

7 The fundamentals of organ playing

Kimberly Marshall

There is nothing remarkable about it. All one has to do is hit the right notes at the right time, and the instrument plays itself.

(Comment attributed to Bach by J. F. Köhler, *Historia Scholarum Lipsiensium*, p. 94;
cited in Spitta 1880 ii: 744)

J. S. Bach's modest response to compliments on his organ playing is perhaps the most authoritative and succinct account of that art. However, playing 'the right notes at the right time' on the organ is more complicated than it may at first appear. Although organists do not produce the tone of their instrument and are unable to create variations of dynamics and timbre through touch, crafting a musical line from the static quality of organ sound demands an extremely sensitive approach to articulation and to timing the notes that make a musical phrase. The art of playing the organ resides almost exclusively in articulation and timing; these nuances are what distinguishes the organist's technique of touch from that of typists and stenographers, who are also concerned with striking the right keys. For the latter, the way the keys are depressed and released matters little as long as the text is captured in print as quickly as possible. In order to make music on the organ, however, a mechanical approach to accuracy is insufficient; the organist must cultivate different ways of depressing and releasing keys to create the musical nuances possible in other instruments where the tone is produced by the player.

The dynamic stability of the organ makes it ideal for the performance of counterpoint since each line is heard at approximately the same loudness and timbre throughout the compass of any combination of stops. It is not surprising that the instrument's most cherished repertoire is contrapuntal, because the independence of the parts is brought out by the uniformity of organ tone. The player's task is to articulate each line of polyphony so that it can be heard clearly, even in reverberant acoustical settings. The organist is like a one-person ensemble, or even orchestra, and this demands a finely tuned musical ear that can isolate individual voices. In many instances of two- or three- or four-part counterpoint, the voices are most clearly discernible when each is played on its own keyboard with separate rank(s) of pipes fulfilling the roles of separate instruments. In dense polyphonic textures, such as the six-part Ricercar from Bach's *Musical Offering*, the demands on touch are even greater. The

[93]

musician who performs polyphonic scores of up to ten or more parts with both hands and feet must also possess great technical prowess over the instrument's multiple manuals and pedalboard. The following sections focus on the fundamental issues, both musical and technical, involved in playing the organ.

Position at the instrument

Most writers on organ technique stress the importance of a relaxed position at the console, with the body in the middle of the keyboard and the hands and feet poised lightly, as if floating, upon the keys and pedals. The spine should be straight, not stiff, with the head poised upright upon it. To find this ideal posture, one might imagine being a marionette that is gently pulled by a string from the top of the head; the axis of support from the two pelvic bones to the head enables the arms and legs to move freely over the keyboards and pedals, providing a centre from which the multifarious activities of organ playing can radiate. Artists practising and performing under pressure are prone to hunching the shoulders and bending the neck back, thereby breaking this vertical line and putting stress on muscles that are not designed to maintain a state of contraction for long periods. But this natural tendency should not be countered with another type of tension, such as pulling the shoulders back or pushing the chin down. Rather, the posture is achieved by finding the right alignment between body parts so that there is no unnecessary muscular strain and the limbs can move freely.

In the Preface to his first *Livre d'Orgue*, Guillaume-Gabriel Nivers explains: 'To play agreeably, you must play easily; to play easily you must play comfortably; and for this effect place the fingers on the keyboard gracefully, comfortably and evenly, curving the fingers a little, mainly the longer ones, to make them even with the shorter ones' (Nivers 1665: preface, n.p.). A natural relaxed position, where the hand is shaped like a cup with the fingers curved gently over the keys, is advocated throughout the technical literature. The wrist should be in line with the arm and hand. Diruta laments the 'poorly-trained hands' of organists who 'hold the arm so low that it is under the keyboard' making the hands seem as though they were 'hanging from the keys' (Diruta 1593: 5r; 1984: 53). He considers the most significant of all the rules to be that the arm must guide the hand, so that the hand and arm are always directly in front of the key that is sounding. In this way, the position of the hand is not distorted in lateral movements and the fingers remain parallel to the keyboard, ready to depress the keys. Diruta specifies that 'the fingers must press

