Four columns on Pedal Playing
by
Gavin Black, 2007-08

Pedal Playing, part I – overview

Pedal playing is, in a way, the public face of the organ. It is something that is seen to set organ playing apart from other activities, even, for some, to define it. Writing in 1788, an anonymous author who had undertaken to defend J. S. Bach against the charge that he wasn't as great a composer as Handel had this to say as part of his argument:

> *Now, if we weigh the organ works of the two men in the same scales, there is a difference as wide as the sky in favor of JSB. The proof of this statement can without any trouble be made convincing even to people who are not experts.*
>
> *One may assume without fear of contradiction that the pedal is the most important part of an organ, without which it would have little of that majesty, greatness, and power that belong to it alone above all other instruments. Anyone who knows at all what the word "organ" means will grant that.*
>
> *What shall we say, then, if Handel almost completely neglected and seldom used the very thing that makes an organ an organ, and lifts it so high above all other instruments?*

This is not an argument based on anything that we would call compositional content, but just on proper use of – or proper respect for – the pedal division. It is presented as essentially self-evident ("…without fear of contradiction…convincing even to people who are not experts"), and as arising from the very definition of the instrument.

Sometimes an organist has the gratifying experience of being approached after a performance by someone who can't quite believe that anyone can actually do all of that with his or her feet. It seems like magic, or at least something beyond just difficult. The fact that there are more pedal solos in the repertoire than there are extended one-voice passages meant to be played by the hands probably reflects a general tendency for composers to accept the notion that the pedal division is essential to the nature of the

instrument, and also that pedal playing is something that it is appropriate, and fun, to show off.

So there is a sense, shared in different ways by many organists, organ composers, and listeners to organ music, that pedal playing is important and special, but also very, very hard. There is a down side to this sense, one that is especially important to organ teachers. Many people who would like to play the organ hesitate or refuse even to try because they are (inappropriately) afraid of pedal playing, while also (appropriately) believing that it is a necessary part of being a good organist. Also, many people who are actively playing organ are chronically scared of playing the pedals. It is so common to hear someone say something like "If I don't have time to practice I'll just find something for manuals" or "… I'll play the hymns on manuals only" that we accept that this makes sense. However, ideally, the more resources one can bring to bear on playing a piece – like ten fingers and two feet rather that ten fingers alone – the easier it should be.

So the teacher's first job in teaching pedal playing to a student who is new to it is to make it not seem intimidating or unnaturally difficult. The key here is that it not be thought of as "unnaturally" difficult. Of course it is hard. It requires lots of practice, and that practice has to be along efficient and sensible lines. However, it is a skill that is well tailored to what the human body and mind can do, and in fact anyone who works at it in the right way *will* learn to do it, and do it well, barring a prohibitive physical disability or injury. In this way it resembles two other activities that were once thought of as highly specialized, arcane, and difficult, namely typing and driving a car. The assumption nowadays is that everyone can learn both of these things to a high level of competence as a matter of routine. The same would prove true of pedal playing if everyone chose to learn it. (Or, to put it another way, if pedal playing were a teenager's key to autonomy and freedom, everyone would play pedals!). In fact the physical skill of pedal playing is essentially just an extension of the technique involved in using the brake and the gas pedal in a car. Of course it's more multifaceted than that, but at root it's the same. This admittedly somewhat goofy comparison often allows a student to take a deep breath and give himself or herself permission not to find the whole enterprise so scary.

It can also be useful and reassuring to remind students that for most of the history of organ playing organists could not practice very much on church organs, for all of the well known reasons, namely the need to find a helper to pump the organ in order to play so much as one note, and the difficulty of controlling both temperature and lighting in churches. Of course this doesn't mean that organists never practiced on their "real" instrument or never practiced pedal playing. Some organists may have had regular access to a pedal harpsichord or clavichord for practice in the Baroque period or even a pedal piano later on, though the extent of this remains very unclear. But certainly the most common situation over many centuries must have been that organists kept their fingers in shape through regular practice at home, and, having once become skilled at pedal playing, tended to add pedal parts more or less at the last minute before a service or other performance. This suggests that pedal facility was something comfortable, natural, and well-learned enough that it was always there ready to be tapped into at a moment's notice, the way bicycle riding is commonly thought to be.

(Of course no one would suggest that the most demanding and virtuosic pedal passages of Buxtehude or Bach or, especially, many late 19th or 20th century composers can be mastered without dedicated or indeed grueling practice. The above thoughts are intended to address the business of developing good competent pedal facility and technique in the first instance).

A second major reason that some students cite for having trouble with pedal playing, or even for giving it up, and therefore in effect giving up trying to learn organ, is that they find it physically uncomfortable. Since playing the pedal keyboard involves almost the entire body – at least more of it than other kinds of music-making do, more like an athletic activity – there is all sorts of room for it to become physically stressful or tense, and to lead to pain in the back, neck, shoulders, legs, feet, etc. Physical tension can always lead to musical problems – a tense sound or a lack of subtle control over timing and articulation – but with pedal playing, since more and larger muscles are involved, it can also lead to a level of discomfort that makes it essentially impossible to go on. I have actually encountered many people over the years who have told me that they are simply not suited to organ playing because they found the physical dimension of pedal playing too awkward and uncomfortable. I am certain that most of them could have found a way of approaching pedal playing that was devoid of any bad physical feeling and that worked fully to give them command of the pedal keyboard and the repertoire. The teacher's second job, therefore, is to help the student to be comfortable at the pedal keyboard and to develop a technical approach for each student that works for that student's posture and physique.

The teacher's third and most fundamental job, of course, is to give the student the basic tools to learn pedal playing. Next month's column will be organized around specific and detailed suggestions about how to approach this task. I will close this column with some ideas that underlie my way of thinking about the details of teaching pedal playing. This will serve as a background for next month's column and I hope will provide food for thought.

1) If the goal is to allow everyone who is interested in organ playing to become a competent pedal player, and since everyone's individual physique requires a somewhat different posture on the organ bench and a somewhat different relationship to the physical side of playing, there should be as few rules or even presuppositions as possible about how anyone should sit at the organ. If it is possible to develop a way of gaining complete security at the pedal keyboard which does not depend on a particular posture or on a particular physical setup, that would be very desirable.
2) The act of playing pedal keys is simply the act of pushing down a lever with a part of the foot that is small enough to do so without pushing down an adjacent lever. Any part of the foot that fits this description is fine to use in playing notes. This might often include the "big toe" area, the "little toe" area, almost anywhere along the outside of the foot, any part of the heel, and, for players with small enough feet, even the very front of the foot. There is no reason to

reject any of these in advance, or to prefer any of them as a matter of principle. There might well be musical, practical, or historical reasons to prefer one or another in a given situation. Each player's posture, and various physical habits, as well as foot size, will often determine what is best in this respect. Students can start to monitor this on their own behalf at the very beginning of the learning process.

3) There are three sound ways of finding the right note while playing pedals. These are:
    i) finding notes from scratch, in relation only to the position of one's body on the bench
    ii) finding a note with one foot in relation to the position of the other foot and
    iii) finding a note with one foot in relation to where that foot last was or what that foot just did.

    Each of these is useful, and they can all be practiced systematically, but the third is the most useful by far. It forms the basis for the exercises and procedures that I use in introducing students to pedal playing.
    (There are also various unsound or problematic ways, such as sliding or bumping the foot along the keys or just plain looking. These are unsound in part because they tend to cause hesitation and, by adding steps to the process, set a lower ceiling on tempo. But even worse, a reliance on them, especially by beginning students, delays or defeats the establishment of a solid inner sense of the geography and kinesthetics of the pedal keyboard).

Next month in part II of this series I will continue this discussion, and move on to exercises and suggestions for practice.

Pedal Playing, part II –opening exercises

Last month I closed by stating that there are three reliable ways of finding notes at the pedal keyboard with accuracy, namely: 1) finding notes absolutely, in relation only to your position on the bench, 2) finding the next note that a given foot has to play in relation to where the *other* foot just was, and 3) finding the next note that a given foot has to play in relation to where *that* foot last was or what that last foot just did. I also said that while all three of these are useful and necessary, it is the last one that is actually the most useful and the best source of really secure, comfortable pedaling. This month I want to elaborate on that idea, and then to describe a beginning exercise based on this third approach.

For the moment, we are concerned only with the use of the toes in pedaling. This is emphatically not because I believe in eliminating the use of the heel or in restricting it in principle. (As I said last month, I consider every part of the foot to be fair game for playing pedal keys). Rather it is because the gesture of pointing with the toe is more natural and basic as a way of using the foot, and therefore should be the beginning and the basis of pedal technique. (If someone on the street asks you "which way to the train station" and your arms are full, you might point with your toe, never with your heel!). In fact, although "toes-only" pedaling is quite rightly linked to older repertoire and performance practice (17th and 18th century, approximately), even in the 19th and 20th centuries , without any specifically "historical" intent, it was often recognized that the toes were the logical place to start in teaching pedal playing. For example the influential and often reprinted organ method of Sir John Stainer begins its pedal playing work with the toes alone. Once any student is fully proficient at finding note patterns at the pedal keyboard with his or her toes – given that the technique is fluid and comfortable – it will be easy and natural to use the heel for some or even many notes. Playing with the heel is, in a way, a special case of finding a note with a foot in relation to what that foot just did, and it can be very reliable. Of course, there are musical and historical considerations which might argue for or against the use of heel in any given situation, and I will discuss these at some length in a later column.

It is more natural and intuitive for a person to judge or know how far he or she has just moved one foot that to know spontaneously how far one foot is from the other or how far one foot will be from the other after it has been moved. It is this intuitive judgment that makes it possible for us to drive cars knowing that we will hit the brake when we need to. In order to tell how far one foot is from the other foot it is necessary to link the two feet together by creating some sort of juxtaposition of the legs, for example by keeping the knees more or less together or by keeping the upper legs more or less parallel and roughly a constant distance apart. All such constraints on the position that a

player assumes on the organ bench are perhaps acceptable or even comfortable and good for some students or players. But they are also the main source of the discomfort – initially physical but then increasingly mental as well – that many organists and prospective organists feel with the instrument. In fact they are the reason that a steady stream of interested students end up giving up the organ, as I mentioned in last month's column. Of course some of the physical constraints that are suggested as ways of orienting the two feet to each other are intended only for the beginning of study and are meant to be modified or dropped later on. However, they are still often damaging to the process of a student's becoming comfortable with the instrument initially, and the success that students have moving past this discomfort varies considerably. Organizing the learning of pedal facility and technique around an awareness of what each foot is doing with respect to its own position allows the student to avoid this sort of problem altogether, and also leads to a remarkably secure mastery of the pedal keyboard.

Musically, of course, any pedal part is the sum of what the right foot plays and what the left foot plays. A listener does not know, and probably does not care, which foot is playing what. However from a technical point of view a pedal part consists of two separate lines, one for the right foot and one for the left foot, just as any keyboard piece consists of a left hand part and a right hand part. It often makes sense to analyze the technical work required to learn a keyboard piece as consisting of the two separate tasks required of the two hands. It also often makes sense to analyze a pedal part as the two separate tasks required of the two feet. Pedal lines approached this way usually reveal themselves to be conceptually very simple. Something like 80% of all notes in the pedal repertoire are generated by one foot or the other doing one of the following three simple actions: repeating a note, moving one step, or moving two steps. This is a much simpler technical picture than that presented by the note-surface of pedal lines, in which of course there are all sorts of intervals and all sorts of patterns as to which foot is playing what. (For a couple of classic cases of this, see the two long pedal solos from the Bach F Major Toccata and the pedal part from the Widor Toccata). It makes sense for any organist to pick any pedal line apart as to which foot is playing what and to look for simple, memorable, or useful patterns. I will return later to this idea as it applies to experienced organists hoping to improve their happiness with their level of pedal mastery. However, this approach makes even more sense for a beginning organ student. A simple set of exercises will enable a new student to take the intuitive sense of where a foot is in relation to where it has just been, train it to be increasingly precise, and tie it in solidly to the particular logistics of the pedal keyboard. One important benefit of approaching the learning of pedal playing this way is that after only a very few exercises that feel like exercises, any student is able to use essentially any pedal line as practice material. This makes it easy to keep things interesting for the student and for the teacher, and allows the student to have a satisfying sense of being connected from the very beginning to the world of real music and to the tradition of great organists through the ages.

In keeping with all of the above, the first thing that I ask a new student to do in preparing to work on pedal playing is to sit in the middle of the organ bench in a way that is comfortable, relaxed, and informal. Most people have been trained – subliminally if in no other way – to arrange themselves more or less "at attention" in situations which seem

even vaguely formal, including the situation of a music lesson or a musical performance. However, any posture which needs to be maintained consciously and which involves any discernable use of muscles is probably at risk for creating tension and should be avoided. Of course it is possible to imagine an exaggeratedly "informal" posture – slumped over to one side, for example – which would indeed have to be corrected. I have, however, never once actually encountered a situation in which a student's natural, comfortable posture presented any sort of problem for organ playing. It is important to start off with the bench at a good height. The height is probably right if the act of utterly relaxing the legs and back – completely letting go, as if flopping down on a couch – does not quite make the feet inadvertently play pedal keys. This will prevent the student from having to use muscle tension to keep the legs and feet up away from the pedal keyboard while playing.

Once a student is seated comfortable on the bench I suggest the following:

1) Find the lowest "A" on the pedal keyboard. It is fine to do this by looking, for now.
2) Play that note with the left foot, using whatever part of the foot can most comfortably push the key down fairly close to the nearest raised keys but without touching them. This will (essentially) always be part of the toe region of the foot, and will be the outside of the foot for some players and the inside for some. (For a very few students with quite small feet it will be the very tip of the foot). The question of which particular part of the foot can most comfortably address the key will depend on the angle at which the foot is approaching the key, which will in turn depend on the student's posture on the bench. The more the student tends to keep his or her knees together, the more likely it is that the inside of the foot will be the most comfortable for playing this A; the more the student lets his or her knees drift apart the more likely it is that the outside of the foot will be more comfortable. Neither one is right or wrong; there is no reason to favor one over the other. It is very important to let the student figure out, starting from an individually comfortable posture, what details are right for that student as to foot position for playing particular notes.

   (Note: by the time the student has played and released the A once or twice, he or she should quit looking at the pedal keyboard, and rarely look again).

3) Ask the student to play A then B. This should be done slowly and lightly, without either slithering the foot along the keyboard or snapping the foot high into the air between the two notes. The foot should trace a small arc that moves directly from the center of one key to the center of the next. If the student misses the B, then on the next attempt he or she should compensate in the opposite direction from the miss. If he or she played A-C, then on the second attempt he or she should think "I should move my foot a tiny bit less far". If the mistake was the other way then the thought should also be the other way. This simple way of thinking about the logistics of missed notes is remarkably effective for correcting them, in this context and in others.

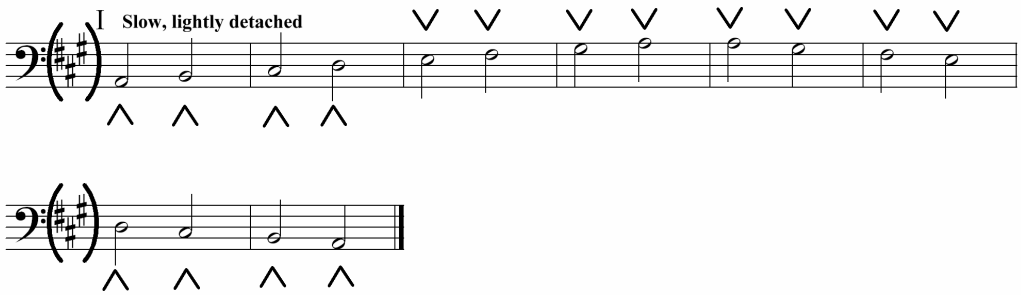
4) Once the student has successfully played back and forth between A and B several times, ask the student to play the notes of an a natural-minor scale, up and down very slowly and lightly. The lower four notes (A-B-c-d) should be in the left foot, the upper four (e-f-g-a) should be in the right foot. For each note, the student should make an appropriate decision as to foot position and what part of the foot actually plays the note based on the approach described in 2) above. It is important that the student keep everything very slow so as to have plenty of time between each two notes to think about all the details, without any need to panic.

5) Once this scale seems comfortable – slow, light, even, accurate, and feeling easy to the student – the next step is to play an A major scale in exactly the same way. This, of course, introduces less regularly spaced one-step intervals. and so is more challenging. It is normal, in fact nearly universal, for a student to land in between e and f coming down from f#, for example. The way to correct this is again simply to say, on the next time through that moment, "I must move my foot a tiny bit farther". This works remarkably well.

This simple, basic scale-based exercise is extraordinarily effective in training the sense of what it feels like to move one foot the distance of one step. This is the foundation of secure pedal facility. Next month I will introduce exercises that train that same sense in more complicated musical contexts, and expand the scope of what we are asking each foot to do.

Pedal Playing, part III –expanding the scope

The scale-based beginning pedal exercise that I discussed at length last month is intended to develop a student's sense – intuitive and kinesthetic – of what it feels like to move one foot the distance of one step on the pedal keyboard. The careful procedure that I outlined then for introducing a new student to this exercise is important, since the effectiveness of the exercise is predicated on its feeling easy and natural from the beginning. However the gist of the exercise can be expressed in music notation as follows:



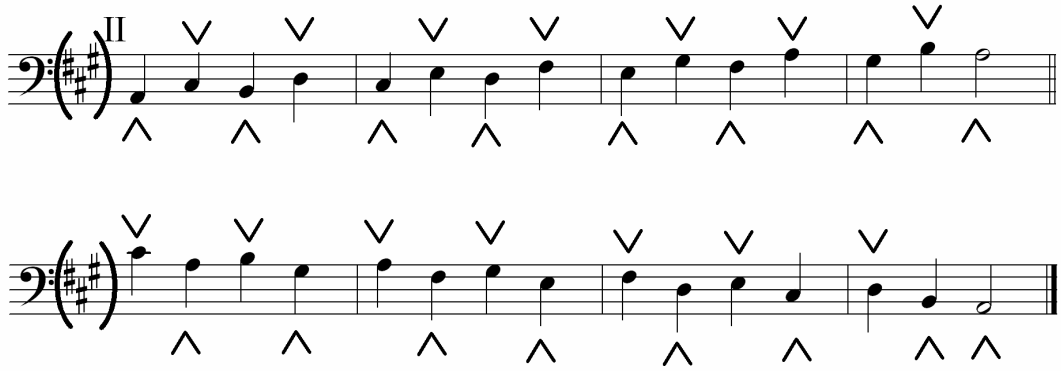
The odd notation of the key signature – that is, that the signature itself is in parenthesis – is a way of expressing concisely that the exercise should be played both without any sharps or flats and with whatever the given key signature suggests. (Remember that it almost always makes sense to practice the "naturals only" version first, since it presents more regularly spaced intervals). This is nothing but a way of saving space and time, and of course it would be possible to write out any exercise of this sort twice, once with and once without a key signature. However, I have found that students find this notation very easy to get used to.

Every pedal exercise that has as its point the development of a student's sense of the geography of the pedal keyboard should always be practiced at a slow tempo. This is for two reasons that almost contradict each other but that nonetheless both apply. The first is the normal reason for practicing slowly: it is easier to play an unfamiliar passage slowly than to play it quickly; practicing is more effective if what you are practicing is correct rather than wrong; and it always makes sense to practice any passage as slowly as you need to to get it right. Of course as a passage becomes familiar it can – normally – be sped up. With this kind of kinesthetic pedal exercise, however, it is also true that the slower one plays the simple notes of the exercise, the more intense a level of focus is required to feel and internalize the shape of the physical intervals that your feet are

negotiating. Such an exercise is actually harder mentally, and more intensely efficient as a drill and as a learning tool, the slower it is played. There can be some point to speeding up exercises such as these – especially as part of the process of learning to play faster without developing tension, and indeed to disentangle velocity from tension or force – but that is not relevant to the stage at which a student is first learning pedal playing.

Once this sense of the distance, shape, and feel of one step has been well established, there are two logical next steps. The first of these is to invite the student to use this sense in more complicated musical contexts. The second is to build on this sense to establish an equally secure feeling for the moving of one foot over two steps, then over three and more.

A simple way to set the moving of each foot by one step in a slightly more complicated context is an exercise like the following:



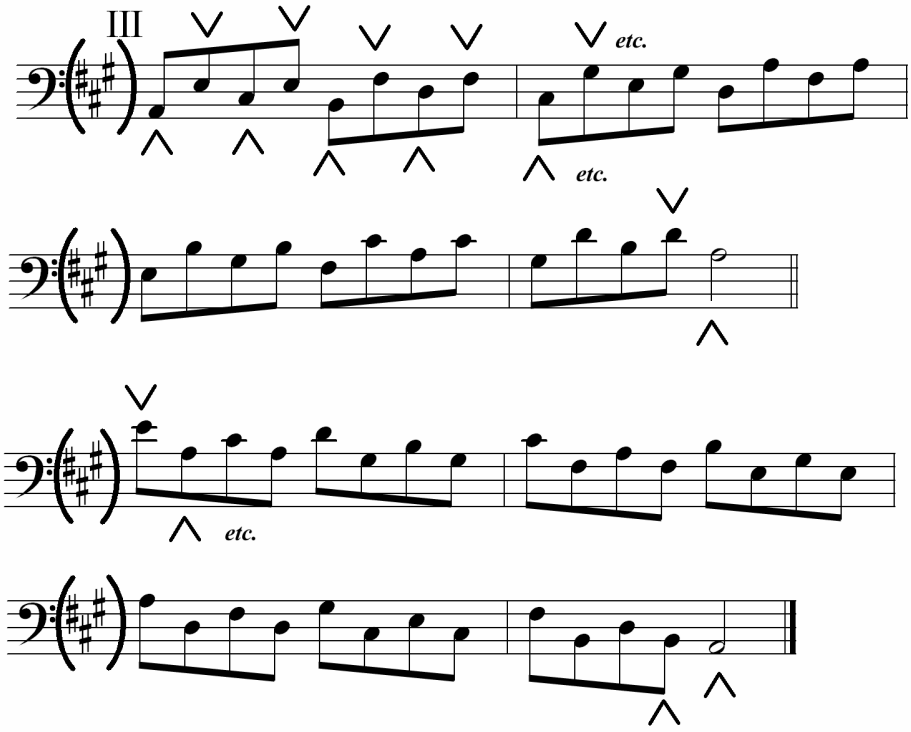
In this exercise, each foot does exactly what it does in Exercise I above: that is, it moves slowly by step. (This motion is, in effect, still in half notes, though of course the notation is arbitrary). Two things are added here. First, the whole process is a little bit more challenging conceptually, since the student has to think about both feet at the same time. The student can deal with this by keeping it slow, by focusing well in general, and by consciously alternating focus from one foot to the other as appropriate. The need for this latter will melt away with practice.

The second new thing that the student has to deal with is the set of consequences of having the feet closer to one another. When the two feet are placed in such a way as to be in some danger of pushing each other out of the way or blocking one another's access to the keys that need to be played, then the student has to learn how best to separate the feet and prevent them from causing problems for each other. This causes additional complexity for the student, but it is also a very good opportunity for learning about the logistics of pedal playing and the comfortable use of the feet. In each situation that brings the feet perilously close together the student can figure out – by common sense, and with help from the teacher – what solutions will work. For example, early on in this exercise, when the left foot first needs to play the note B, the right foot has just played c, and might be in the way. (This will vary a bit from student to student because of the kind of

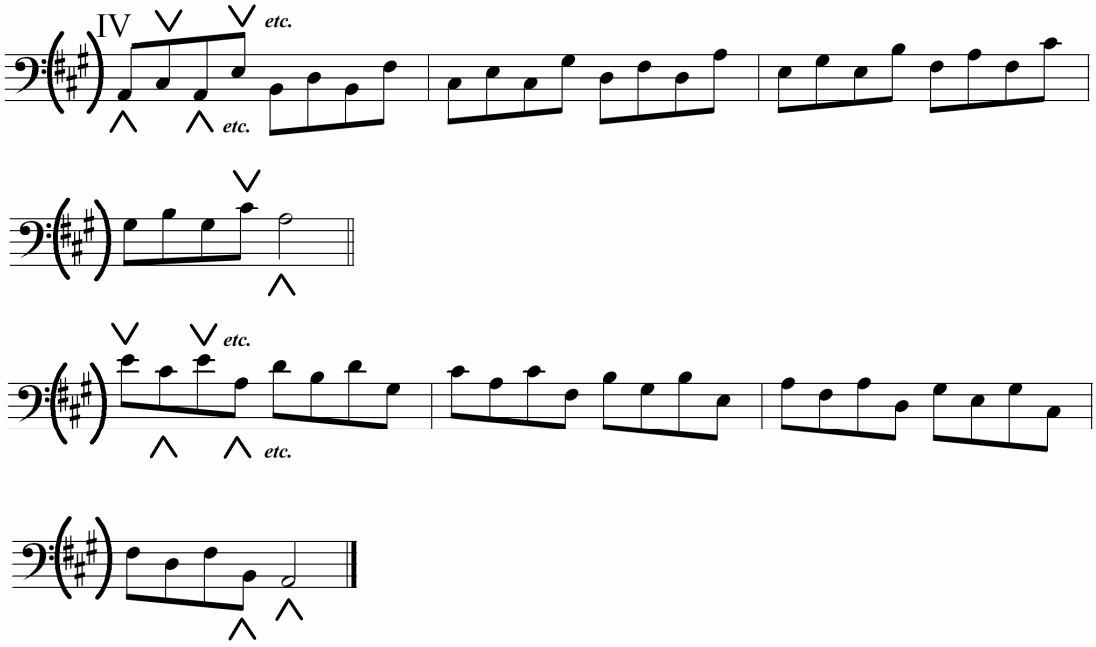
differences in foot size, posture, and habits that I discussed in November's column). If there is a problem at this point, the student can think about ways to solve it, such as a more detached articulation, or separating the feet along the length of the keys – either "left foot back/right foot forward" or "right foot back/left foot forward" depending, again, on the particular student's posture and the angle from which he or she naturally approaches that part of the pedal keyboard – or by holding the foot itself at a different angle (i.e. flexing the ankle more or less), or perhaps by switching from "little toe" to "big toe" or *vice versa* in one or both feet, if that addresses the problem and is comfortable. The teacher and the student can discuss the pros and cons of any of these, and this kind of discussion will move the student closer to being able to think about such things for himself or herself.

The teacher can make up new exercises along these same lines. They should be simple melodies in which each foot moves mostly by step. The interpolation of the two feet need not be utterly regular, as it is in exercise II above. Some students might want to make up their own such exercises, and can certainly do so, as long as they understand the principal of following carefully what each foot is doing.

This exercise introduces the moving of one foot over the interval of two steps:



In the first half of this exercise, going up, the left foot is asked to take on the new task of moving over the interval of two steps, while the right foot is still just moving by one step. In the second half, coming down, this is reversed. For completeness one might also try the following variation, in which the roles of the feet are reversed:

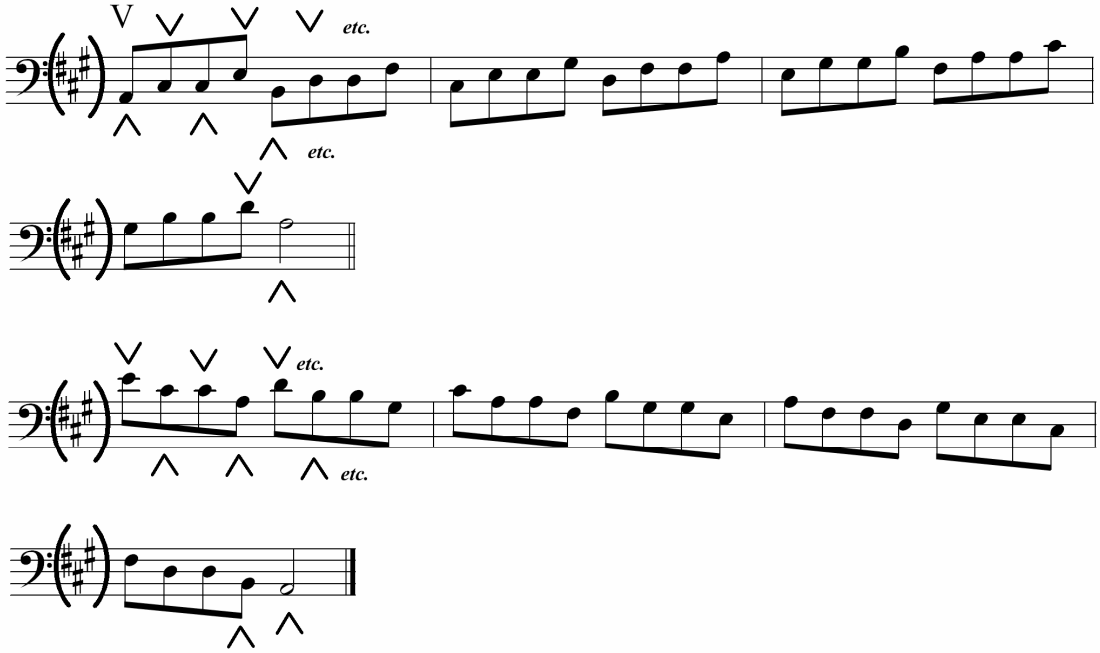


Since, when the student approaches these exercises, he or she will already have a very firm foundation in moving one foot over the interval of one step, a simple thought will almost always suffice to guide the feet to the correct distance for covering two steps: namely that the distance traveled by the foot should feel greater than the accustomed distance of one step, but only just enough greater to notice the difference. If in the course of getting to know these exercises the student ever makes a wrong note (which is basically certain to happen) the best way to correct that is also with a simple thought: "I just moved my foot a little bit too far [or not far enough], so next time I will move it a little bit less far [or farther]". This simple, almost naïve, way of correcting wrong notes in pedal practicing always works (judging from my experience both with students and with myself). It is also by far the best way of using the experience of making and then correcting wrong notes to imprint a correct feeling for the geography of the pedal keyboard on the brain of the player, and to lead efficiently to reliable, accurate playing. It is always possible to get the next note right – or to correct an actual or anticipated wrong note – by looking. However that does nothing to improve the student's command of the pedal keyboard, and the sense that it gives of having gotten something right is illusory.

(I will devote a whole future column to the subjects *of looking at the keyboard* and *not looking at the keyboard*. These are both important tools, which are sometimes not thought about systematically enough).

Here is an exercise which asks each foot to move over the interval of two steps. It also provides practice in dealing with repeated notes. (The playing of repeated notes with separate feet, which has musical and technical advantages of its own, is also a way to practice being aware of the position of the feet with respect to each other – not the main

focus of this approach to learning pedal playing, but not something worthy of neglect either – and it is good training for learning pedal substitution later on. It is essentially the same gesture as a substitution: the difference can be thought of as one of articulation).



Again, teachers and students can certainly write other exercises which will work as well as these or which can supplement them. It is only important to bear in mind the patterns of what each foot is doing and to make sure that exercises expand the scope of what each foot is doing in a logical and systematic order.

In fact, after any student has become completely comfortable with the exercises in this column or another similar set of exercises, it should be possible for that student to begin using pedal lines from repertoire as pedal practice material. This can include even very difficult pedal parts if they are approached the right way. This transition will be the main subject of next month's column, which will also discuss the Bach *Pedalexerctium* and touch briefly upon the heel.

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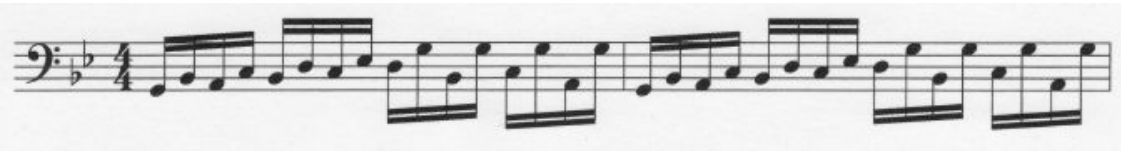
Pedal Playing, part IV – real music

As I have said in earlier columns, I am convinced that everyone works better when working on something that is of interest to them and, as much as possible, fun. Part of the point of the approach to pedal learning that I have outlined in the last three columns is to make every step of the process seem natural and comfortable, and also engrossing. The latter is achieved in part by allowing the student to grapple with – and indeed make decisions about – issues of posture, leg position, foot position, and so on. (Any task is likely to be more interesting if it involves thinking and making judgments rather than just implementing things that someone else tells you to do). At the same time, the exercises that I have suggested are meant to have enough melodic interest to allow most students to find them at least not too boring.

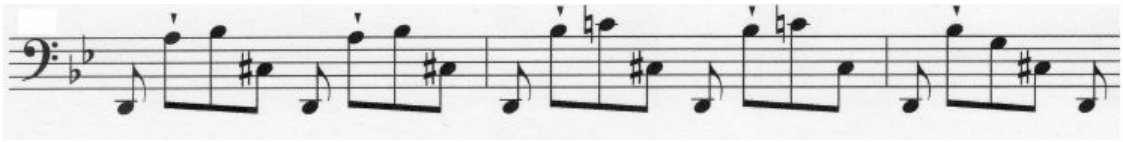
However, it is certainly true that the sooner a student can begin working with pedal material that is actually musically rewarding to play and to hear, the more satisfying the experience of working on pedal playing will be and, for most students, the more promptly real results will flow. The autonomy in thinking about technical and logistic aspects of pedal playing that a student gains by approaching the early stages of study in the way that I have outlined in the three previous columns should enable that student to figure out how to practice any existing pedal part systematically enough to use it as the next step in learning to play the pedals. It doesn't matter whether such a pedal part was written as an exercise, as a pedal solo, or as part of a bigger texture. It also doesn't matter how easy or hard – how "beginner" or "advanced" – it is, as long as it is approached in a way that is a logical extension of the way that the earlier exercises were approached, and as long as it is practiced enough, and practiced carefully enough. This column is devoted primarily to example of this process.

The piece known as Bach's Pedalexercitium BWV 598 is a thirty-three measure, incomplete pedal solo, probably written as an exercise, and probably written by J. S. Bach. (The sources are sketchy and not entirely clear). In any case it is an exercise which follows an interesting technical path and it is a catchy piece which people almost always enjoy. The piece begins as follows:



and continues for eighteen measures in unbroken sixteenth notes. After that it switches to eighths, then a mix of eighths and sixteenths. All of the sixteenth note passages are written in such a way that the two feet are clearly meant to alternate. Each foot thus moves at the pace of an eighth note. During eighth note passages one foot often, though not always, plays two or more notes in a row. There is no place in the piece where one foot has to move any faster than the speed of an eighth note. For the first several measures, each foot is asked to move almost entirely by step or over the interval of a third. The left foot is first asked to move over the interval of a fourth going from measure three to measure four, and then again going from measure six to measure seven. The first larger intervals than that – a major seventh, then an augmented octave (!) – occur in measures 11 through 15, introduced at first with the notes of arrival being adjacent to the note just played by the other foot. The point is that, viewed through the lens of "one foot at a time" the exercise introduces intervals carefully and systematically. (In fact, an even more detailed analysis reveals subtleties such as first introducing a new interval with the note of arrival being an easy-to-find flat and then extending it to a harder-to-find natural).

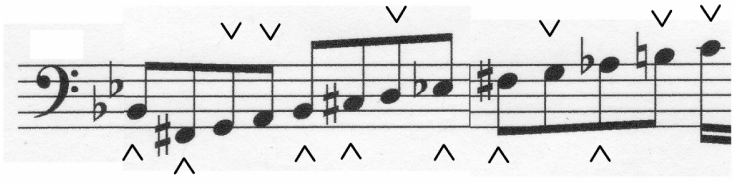
The eighth note pattern that begins in measure 19, starting as follows:



invites the left foot to take on the challenge of a descending major seventh, but also offers the opportunity to practice it over and over, ten times in a row! The right foot is given intrinsically easier intervals, but less chance to repeat them. (Obviously one can and should repeat, i.e. practice, the whole thing, but I think that it is interesting that the composer has built in repetitions of the harder material).

The last several measures are the most miscellaneous both rhythmically and as to intervals, and are also the most difficult, so that the whole piece is set up almost as a graded course in pedal playing. Measures 27 and 28, for example, contain elements of three earlier sections of the piece, and the most diverse collection of (one foot at a time) intervals yet.

A new element is introduced very near the end with this passage:



(pedaling by GB)

With the pedaling that I have suggested, this is a remarkably smooth-feeling exercise in passing one foot over the other.

The pedal solos near the beginning of Bach's Toccata & Fugue in F Major BWV 540 are well designed to use as pedal exercises. The right foot moves by the following number of step in the first few measures of the first solo, beginning at m.55:

1-3-2-1-3-2-1-3-2-1-3-2-1-2-3-1-2-3-1-3-5-1-4-5-1-4-5-1-3-4-
(where 1 means a repeated note, 2 moving one step, 3 moving two steps, etc.)

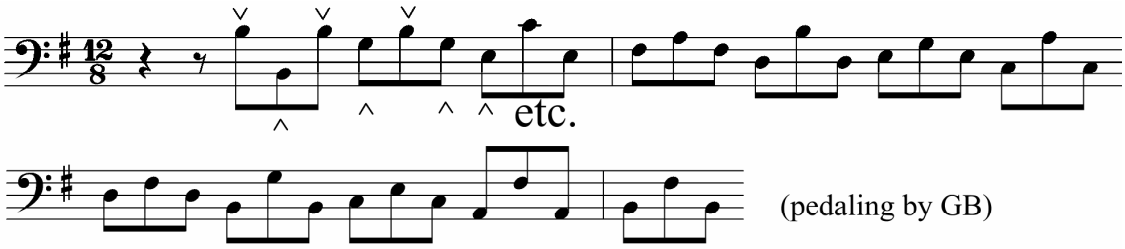
The pattern for the left foot in the same measures is:
3-4-1-4-5-1-2-3-1-3-4-1-2-1-1-2-1-1-2-2-1-2-1-1-2-1-1-2-3-5-

That is, both feet move primarily over very short intervals. Incidentally, the interval pattern for both feet together – that is, what the listener hears – for this passage is:

2-2-4-6-3-2-2-2-5-7-3-2-2-2-3-5-3-2-2-2-4-6-3-2-2-2-3-4-4-2-2-2-3-4-4-2-2-2-3-5-6-2-2-
2-3-6-6-2-2-2-3-6-6-2-2-2-3-5-3-6

There are plenty of 2's and 3's, but many larger intervals as well.

Another pedal passage in which looking at each foot by itself simplifies things quite a lot is this excerpt from the Buxtehude Praeludium in e minor:



This line seems to be all over the place, and is sometimes considered to be difficult enough or awkward enough that it is assumed that it cannot really be a pedal line. (Often we do not know for sure which notes in Buxtehude's music are meant to be played by the feet). However, after the first interval in the left foot, each foot moves by no interval greater than a third, and the two feet follows similar patterns to each other. Looked at this way it is actually rather easy to learn.

Each of these three examples can and should be practiced the same way. First the student should – probably with the help of the teacher – make choices about which foot should play which note. (In these examples, those choices are not very complicated: almost obvious). Second, the student should practice each foot separately, as slowly as necessary to make it seem easy. This should be done without looking at the feet, using the approach to monitoring and correcting wrong notes that has been outlined in the last few months' columns. Each foot should be practiced more than the student or teacher thinks is necessary. If the part for each foot is practiced enough that it really becomes second

nature, then the act of putting the two feet together, which is of course the next step, will be smooth, easy, and natural, like ripe fruit falling from the tree. This is the most sound, solid way to learn a given piece or passage, and it is, most especially, the best way to use a given passage as a stepping stone towards mastery of the pedal keyboard.

The famous Widor Toccata is another example of a pedal line that seems almost to have been written to demonstrate the advantages of considering the feet separately in learning pedal lines. When the pedal comes in in measure 9, the interval between the first two notes is two octaves. The interval sequence for the first several notes of the pedal line is as follows:

15-14-14-13-13-14-14-15-15

However, the sequence for the right foot is all 2's, and for the left foot it is all 1's. This same situation, or something like it, prevails for most of the piece. When the main theme comes in in octaves in m.50, it draws our attention to the close relationship between the practice of analyzing pedal parts through separate feet and the art of double-pedaling. In fact, conceptually, double-pedaling is nothing unusual, difficult, or intimidating if you are already accustomed to keeping track of each foot separately. There are circumstances in which the need for each foot to play its own line while the other foot is also playing a line might affect pedaling choices, in particular as to use of heel, or might affect choices or possibilities as to articulation. In Widor's own recording of his Toccata the articulation of the octaves from m.50 to m.61 is ever so slightly, and very consistently, detached. If he was using heel, it was apparently not to achieve a full legato, but rather because that is what he found easier or more natural as a way of dealing with the logistics of playing the notes. (Widor was 88 years old when he made this recording, and it is often speculated that his age may have caused him to play the piece more slowly than he would actually have wanted it played. His tempo in the recording is approximately 94 quarter notes per minute. There is no reason to think that his age would have caused him to change his pedaling choices or his articulation).

With this column I will leave pedal playing for a while. Next month's column will be about the teaching of registration. I will return to pedal playing in a later column, in particular to discuss heel playing in great detail, with thoughts about when in the process of learning to introduce heel playing, about its history and its implications for interpretation, and with beginning heel exercises.

More about pedals: looking at heels

This month I am returning to the subject of pedal playing, this time to discuss heel playing. I have some general thoughts to share with students, and a few practical suggestions and exercises.

It is interesting that the use of heel in pedal playing is an artistic issue that has a history of lending itself to controversy, becoming a political and, almost, an ethical matter. I have had students come to me who believed – or who had heard – that it was out of the question to use heel in music written before a certain date: that is, essentially in Baroque music. On the other hand, I have heard students and others say that failure to use the heels in Baroque music could only be motivated by a pedantic insistence on academic correctness at the expense of artistic considerations. I once heard two musicians passionately agreeing with each other that "heel and toe" was the only way to play the organ, even though *neither of them was an organist*! I thought that this was – quite apart from the merits of the notion – a fascinating example of how ideas or ideologies can spread beyond their original home turf. It was also revealing how heated this discussion was and how angry (good-naturedly angry, as I remember it, but still angry) the two of them seemed at people who might disagree.

I have also had students come to me convinced that "heel and toe" pedaling is intrinsically legato, whereas "alternate toe" pedaling is intrinsically detached. (I'm not sure about the concept of "alternate heel"!). In fact, alternate toe pedaling is usually capable of creating a full (even overlapping) legato. It has trouble doing so only in some patterns involving sharps and flats. It is *same*-toe pedaling (using the same toe on successive notes) that is inherently detached. Also, while heel and toe pedaling can often create legato – and sometimes in places where all-toe pedaling cannot – it is also true that the use of the heel is often most natural in detached situations, where the heel can be used without resorting to an uncomfortable foot position.

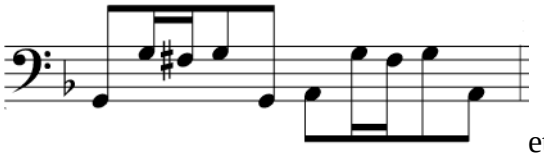
Questions about heel pedaling are bound up, as are many other technical matters, with questions of historical authenticity. These apply in several ways, of which the most prevalent is the above-mentioned concern about using heel in older music. Questions of authenticity do arise in connection with later music as well, for example, whether a legato achieved using alternate toes is or isn't acceptable in music written by a composer who is known to have used, or explicitly called for, heels. Is it enough for the player's judgment – or that of a teacher or any listener – to conclude that the *effect* is suitable or perhaps actually identical to what the composer intended, or is it in some sense necessary (ethically, artistically) for the composer's technical suggestions to be followed literally?

It is certainly generally true that earlier organ playing probably made less use of the heels (short pedal keys, giving little room for the heels; relatively restricted use of sharps and flats, and of pedal scale passages; non-legato style attested through surviving fingerings, among other things) and later organ playing more (big and, eventually, "AGO"-type pedal boards; more sharps and flats and scale passages; legato style; the

need, some of the time, to assign one foot to the swell pedal) though, as with so many issues, we do not know everything about the historical situation and what we do know contains intriguing anomalies. These include, for example, the Schlick work *Ascendo ad Patrem* from about 1512, which has a four-voice pedal part clearly requiring the use of heels, and the (mid-to-late-nineteenth century) organ playing of Saint-Saëns, who apparently never used heels.

(If the one surviving pedaling by Saint-Saëns*, along with contemporaries' comments on his playing, were *all* that we knew about nineteenth century organ playing we would assume that Franck, Widor, Reger, and the rest all used only toes! If the Schlick *Ascendo* were the only surviving organ piece from before, say, 1610, we would assume that in the late Renaissance multi-voiced pedal parts and heel-based pedal playing were the norm!)

When I was first getting interested in the organ in the early '70's, I did not, for a long time – a year or two at least – become aware that there were these sorts of historical or musicological polemics – or such strong feelings – surrounding heel playing. I did absorb, however, the idea that it was more difficult to create clarity and precision with the heels than with the toes, and that, any concern for authenticity aside, a player has to be sure that heel pedalings in any given situation really work to create the desired effect. This is an issue with heel pedaling in a way that it is not with toes. I recall hearing that Helmut Walcha insisted, with his students, that the famous pedal solo in Buxtehude's G minor Praeludium (BuxWV 149):



etc.

be played with all toes, the left toe moving up to play the off-beat f#'s. The purpose of this was to achieve the greatest possible crispness and accuracy of timing, not necessarily to be historically accurate, although it probably was that too, or at least might well be. (Other players might use the right foot to play all of the upper notes – heel and toe – while the left foot remains in the lower half of the pedal keyboard rather serenely catching what might be called the melody of the passage. It is an interesting exercise to work the passage up both ways and listen to the difference(s) in articulation, timing, and pacing between the two).

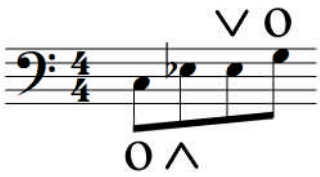
The fact that playing with the heel is, in general, harder to control with great precision than playing with the toe stems from the basic anatomical fact that the foot is hinged in a way that gives the toes more leverage, a better mechanical advantage. In other words, the heel is closer to the ankle than the toes are: simple, but very important for organ playing. To some extent, whereas the toes play a pedal key through the flexing of the ankle, there is a tendency for the heel to play a key by dropping the leg onto the key.

The approach to teaching pedal playing that I outlined in four columns in The Diapason (November 2007 – February 2008) relies on using the instinctive pointing gesture of the toes as a starting place for developing a strong kinesthetic sense of the pedal keyboard. It is mainly for this reason that the various strategies deployed there and the various exercises suggested do not include any work with heel. In spite of this, however, the approach laid out in those columns actually sets a student up to learn heel playing efficiently and with great security. This can happen best *after* the student has become truly comfortable with the techniques developed through that approach.

Each student – each player, in fact – has a somewhat different physique which suggests a somewhat different physical orientation towards the pedal keyboard. Some people can more comfortably play off the inside of the foot, some the outside; some people can most comfortably keep the knees fairly close together, some people are more comfortable with the knees farther apart, and so on. The key to incorporating heel playing into this overall approach is to remind the student always to monitor and make decisions about the exact physical approach of the heels to the keys: which side of the heel for which notes, where on the keys the heels should land (perhaps different for each key or different depending on previous or subsequent notes), where should the knees be in relation to the feet in a given passage, etc. These are things that only the student himself or herself can judge, since that judgment depends on how things feel.

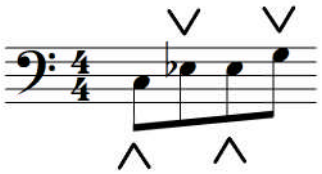
The first step in practicing heel playing is to choose a simple passage of notes – taken from a piece or written as an exercise – and to play some of the (appropriate) notes with heel, trying out different positions and placements along the lines mentioned above. It is by far the easiest to use the heels on a natural key that is being played just before or just after a sharp or flat, so it is best to start with such a passage. The Buxtehude quoted above is a good example. It is clear that, if the right heel is going to be used in this passage, it will be used on the g that is the second overall note and its reiterations. A student can try – slowly and keeping everything physically relaxed, as always – to play g-f#-g with heel-toe-heel, using first the inside of the foot, then the outside, letting the knee move to where it is most comfortable. (To play on the outside of the right foot the right knee will probably need to be farther out – to the right – than to play on the inside of the foot). A player with slender feet might find that the center of the foot works. For most players one of these configurations will be the most comfortable and should be practiced until it feels reliable. If more then one feels equally comfortable than both, or all, should be practiced.

A short exercise like the following can be used in the same way:



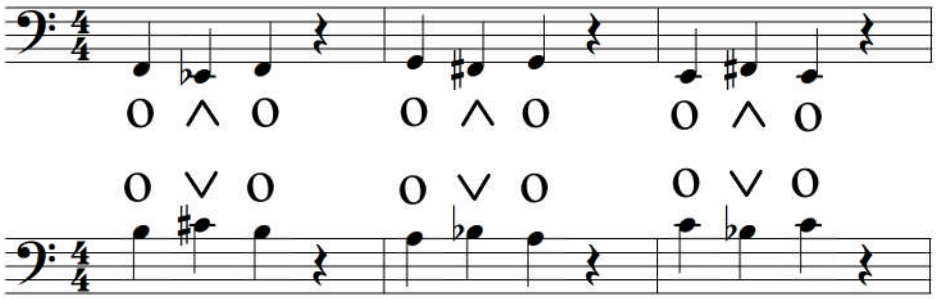
again trying out different angles and positions for the feet and keeping track of what is comfortable.

(Note that this, on its own, can well be played like this:



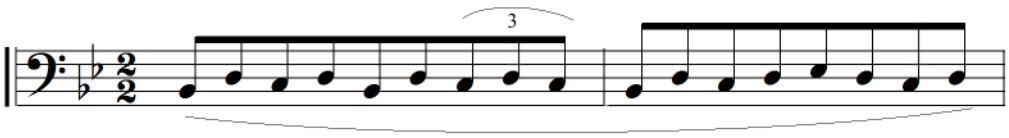
It is interesting to compare the differences in sound and feeling, if any, between the different pedalings. In the context of a longer passage one or the other might be better or actually necessary).

Here are two matching exercises for heel at the extremes of the keyboard:



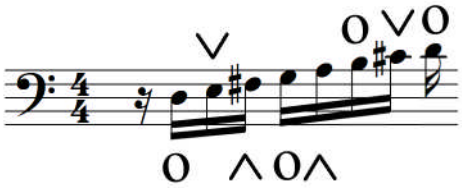
Again, they should be tried with every different alignment of inside/outside and knees. The teacher can help the student remember what all the possibilities are, but only the student can tell for certain what is and what isn't comfortable. They should be tried both fully legato and lightly detached.

This well-known Vierne theme, from the *Carillon* from Op. 31, is an interesting one on which to try various different heel-based pedalings**:



It is possible, while keeping this completely legato, to use alternate toes (left first) except for left heel/left toe going across the bar line. It is also possible, however, to make more extensive use of the heel, for example, using left heel on all of the c's and fitting the other notes around that. The student can try it a number of ways. For using this as a learning tool it is crucial to remember to keep it slow and light.

The following is a somewhat arbitrary heel-based pedaling for a scale. I'm not sure that I would use it in "real life" but it works as an exercise:



The challenges here are 1) to orient the left foot in such a way that the toe is aimed easily at the f# after playing the d, 2) to reorient the left foot to execute the more difficult g-a with heel-toe, 3) to move the right foot securely to the b after leaving the e.

In beginning to practice playing with the heels, as with any pedal practicing, it can be useful to practice separate feet, in the manner that I have discussed in earlier columns. In the above scale, for example, the right foot can practice moving from the e to the b. Really what this means is practicing moving the right heel from the position in which it rests while the right toe is playing the e to the position in which it (itself) plays the b. while turning the foot so that the toes are poised to play the c#. This is a bit more abstract than moving the toe of one foot from one note to another, but equally subject to being analyzed and practiced systematically.

Student themselves, and their teachers, can create little exercises like this and can extract bits of pieces with which to try out the use of the heel. I want to reiterate that the key to integrating heel playing comfortably into pedal playing is to pay attention to – and make choices about – the position and angle of the feet as they address the keys. This should be done, in the manner discussed at length in my earlier columns, without any particular preconceptions. It is in the end up to the student to determine what is comfortable and what works. The teacher can certainly make suggestions, and can help evaluate the results, but only the student can actually tell how it feels.

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*see Rollin Smith *Saint-Saëns and the organ* Pendragon Press, 1992, p.186

**this was written to be played either in the hands or in the feet.