocal scores.

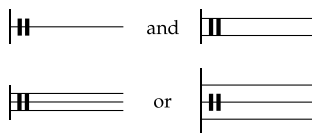
PERCUSSION CLEFS

The following clefs are placed in the middle two stave-spaces to indicate that the stave contains notes of indefinite pitch:



(See also *Clefs on the five-line stave*, p. 279.)

The clef is optional for a stave of fewer than five lines, since such staves are assumed not to signify pitches anyway. If used, place the clef as follows:



INDENTATION

A clef is indented into the stave by one stave-space (˘) or a little less:



Clefs to use

Except for percussion, each staff must begin with a clef. Never omit the clef; only in hand-copied theatre and entertainment music has it ever been an accepted convention to use a clef on the first line and no other.

USING ALTO AND TENOR CLEFS

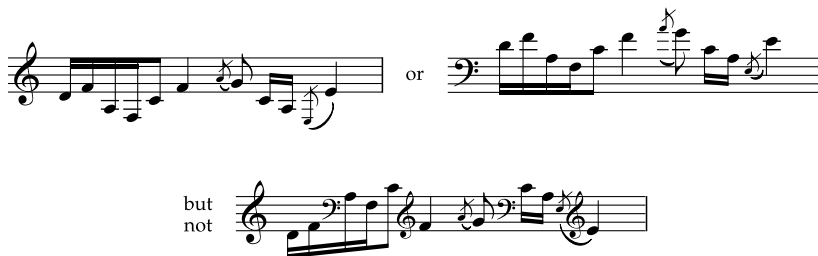
Among common orchestral instruments, only the viola uses the alto clef. The alto clef should be used for alto trombone parts (see *Trombone and tuba*, p. 262).

Bassoon, trombone, cello, and occasionally double bass, use the tenor clef. Some nineteenth-century editions place tenor-voice parts in the tenor rather than the treble clef.

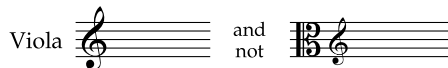
Changing clef

A change of clef placed after the beginning of the system is two-thirds of the size of the clef at the beginning of the staff (see following examples).

For performance material, stay in one clef for as long as is practicable, using up to at least three ledger lines rather than changing clef frequently. This shows the contour of the pitches, which a change of clef would obscure:

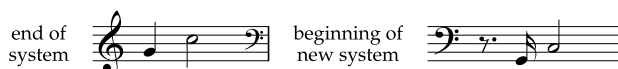


The practice of retaining the most commonly used clef at the beginning of the staff while inserting a new clef after it is obsolete. This includes the very start of a piece:



AT THE BEGINNING OF THE SYSTEM

Give warning of the clef change by placing the new clef at the end of the previous system before the barline:



AT THE BEGINNING OF A BAR

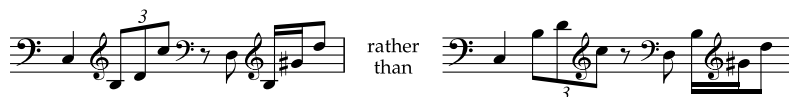
The clef always goes before the barline, whether or not rests precede the entry:



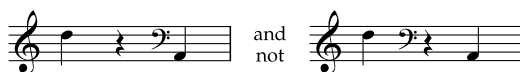
The only time that clefs appear directly after a barline are clefs for cues (see *Positioning clef changes*, p. 573) and clef changes after repeat sections (see *Changes after a repeat*, p. 235).

MID-BAR

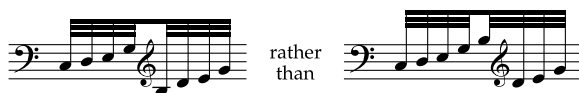
Place the new clef between beats, rather than in the middle of a beat. This is least disruptive to the spacing of the bar:



Between beats, change the clef after rests:



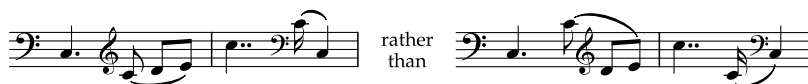
Should a new clef be unavoidable in the middle of a beat, position it between half-beats or another subdivision:



(For spacing with clef changes, see *Additional clefs and accidentals*, p. 43.)

BETWEEN PHRASES

In a passage of continuous playing, place a new clef between phrases, wherever this occurs in the bar. This placing overrules the above considerations. It enables the reader to see the pitch contour of the phrase intact. The clef separates two phrases rather than two bars or two beats:



WITH TIED NOTES

Avoid changing a clef during a tied note, as the tie will look cumbersome. If this cannot be avoided, the clef is best changed at a system break:

recommended



acceptable

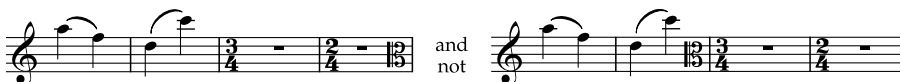


incorrect

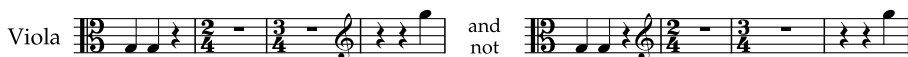


AFTER PERIODS OF RESTS

Where an instrument rests for more than a system, it is usual to return it to its commonest clef (provided this is suitable for the following entry). For example, a viola previously playing in the treble clef changes back to the alto clef. (This helps when reading a full score: the staves of some instruments can be immediately identified by their clefs.) Place the clef change at the end of the system after the player has finished: this is the least disruptive position as regards spacing. It is better than an immediate clef change before rests, which draws unwanted attention to the new clef at an arbitrary point:



Where there needs to be a change from the more standard clef, retain this clef until the barline before the next entry. This placing alerts the performer to the change at the relevant point (i.e. at the entry), and not further back before a group of rests, where it may be overlooked:



(See also *Exchanging ordinary and octave-transposing clefs*, p. 507.)

Noteheads

Shape and size

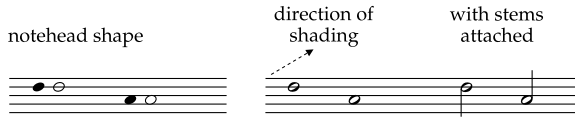
BLACK NOTEHEADS

These are oval-shaped and placed on the staff with a diagonal slant away from the stem:

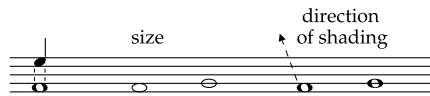


WHITE NOTEHEADS

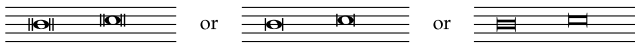
The minim: the notehead is oval-shaped with diagonal shading. It is usually slightly larger than the black notehead:



The semibreve: the oval notehead has greater width (in proportion $2\frac{1}{2}$ semibreves to 3 black noteheads) and does not slant diagonally. Its shading slants slightly but in the reverse direction from the minim – a semibreve is not a stemless minim. White notes tend to be read by their shape, rather than by the presence (or not) of a stem, whereas with black notes the eye looks for a tail or beam – the correct shape for the notehead is therefore important:



The breve: this can be notated in one of three ways:



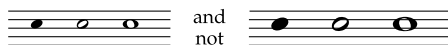
Placing

The height of a stave-space determines the size of all noteheads, which is crucial to ease of reading. Noteheads too small in proportion to the stave make the music uncomfortable to read:



NOTES IN A SPACE

The notehead fills the space, touching the stave-line on each side of it, but without extending beyond either line:



NOTES ON A LINE

The notehead is precisely centred on the stave-line. The unshaded centre of a white note must be visible when the stave-line runs through the notehead.

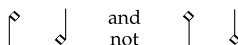
If the stave-lines are too thick and the noteheads too small, the centre of white notes may fill in with reproduction.

Diamond-shaped noteheads

The diamond shape has concave sides and is shaded on the diagonals as in the example below. When the notehead is in a space the top and bottom corners slightly extend beyond the stave-lines on either side. This is to give the notehead sufficient size to distinguish it from a minim. Diamond noteheads look small compared with the white oval:



A stem joins the diamond at the side of the notehead, and not at the central point (although the latter are used to replicate the notation of early music editions):



USES

- as harmonics in instrumental writing (except piano)
- as silently depressed keys in piano music
- to differentiate notes of unconventional technique in wind music
- to indicate singing through a wind instrument
- to indicate multiphonics
- as unvoiced sounds in vocal writing
- as an option for falsetto

(See also *Vocalizing while playing*, p. 250; also, *Voiced and unvoiced sounds*, p. 458.)

Harmonic noteheads for bowed string instruments and woodwind remain white, regardless of duration. Harmonic noteheads for guitar are white or black according to duration.

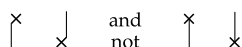
Crossed noteheads

The cross comprises two unshaded diagonal lines. It fills a stave-space:



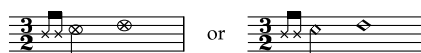
The double-sharp sign $\times$ is sometimes used for crossed noteheads, but is best reserved for use as an accidental symbol.

The stem joins the cross at the edge of the symbol, and not at its centre:



MINIMS AND SEMIBREVES

The unshaded area inside a white notehead is too small to add a cross without obscuring the white space. Instead, the cross is surrounded by a thin unshaded circle (the same shape for both minim and semibreve durations). In simple percussion writing, the crossed notehead is sometimes replaced with a diamond-shaped notehead, to make the durations slightly easier to read:



However, it is not recommended that crossed and diamond notes are mixed in this way.

(See also *Percussion: Crossed noteheads*, p. 282.)

USES

- in both instrumental and vocal writing, to notate percussive sounds and sounds of indefinite pitch on a five-line stave
- in percussion writing, to distinguish certain instruments or their beating spots, and to notate finger damping
- to distinguish spoken text
- in vocal music, to indicate styles between speech and singing
- as an option to show approximate pitch

(See also *Speaking through an instrument*, p. 250; *Spoken text in rhythm*, p. 457; *Styles between speech and singing*, p. 458; *Symbols to replace repeated instructions*, p. 494; and *Options to show approximate pitch: Crossed noteheads*, p. 640.)