rather than strike the key, lifting only as much as the key rises'. Over two centuries later Forkel instructs those wishing to imitate J. S. Bach's keyboard playing 'that no finger must fall upon its key, or (as also often happens) be thrown on it, but only needs to be placed upon it with a certain consciousness of the internal power and command over the motion'. (David and Mendel 1945: 307). Organists who raise the hand unnecessarily to strike the keys lose control moving from one note to another, and this can produce choppy playing that undermines the fluid projection of melody. The extra time needed for the raised finger to reach the key also hinders the execution of fast passagework. Economy of movement permits greater virtuosity, and warnings against excess motion abound in the organ tutors of all times. The fingers should work independently with small gestures primarily from the joints. Agility and suppleness are more vital in organ playing than actual strength, and to maintain fine technical control one must avoid expending too much energy at the keyboard. These very features are stressed by Forkel in his description of Bach's organ technique: 'Seb. Bach is said to have played with so easy and small a motion of the fingers that it was hardly perceptible. Only the first joints of the fingers were in motion; the hand retained even in the most difficult passages its rounded form; the fingers rose very little from the keys, hardly more than in a shake [trill], and when one was employed, the other remained quietly in its position. Still less did the other parts of his body take any share in his play, as happens with many whose hand is not light enough' (David and Mendel 1945: 308).

Position at the pedals

In the preface to his influential *Ecole d'orgue*, Jacques-Nicolas Lemmens writes: 'If the organ is the king of instruments, let us observe that it is also the most complicated and the most difficult. The player must join to the movement of the hands that of the feet' (Lemmens 1862: 1). The performance of musical lines by the feet is what most obviously distinguishes the organ from other keyboard instruments. This physical co-ordination demands many hours of practice to develop a pedal technique that is fluent and assured. The organist's body should be positioned solidly on the bench, forward far enough to allow the legs to be easily pivoted to the right or left, as necessitated by the pedal line. The bench height is crucial to the comfortable position of the feet, with both heels and toes resting lightly on the pedals. (The benches of many historical organs are too high for the heels to lie on the keys, and in these cases it is very difficult to use the heels when playing.) The angle between the thigh on the bench and




the shin leading down to the pedals should be at least 90° to prevent unnecessary tension in the thigh muscles. When intervals of about a fifth or less are being played, the legs should be held loosely together with the knees touching, but for larger intervals, the knees will separate naturally. Still, the legs generally move together and should execute melodic lines as a unit, like the fingers of a hand. Just as the arm guides the hand to position the fingers over the keys, so the leg guides the ankles and feet into position over the pedals. The feet move downwards from the ankle to depress and release the pedals with small efficient movements, like those used by the fingers to play the keys. The control over articulation will be better if one plays on the inside edge of each foot (only possible for the right foot in the upper half of the pedalboard and the left foot for the lower half), so the ankles should be turned in slightly to facilitate this. As with the fingers, the amount of motion is kept to a minimum, so that the feet remain close to the pedals at all times. Even J. S. Bach's greatest critic, Johann Adolph Scheibe, marvelled at the ease of his co-ordination between hands and feet: 'One is amazed at his ability and can hardly conceive how it is possible for him to achieve such agility, with his fingers and his feet, in the crossings, extensions, and extreme jumps that he manages without mixing in a single wrong tone or displacing his body by any violent movement' (David and Mendel 1945: 238).

Accents

The eminent virtuoso Charles-Marie Widor is said to have told his students that if he were to open the windows of his apartment in the middle of the night and play a short chord on the tutti of his house organ, no one would notice, but that a sustained chord on the softest stop would have his neighbours looking out to see what was wrong (Geer 1957: 106). Thus the master demonstrated a fundamental principle of organ playing: prolonging a sound intensifies its effect. This is especially true in a reverberant acoustic, but even in a dry room, surface reflection supports a sustained tone. Since organists cannot use dynamic variations to emphasise metrically or thematically important notes, they take advantage of acoustical properties to define pulse and to make accents. Preceding a note with silence or delaying a note rhythmically makes it stand out more vividly than others, while lengthening a note relative to others makes it sound stronger. The skilful use of silence and sound enables the organist to create the impression of upbeats and downbeats within a musical phrase.

Many treatises on music before the nineteenth century describe

articulation as a way to clarify the succession of strong and weak beats within a musical pulse (Houle 1987: Chapter 5). The construction of most early music relies on short figures that maintain rhythmic flow in equally notated beats. But in performance, variations in importance must be made to avoid a monotonous succession of evenly spaced beats. As early as the sixteenth century, treatises on instrumental performance distinguish notes of equal value as ‘good’ or strong and ‘bad’ or weak, depending on their position within the metric pattern of the music. (Diruta 1593 is the first writer on keyboard music to make this distinction.) The international musician Georg Muffat explains in the preface to his *Florilegium secundum* (1698): ‘Good notes are those that seem naturally to give the ear a little repose. Such notes are longer, those that come on the beat or essential subdivisions of measures, those that have a dot after them, and (among equal small notes) those that are odd-numbered and are ordinarily played down-bow. The bad notes are all the others, which like passing notes, do not satisfy the ear so well, and leave after them a desire to go on’ (transl. from Houle 1987: 82). Successions of ‘good’ and ‘bad’ notes underscore the metre of a piece, with the first beat of each bar being the strongest note and the upbeat to the next bar the weakest. This hierarchy of good and bad notes extends to the subdivisions of the beat, so that in a group of four semiquavers the first and third (Muffat’s ‘odd-numbered’ notes) are stronger than the second and fourth. The organist creates this metrical stress and release within each bar by lengthening the strong beats and shortening the weaker beats. F. W. Marpurg concurs with Muffat’s statement that good notes are of longer duration: ‘The good notes are called long and the bad, short, according to their intrinsic quantity [determined by the position the note occupies in the metric scheme]’ (Marpurg 1756: 23).

It can be beneficial to compare musical structure to the forms used in speech. Each note is like a syllable: its attack resembles a consonant, while its duration is a vowel sound. Just as notes are organised according to beats, syllables are grouped together as words, and both words and musical beats constitute larger structures known as phrases. To be intelligible, language is accentuated by syllables with differing degrees of stress, just as the notes in a musical phrase must be articulated according to their metre. This is achieved on wind instruments by tonguing with different syllables to obtain varying attacks, and on stringed instruments by using different bowing techniques. (The historical information about these instrumental articulations is summarised in Erig 1979: 30–58.) Organists create a sense of metre by holding downbeats longer than upbeats, so that a passage notated in duple rhythm as  might be performed as  or even . The subtle alteration of note

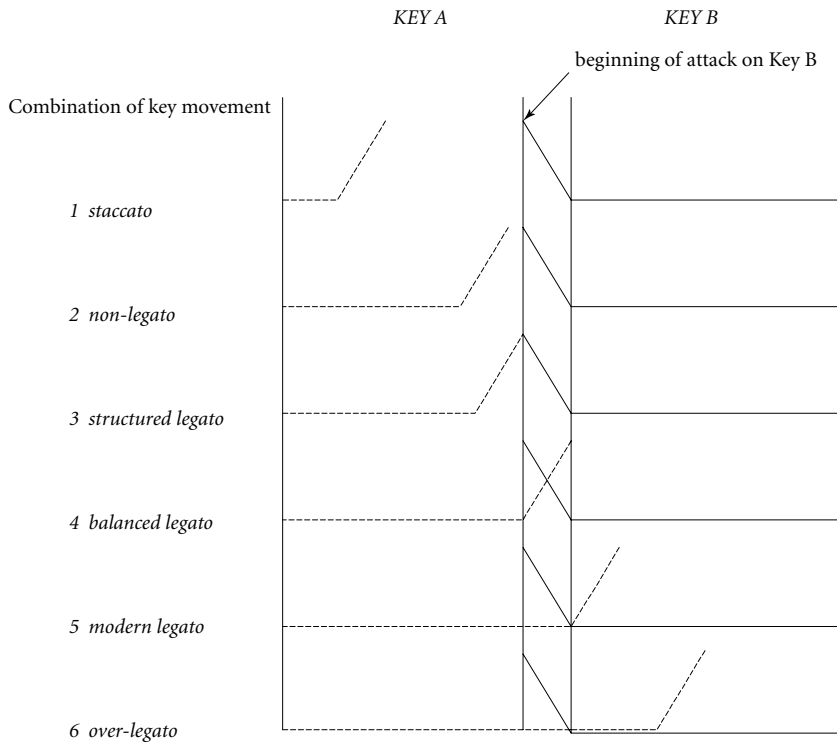
and an end, and the quality of these attacks and releases is affected by the speed with which the pallet admits or stops the flow of wind to the pipes. Mechanical action transfers the depression and release of the key into the opening and closing of the pallet underneath the pipes. This control over the pallet enables organists, like players of wind instruments, to vary attacks and releases when shaping musical lines. Several of the different ways to connect any two notes are depicted in the table of organ articulations shown in Figure 7.1 (this table is based upon a diagram used by Harald Vogel in his teaching). Releases that are widely spaced produce a staccato effect, shorter breaks between the release of one note and the attack of the next create a non-legato, and no interruption of the sound between release and attack yields a legato line. Varying degrees of legato are achieved by overlapping the attack of each note with the release of the note preceding it. The ability to realise these subtle nuances of touch in the articulation of a musical line is the essence of organ playing.

Although written sources rarely provide unambiguous descriptions of organ playing, historical documents suggest that over time an increasingly close articulation between notes was used. Surviving sixteenth-century treatises suggest that the usual touch allowed the attacks and releases of each note to be heard. Santa María explains in *L'arte de tañer fantasia*: 'in the striking of the fingers on the keys, one should always lift the finger that has first struck before striking with the one immediately following, both ascending and descending. And one should always proceed thus, for otherwise the fingers will overtake one another, and with this overtaking of the fingers, the tones will overlap and cover one another as if one were striking 2nds. From such overlapping and covering up of one tone by another, it follows that whatever one plays will be muddy and slovenly, and neither purity nor distinctness of tones is achieved' (Santa María 1565: 38v; 1991: 97). This concern with clarity is echoed through the centuries, but rarely is the desirable relationship between notes so explicitly stated. Each note is fully released before the next is played, yielding the articulation depicted as 'structured legato' in the table of articulations. This is the predominant articulation to be used in music composed before the nineteenth century, allowing each note to be heard clearly without any silence breaking the musical line. There will nevertheless be fluctuations in the sound, created by the slight diminuendo of the release as the pallet closes and by the speaking noise of the following note as wind enters the pipe(s). These nuances create a vibrant musicality, although they may seem to break the 'legato line' for ears that are unaccustomed to hearing the attacks and releases of organ sound because of the overlapping articulations featured in later music.

The structured legato is most easily illustrated by the close repetition

Figure 7.1

Table of organ articulations



of a single note, where the release of the key leads immediately into the attack of the repetition. By repeating the note with the same finger, the organist develops a feeling for the depth of the keybed and the speed with which the pallet can be made to open and close. There should be no gaps between the notes, although the attacks and releases should be audible. This technique produces a relaxed feeling of being suspended on the key; weight is applied to depress the key, but the action will release the note as soon as the weight is removed, effectively pushing the finger back up with the key.

The next stage in learning the structured legato touch is to apply it to a series of consecutive notes using the same finger, as shown in the next exercise, where a scale is played with one finger only. Again, there should be no break in the sound of these scale passages, where the release of each note leads directly into the attack of the next. The player will feel the key rise up as the weight is removed, and the arm should guide the finger into the position for the next note:



To play a simple line beautifully, the hands and fingers must be relaxed so that the move from release to attack is effected smoothly and without effort. Diruta gives a useful analogy for this: ‘When one slaps in anger, one uses great force, but when one wants to caress and charm one does not use force but holds the hand lightly in the way we are accustomed to fondle a child’ (Diruta 1593: 5r; 1984: 53). Much control is required for this gentle touch, and the organist should listen carefully to the pipe speech in the acoustic to determine the most effective speed for the attacks and releases.

For performing diminutions, Diruta suggests a slightly closer connection between notes than that advocated by Santa María: ‘Remember that the fingers clearly articulate the keys so that one does not strike another key until the finger rises from the previous one. One raises and lowers the fingers at exactly the same time’ (Diruta 1593: 8r; 1984: 63). This articulation, where the release of one key and the attack of the next overlap, is illustrated in the table of organ articulations as the ‘balanced legato’, and it is ideal for the execution of ornamentation and slurred passages in early music. With this articulation, the initial transient noise of the subsequent pipe masks the release of the preceding note. Care must be given to fingering when using the balanced legato, since it is not possible to play consecutive notes with the same finger as in the articulations discussed above. One should imagine the slurred notes being played with one bow-stroke on a stringed instrument or with one breath on a wind instrument.

On the organ, this is reflected by partially obscuring the releases of each key by the following attack so that the notes sound closer together. Short figures taken from renaissance and baroque music can be employed to practise the technique.

Descriptions of keyboard touch by later writers such as Mattheson (1735: 72) and Türk (1789: 356; 1982: 345) suggest that the structured and balanced legato were still the usual approaches to articulating organ sound during the baroque. Forkel may be referring to a similar technique in his description of Bach's keyboard playing, where the finger is not raised perpendicularly, but glides off the forepart of the key by drawing the tip of the finger back towards the palm of the hand: 'In the transition from one key to another, this gliding off causes the quantity of force or pressure with which the first tone has been kept up to be transferred with the greatest rapidity to the next finger, so that the two tones are neither disjoined from each other nor blended together' (David and Mendel 1945: 38). This yields the proper amount of clarity without sacrificing lyricism in melodic projection. As late as 1775, Engramelle's instructions for pinning mechanical organs, based on the playing styles of renowned organists, call for a 'silence d'articulation' following every note of a performance (Engramelle 1775: 18).

The use of musical slurs increased greatly during the nineteenth century, when organ music became more melodically, rather than metrically, orientated. Already before Bach's death, the motoric rhythmic figuration and imitative polyphony of the baroque were giving way to the galant style, with its incorporation of more varied note values and elegant homophonic textures. Pleasing melodies were greatly prized in the new style, and with the advent of romanticism in the nineteenth century, the projection of expansive and emotive melodies became a central concern for all musicians. To imitate the singing line produced by the orchestra, where many instruments playing together created a flowing sound of unparalleled power, organists developed a closer overlapping articulation where each key was released only after the following note had been sounded. This is depicted as the 'modern legato' in the table of articulations. Neither attacks nor releases are heard because they are masked at either end by the sounding of the preceding and subsequent notes in a melody. The modern legato is ideally suited to the long, sinewy lines of romantic music, since it links together a series of pitches sounding at full force without any transient noises between them.

This is the articulation that formed the basis for the legato school of playing established by the Belgian organist Jacques-Nicolas Lemmens, whose technical ideas were adopted at the Paris Conservatoire and exerted enormous influence on organ performance worldwide through

such disciples as Widor and Guilmant, and their students Vierne, Schweitzer, and Dupré. Lemmens provided a systematic description of the legato technique in his 1862 organ method, *Ecole d'orgue basée sur le plain-chant romain*. As implied by its title, the book's aim was to enable the organist to play the fluid melodies of Gregorian chant with ease and comfort. But the legato method is much more versatile than this might suggest; it can be applied successfully to most organ music written after 1750, providing great technical security on different types of action. The modern legato touch is well suited for tracker-pneumatic or electro-pneumatic actions where the organist has no control over the speed of attacks and releases, and it helps to compensate for imperfections in pipe voicing, such as delayed speech. But it does not work well on most seventeenth- to nineteenth-century instruments or replicas in which pipe voicing emphasises transient tones for attacks. The changes in musical style and organ-building that arose during the second half of the nineteenth century created a new aesthetic in performance, and the modern legato supplanted the structured legato as the usual way of articulating musical lines.

Fingering

To achieve control over the fundamentals of articulation and timing as discussed above, one must find the most expedient technical means of executing the notes in question. Throughout the long history of organ music there have been many systems of fingering, and each was designed to create the most natural way to perform a specific repertoire with appropriate nuance and accentuation. The general principle for systems before the eighteenth century was to find patterns of fingering that corresponded to the short motives of the music. For example, figuration comprising the interval of a third would be played by the index, third and ring fingers, regardless of which notes were included in the figure:



Longer figures such as scales would be divided into smaller groups and played with fingerings designed to stress metrically strong notes with 'strong' fingers. (Although the conception of strong notes was consistent in the different national styles of writing for the organ, different fingers were used as 'strong' fingers, so it is not possible to generalise here.) This resulted in paired fingerings, where the arm would guide the hand to a new position as the second finger of each pair released its key:



Such systems were very effective in rendering musical motives in the most frequently used keys, which did not exceed three or four sharps or flats, but as organist-composers began to modulate to more distant keys, a different type of fingering was developed to accommodate the more frequent use of black keys. Here, the thumb was turned underneath the fingers to lead the hand to a new position. J. S. Bach is often credited as the inventor of the ‘thumb-under’ system, which enabled him to play fluently in all the major and minor keys, as required by the Preludes and Fugues in his *Well-Tempered Clavier*. The first printed tutor to advocate modern fingerings exclusively was Lorenz Mizler’s *Beginning Principles of Figured Bass*, published in Leipzig in 1739. But the earlier approach to fingering clearly remained in use concurrently with the new system, since C. P. E. Bach includes both ways to finger scales in his *Essay on the True Art of Keyboard Playing*:



These variants demonstrate the transition from early to modern fingerings that was being made in the mid-eighteenth century, and they remind us that there is no one ‘correct’ fingering for any given passage. Rather, the organist must determine the most natural way to produce the type of sound desired, varying the spaces between notes and the connections between them to create an expressive rhythmic flow.

When used continuously, the modern legato requires carefully planned fingering, since the same finger cannot be used on consecutive notes in any voice. To avoid ‘running out of fingers’ in long melodies, the organist must make frequent use of finger substitution, where fingers are exchanged on a key after it has been depressed to prepare for the following note or passage. The mastery of this technique is vital in the performance of music conceived for the sustained modern legato touch. To change fingers on a key, the shorter finger should either move, or find itself in position, under the longer one. The substitution should be made quickly, with as little movement as possible, to prepare the necessary finger immediately to depress the next key. A simple scale can be practised in many ways to gain experience in substituting fingers:

4 5-4
3 4-3
2 3-2 etc.
r.h. 1 2-1 2-1 2-1 2-1 2-1 2 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1

l.h. 2 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1 2-1 2-1 2-1 2-1 2-1 2-1 2-1 2-1 2

3 2-3 etc.
4 3-4
5 4-5

Substituting fingers on chords is also needed in places to create a smooth harmonic line. In this case each substitution takes place separately, as shown below:

2 3 4
1 2-1 2 4 2

3 5 4 5
2 2-1 2 4 2

4 5 4 5
3 4 3 4
2 3 2 3
1 2-1 2 4 2

2 3 4 5
1 2-4 2 1 2

2 3 4 5
1 2-4 2 1 2

2 3 4 5
1 2-4 2 1 2

Another useful technique in achieving a fluid legato line is the glissando, where fingers slide from one key to another. Most commonly, the finger or thumb slides off a black key onto the white key directly above or below it. This relaxed sliding motion can greatly facilitate fingerings and should be practised by every finger to assure independence. For the thumb, the tip should be used on the black keys, moving to or from the base of the thumb on the white keys. The following variation on a chromatic scale covers the necessary movements, with most fingers sliding both up and down from a black key:

1—1 2—2 3—3 4—4 5—5 4—4 3—3 2—2

5—5 4—4 3—3 2—2 1—1 2—2 3—3 4—4

Although the fingers generally do not slide from one white key to another in legato playing, in many places it is expedient for the thumb to do so. The technique involves a co-ordinated raising and lowering of the wrist to permit pivoting from one key to another using the base and tip of the thumb. In order to ascend with the left thumb and descend with the right, the base of the thumb is placed on the first white key, with the tip of the thumb over the next. By raising the wrist quickly, the movement from

base to tip can be effected without breaking contact between the keys. For descending left-hand and ascending right-hand passages, the tip of the thumb is placed on the first key, with the wrist raised. A swift downward motion of the wrist will enable the organist to move from the tip to the base of the thumb smoothly. Again, a diatonic scale passage furnishes a good exercise for the thumb glissando:



In this way, independent melodic lines can be played by the thumbs alone, creeping skilfully along the keys while the fingers perform the other parts of a composition.

Pedalling

The organist's feet must become as skilful as the hands, and a primary consideration is learning to find the intervals on the pedalboard without looking at the feet. Touching the knees and heels provides a gauge for playing intervals between the two feet, and each foot must also be capable of playing seconds and thirds independently, requiring flexible ankles and secure positioning of the foot on each pedal. The various types of articulation discussed above should be practised using the toes of both feet so that the same flexibility of touch will be heard in melodic lines performed on the pedals. Written documents as well as the high benches and short pedal keys of many historical organs suggest that until the eighteenth century, the basic pedal technique was to play adjacent notes with the same toe and to alternate the toes of both feet in more figurative passages. (Heels were certainly used in special cases, since as early as 1511 Arnolt Schlick describes the performance of two parts by one foot.) The changing aesthetic towards a closer legato during the nineteenth century led to greater use of the heel in pedalling, although like the move towards modern fingerings, this was a gradual process. In his *Practical Organ-School* (1818), Johann Christian Rinck indicates two ways of pedalling scales, the old method, alternating the toes of both feet, and the newer method, using the toe and heel of the same foot. Most of his pedal exercises are still for alternate toes, however, and in some figurations he goes so far as to cross the toe of one foot over the other to avoid using the heel and toe of one foot (Rinck 1818/1870: 32–3).

sense of style. Facile statements that registration should ‘bring out the musical structure’ or ‘suit the musical style’ tell us little about a practical approach to this elusive art. The type of instrument and function for which the music was originally conceived provide some guideposts for the modern performer. Historical sources usually recommend specific combinations of stops for three general purposes which are musically interlinked: (1) to imitate other sounds, such as canaries, little bells or military trumpets; (2) to create a suitable mood for the mode, liturgical function or expressive content of the music; and (3) to ‘orchestrate’ the musical texture with sounds that blend well together and are well balanced dynamically.

The typical late medieval organ was a *Blockwerk*, literally a ‘block’ of sound that could not be separated. To obtain variety between the foundation sounds and the higher pitched mixtures, two general approaches were first adopted: to construct multiple keyboards, each controlling a specific type of sound, and to divide the windchest so that by means of a ventill the organist could control the flow of wind to various sets of pipes. These methods have continually been adopted in different styles of organ building, but the most significant way to isolate organ colour became the use of registers, or stops, to control the flow of wind to individual ranks of pipes. This was first introduced in Italy towards the end of the fifteenth century, allowing the individual sounds of the medieval *Blockwerk* to be mixed together at the organist’s discretion. This chorus of principal sounds at octave and fifth pitches constitutes the basis of most styles of organ building, and until the nineteenth century the standard Italian organ design was a succession of separable principals to which were added one or two flutes.

During the renaissance, Flemish builders augmented the principal chorus with a variety of colourful flute and reed stops, usually introduced on secondary manual divisions. German composers made full use of these new possibilities to bring out plainsong or chorale melodies with distinctive organ timbres on multiple manuals and pedal. During the second half of the seventeenth century, the French developed registrational schemes for organs with from two to five keyboards and pedal. These combinations were intrinsically related to the textures adopted in organ music, where specific colours were featured on different manual divisions (see Chapter 12). The Spanish and English, on the other hand, exploited the new sounds on one keyboard by controlling different registers for the treble and for the bass. In this way, it was possible to isolate a melody performed on a reed or cornet sound from the foundation accompaniment played in the other half of the keyboard compass.

The gradual inclusion of flute and string stops into the principal

chorus during the course of the eighteenth century led to the ‘tutti’ concept in registration, where the entire organ was employed as a musical entity, like a large orchestra. Rather than contrasting different colours in terraced dynamics and solo–accompaniment textures, the new aesthetic called for a smooth crescendo from the softest foundation stops to the full organ. The fundamental pitch was emphasised by the inclusion of more 8’ registers, while pneumatic devices enabled the organist to play using manual and suboctave couplers. Enclosed divisions of pipes permitted gradual dynamic progressions, and sudden contrasts of sound were effected by quick registrational changes, made possible by ventils and, later, by electric combination action. This romantic approach to organ sound makes different demands on the organist, requiring more frequent changes of timbre and the sensitive use of the swell pedal.

This general overview only hints at the many factors that influence an organist’s choice of registration. National styles of composition and different aesthetics of organ sound are treated in much greater detail in the subsequent chapters of this book. But the most important advice concerning registration is often overlooked: since the organist rarely hears the instrument at the console the way it sounds in the room, it is necessary to listen while someone else plays to experience the organ in its acoustic. Only in this way can the performer determine which registrations are most effective and well-balanced. Listening from the audience’s point of view can also inform the organist about the most suitable type and amount of articulation.

Practical concerns

Most teachers suggest that a solid keyboard technique be acquired on the clavichord, harpsichord or piano before a student begins to study the organ. Lemmens recommended that a young musician practise the piano for finger dexterity, and this view has been strongly established in organ curricula throughout the world, where prospective students must often pass a piano proficiency examination. Although it is highly desirable for beginning organ students to be familiar with other keyboard instruments, one should not forget that the approach to playing the keys of an organ, a wind instrument, is almost diametrically opposed to that of the piano, a percussion instrument. Organists must focus on releasing the keys to create breathing space in the musical line, whereas pianists are more concerned with attacking the keys, using varying degrees of arm and body weight to produce different types of tone.

Great strength is not usually needed to depress the keys of an organ,

but some pressure must be continually expended to keep the key depressed for the duration of the note. The maintenance of this small, albeit constant, pressure presents the danger of repetitive strain injury for organists who are not fully relaxed when playing. This can be especially painful in the upper forearm and should be checked early to avoid complications that can require long periods of rest and even surgery. A good way to assess and control muscular stress in the arm when playing a given passage is to rate the amount of tension on a scale from 1 to 10. Then try to vary the tension by making the arm more and less tense when playing. Organists are often surprised when asked to become more tense, but this is a useful method for learning to control the exertion of the arm muscles. As Frederick Alexander and others have demonstrated, there is no point in 'trying to relax', because the very act of trying creates another sort of tension which can be as detrimental as that which one sought to eradicate in the first place. Awareness of one's body while playing is an important step towards using it effectively and without injury. Many types of physical therapy can be helpful to organists, including the Alexander Technique, as well as more ancient techniques of creating harmony between mind and body, such as yoga and t'ai chi.

Stravinsky's criticism of the organ, mentioned in the Preface, was that 'the monster never breathes'. To sound musical and human, organists must give the illusion of breathing, by using sensitive articulations and shaping melodic phrases. Singing in a choir or playing a wind, brass or stringed instrument can help to develop a keen ear for melody that can then be transferred to organ playing. Most importantly, organists should listen frequently to vocal repertoire and to music for other instruments so that they are familiar with different combinations of timbre and ways of projecting musical ideas to an audience.

Although one usually feels more virtuous the longer one works, it is best to practise in short frequent sessions instead of protracted ones at longer intervals. This is a real problem for organists, who rarely have an instrument that is readily accessible to them. But short breaks during the course of a practice session will help to keep the mind and body alert. It is also possible to reinforce organ practice with work at home on the clavichord, harpsichord or piano, or indeed by 'thinking through' a piece without playing any keyboard at all.

To make the quickest progress in learning new techniques and repertoire, one must be creative when practising, rather than mindlessly repeating pieces over and over again. Slow practice is invaluable in training the body to perform accurately, in a relaxed position with enough time to prepare each note properly. Once you feel comfortable at a slow speed, the tempo can be gradually increased so that the feeling of ease and

security are preserved as the hands and feet move faster. The danger of playing slowly is that it demands intense and continuous concentration on details, else the mind may start to wander and sloppiness creep in. To prevent this, slow practice should be employed in short but frequent doses throughout a practice session.

When tackling a new piece, it is best to divide the music into short sections and to focus on each of these individually for a while rather than playing through an entire work repeatedly. This helps to understand the structure of the piece and how the sections relate to each other. It also permits you to isolate the most difficult passages so that you can concentrate on these when you are fresh and your mind is most ready to learn. Learning a piece backwards is a good way to focus on individual sections. With this technique, you begin by studying the last part of a piece and then proceed backwards by section to the opening. Since the conclusion of a work generally includes some degree of recapitulation, knowing the end can be of assistance in learning the beginning. Practising backwards also offers a psychological advantage when you perform the piece from the beginning, since you are always playing into the music you know best.

The process of dividing a musical work into small sections for practice also helps to analyse its structure and to determine its salient features, which should be brought out in performance. Is the piece based on a pre-existing melody, and if so, how are the melodic contours enhanced by the figuration and harmony? The performer needs to prioritise aspects of the musical structure to emphasise in performance so that the guiding gestures of a piece are conveyed clearly to the listener, with a balance between fore-, middle- and background elements.

In contrapuntal music, the independence of parts should be reflected in your practice routines. It is best to take the music apart so that each individual line is learned first, played with the same fingering or pedalling that will be used when everything is put together. One can then separate the music played by each hand and pedal, later combining the two hands alone and each hand with pedal, and finally putting all the parts back together.

To gain technical assurance in difficult passagework, try varying the rhythms systematically. A seemingly endless sequence of semiquavers is learned more thoroughly if it is broken down into smaller groups and practised in rhythmic units: first, as an alternation of 'long-short' rhythms, then reversed as 'short-long', then 'long-short-short-short', and finally its reversal, 'short-short-short-long'. The hand should be relaxed on the long notes, and you should not begin to play the short notes until the fingers are prepared to move quickly and without interruption to the next long note.

To ensure that the articulation in one hand or pedal does not suffer when all the parts are united, practise with a mute manual or pedal, so that as you perform the full texture, your ear will be drawn only to the voice that is played where stops are drawn. This is a good way to develop listening skills so that you are able to hear all voices clearly. Singing one voice while playing the others is another method for learning contrapuntal music and refining the ear. And for the very ambitious, try playing a melody on another instrument while accompanying yourself with the pedals of the organ! (The north German composer Nicolaus Bruhns is said to have done this while playing the violin.) The more creative you are in finding ways to challenge yourself while practising, the more successful will be your quest to learn and perform the organ repertoire. The goal must surely be to achieve the sort of facility and freedom exhibited by J. S. Bach, the master organist who enabled each instrument to ‘play itself’.