Triangular noteheads

The triangular notehead denotes the highest/lowest possible pitch, where such a pitch cannot be specified.

The notehead may be black or white according to duration. It is a little larger than a minim notehead. The stem is attached to the centre of the base of the triangle. For a semibreve duration, two tied minims are clearer than a stemless notehead (see following example).

Place the notehead outside the stave, the exact distance from the stave depending on context:

in isolation

Voice

to be higher than the given run

Vln.

to be lower than the open string E

D. Bass

IV release tuning peg

gliss.

Do not use the triangular notehead for a pitch that can be defined. For example, the bottom note of a stringed instrument should be notated at its proper pitch, and a triangular notehead used only if the string is to be detuned to an unspecified pitch. If this is the case, an instruction must say so, as in the double bass example above.

(See also *Glissandos: To and from unspecified pitches*, p. 142.)

Stems

Stems should be thinner than the stave-line, but not so thin as to reproduce too faintly.

Stem direction

Notes above the centre stave-line take down-stems, notes below the centre stave-line take up-stems:



NOTES ON THE CENTRE STAVE-LINE

When notes are on the centre stave-line, the stems may go in either direction. The direction is determined by context. Continue the stem direction of surrounding stems that are in one direction only:

and not

When the stem direction varies within a bar, maintain the stem direction of the notes that are part of the same beat or half-bar:



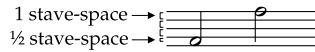
When there is no clear-cut case for either direction, the convention is to use a down-stem. Some editions use down-stems exclusively.

Some editions of vocal music use up-stems only, to allow the text to be placed close to the stave.

(See also *Stem direction on beamed groups*, p. 24; for single-stemmed chords, see *Stem direction*, p. 47; for *Double-stemmed writing*, see p. 52.)

Stem length

The standard length of a stem is one octave (i.e. $3\frac{1}{2}$ stave-spaces) from the centre of the notehead:



(For grace notes, see *Design*, p. 125; for cue notation, see *Size and spacing*, p. 569.)

NOTES ON LEDGER LINES

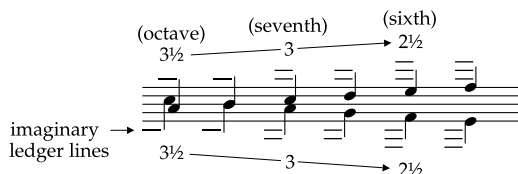
Stems for notes on more than one ledger line extend to the middle stave-line (marked * below):



DOUBLE-STEMMED WRITING

As stems fall further outside the stave, they are progressively shortened. The shortest stem length is a sixth ($2\frac{1}{2}$ stave-spaces): no stem should ever be shorter than this.

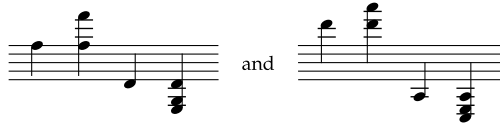
stem length measured by (interval) and in stave-spaces



CHORDS

Stem length is measured from the note closest to the open end of the stem. This stem is the length it would be as a single note.

Stems within the stave are one octave long ($3\frac{1}{2}$ stave-spaces); stems for notes on ledger lines reach to the middle line:



Stems outside the stave are progressively shortened (as in *Double-stemmed writing*, opposite):



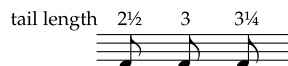
ADDING TAILS AND BEAMS

The standard stem length allows room for one or two tails or beams to be attached. In double-stemmed writing, the stem length of $2\frac{1}{2}$ spaces accommodates only one tail or beam. For each additional tail or beam, the stem must be lengthened (see *Additional tails*, p. 16; also, *Additional beams*, p. 19).

Tails

Quaver tails

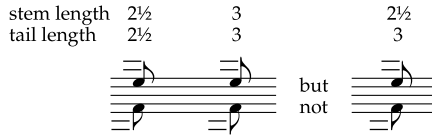
The engraved design of tail is $2\frac{1}{2}$ – $3\frac{1}{4}$ stave-spaces long (3 – $3\frac{1}{4}$ is the norm). This ensures that the tail of an up-stemmed note finishes opposite or just above the notehead:



The tail of a down-stemmed note may curve as far as to touch the notehead:



When a stem is shorter than 3 stave-spaces, the tail should avoid overshooting the notehead. A stem length of $2\frac{1}{2}$ spaces can accommodate a tail of this length, but the stem should be lengthened for a longer tail:



Semiquaver tails

The semiquaver tail fits inside the quaver tail. The tails are a little less than a stave-space apart. Usually the combined length of the semiquaver tails is $\frac{1}{4}$ – $\frac{1}{2}$ stave-space longer than the quaver tail. Sometimes stems are slightly lengthened for this, although they most commonly remain the same length:



Additional tails

These are added further from the notehead than the quaver tail. Extend the length of the stem for these:



So that tails do not touch the noteheads of down-stemmed notes, some editions shorten the tails while others lengthen the stems.

Notes on ledger lines

The outer stave-line must be clearly visible; tails closer to noteheads will obscure ledger lines:

