Organ Method XVII
This continues directly from last month's excerpt. Its purpose is to get students thinking analytically about substitution in order to make sure that the substitutions they devise for themselves will be comfortable and efficient, and will work well to achieve whatever their particular musical or logistic purpose is.

## Substitution in thirds

The left-hand version of this exercise for practicing substitution in thirds starts as is shown in Example 1. Again, you should carry out the multiple substitutions in the most comfortable order. Try out various other fingering possibilities, and also try this, and other similar exercises, with added accidentals, as if it were in C minor, for example, or transposed to other keys. Substitution on black notes is physically different from substitution on white notes, since the black notes are thinner and spaced further apart. The principle is always the same: perform the substitutions in the right order, and plan out carefully the direction and angle from which each new finger arrives and in which each old finger departs. If the departing finger is released down and to the side, you have to be careful that it doesn't inadvertently play an adjacent natural.

You can also convert the Rameau passage shown in Example 2 (and discussed in the January 2014 column, as Example 9) into substitution exercises by tying the repeated notes and changing the repeated-note fingerings into substitutions.

## Substitution in fifths

Examples 3 and 4 are exercises for substitutions in fifths. Try these all over the keyboard: as written but with added accidentals, in other keys, an octave up or down. As you practice these exercises and a selection of transpositions, try carrying out the substitutions according to various different timings:

1) As quickly and as smoothly as possible: instant substitution, but keeping the order correct. For example, in the above left-hand fifths it is better to execute the 4-5 substitution before the $1-2$. This keeps the hand compact and avoids uncomfortable stretching. In doing the substitution instantly, as one gesture, this order can be preserved by carrying out something that feels like a rolling motion of the hand. (Technically the $4-5$ is closer to "instant" than the $1-2$, but the gesture is fast and smooth and should feel like one event.)
2) Very promptly and rapidly, but as a succession of separate quick gestures: in the case of these


Example 1
two-note-at-a-time substitutions, the timing of this approach is similar to that of a mordent.
3) Truly timed finger changes. This can be in a number of rhythms. For example, in the rhythm of the fifths above: triplet quarter notes (i.e., with the new chord, the first substitution, and the second substitution spaced out evenly); a quarter note and two half notes; a dotted quarter note and two sixteenth notes. This last rhythm shades over into the final timing concept:
4) Both substitutions as a quick one-piece gesture at the end of the held note, having almost the feeling of a before-the-beat ornament to the next note.
I have listed these in a particular logical order: from closest to the beginning of the note to closest to the end of the note. It is important to avoid practicing anything at a faster pace than what you can carry out comfortably. Therefore, you should start with a slower (timed) execution of each substitution, and work towards the faster timings and the "instant" un-timed forms as you become fully comfortable with the fingerings and the shapes of the gestures.

Substitution in scalar passages
Examples 5 and 6 form an exercise that has the appealing feature of being simultaneously silly and efficient. It involves playing simple scale passages, and performing extravagant chains of substitutions on each individual note. This is beyond what you are likely ever to do in fingering a piece of music. There are, however, places where more than one substitution occurs on one note, as we will see below.
This can also be practiced in different timings. The "instant" version will of course take a discernable amount of time, since there are so many fingers involved one after another. Don't try to practice this exercise at a tempo faster than it can be accomplished accurately and comfortably. It can still feel like one gesture: sort of sliding or slithering around on the note. As always, you should pay close attention to hand position and to keeping everything relaxed and comfortable. You may notice yourself occasionally inadvertently releasing a finger before the next finger has arrived to take its place: in effect converting the


Example 2


Example 3


Example 4


Example 5


## Example 6

substitution to a repeated note. Do not try to correct this by holding the notes down harder. It is just a matter of timing. If this becomes a problem, slow down the exercise

Substitution in counterpoint
Example 7 shows a Reger passage (from the chorale prelude Morgenglanz der Ewigkeit-discussed in the November 2013 column as Example 10), demonstrating the practicing of separate voices, with a suggested fingering involving thoroughgoing substitution. (This is the left-hand part. I have written the fingerings for the two voices above and below the staff respectively, for clarity.)

The following is a detailed discussion of the logic behind these fingerings, but with an emphasis on the substitutions, and with comments on how best to carry
out those substitutions. You should read it and correlate it in detail to what you see in the music before practicing the passage. If as you read this discussion you think of different fingerings that you want to try out, please do so. Make sure that you understand your own rationale behind those fingerings and that you are convinced that they will be comfortable and effective.
The choice of the first finger for the first note makes sense both because that enables you to reach down to the second note easily, and because it puts the hand in the best position to play the a\# that is coming up. (This is a comfortable fingering in part because of where the passage lies on the keyboard. Try the same pattern two octaves higher. It will feel quite different and might need a different fingering solution, perhaps playing the


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Example 7


## Example 8

opening note with 2 , and substituting 1 at the last instant before playing the a\#.) The choice of 5 for the $d$ that is the second note of the piece is also obvious. The first substitution (4-5 on the note e) should be performed quickly, both to relax the hand and to enable the second finger to reach the $\mathrm{c} \#$. The substitution on the $\mathrm{f} \mathrm{\#}$ should be treated the same way for the same reasons. The substitution on the g\# can be performed either instantly or on a measured basis (it is the first opportunity here to practice the latter).
Moving to the second measure, the substitution on the c\# on the first beat has to be performed quickly so that the hand can move on to the next notes ( $\mathrm{d}^{\prime}$, $\mathrm{e}^{\prime}$ ). In theory, the $4-5$ substitution on the a need not be done until close to the time to play the b on the third beat. However, at the moment of the first beat itself, it will be more comfortable to carry out both substitutions quickly, with the 4-5 actually happening first. (This is to keep the hand compact and avoid uncomfortable stretching.) This should be carried out as an instant "rolling" double substitution. The b on the third beat of this measure is an interesting case. It is natural to play it with 4 , and it also should have 4 holding it when it is ready to end (seven eighthnotes later, in the next measure). However, it is a good idea to hold it instead with 5 through most of the length of the note. This is to put the hand in the best position to reach the notes in the upper of the two voices, especially the $\mathrm{f} \#^{\prime}$ that is the first note of the following

measure. There is no particular reason not to do the substitution from 4 to 5 right away. (You could also postpone it until just before the end of the measure, in which case it would probably be more comfortable to play the d\# with 2 . The advantage to playing the $\mathrm{d} \#$ with 3 is that it enables 2 to be poised to reach towards the upcoming $\mathrm{f} \mathrm{\#}$ as promptly as possible. This is a positive reason to do the substitution instantly.)

At the other end of this long-held b, the substitution back to 4 should be done only after the upper-voice substitution from 2 to 1 on é. This is so as not to stretch the hand out uncomfortably. The purpose of that upper-voice substitution itself is partly to un-stretch the hand and partly to free the second finger to reach up to $\mathrm{f}^{\prime}$ '. The substitution from 5 to 4 on the a should be done only after the thumb has played the f-natural. This is, of course, to keep the hand from being stretched out unnecessarily. On the fourth beat of this measure we come to the first substitution of non-adjacent fingers. The switch from 5 to 3 on the g\# is motivated by the underlying rationale for substitution: it makes sense for one
finger to play the note, but for another finger to be holding when it is time to move on to the next note. The reason for using 3 in the latter role is that the next two notes are in a downward direction (It would also be possible to do a 5-4 substitution, and then another 4-5 substitution on the g-natural.) In any case, the 2-1 substitution on the $e^{\prime}$ should be done first and very quickly.
The first substitution of the fourth measure, on $b$ in the lower voice, is the first one we have seen that must be really instant: fully a part of the gesture that plays the note in the first place. This is, of course, because of the sixteenth-note motion in the upper voice. The hand must be in position to reach for and then play f\#' comfortably, essentially right away. The two remaining substitutions in this measure can be done at a somewhat more leisurely pace. On the third beat in the lower voice, my suggested 4-3 4 could be replaced by $45-4$. Or indeed you could do a 3-2 substitution on e' that is the lower-voice note on the second beat, and then play the rest of the lower voice in this measure with the fingers as they come. The $2-1$ substitution on the f-natural in the upper voice on the fourth beat exists for the purpose of unstretching the hand.
There are four substitutions that must be carried out in the half measure coming up, the last part of this excerpt. The switch from 2 to 1 on $\mathrm{e}^{\prime}$ in the upper voice and the switch from 3 to 2 on d ${ }^{\prime}$ in the lower voice (a note that was initiated in the previous measure) must be carried out in the order in which I just listed them, for the most basic possible reason. The "new" finger in the second substitution was just in use holding another note. It had to be freed from that note-by substitution-before it could take over its new note. These two substitutions are ideal to be played quite measured: the upper-voice substitution on the second half of the first beat, the lower-voice substitution on the second beat. On the second half of the second beat we encounter two substitutions, both of which must be carried out within the time span of an eighth note. For most hands it will be more comfortable to do the $2-1$ substitution on $\mathrm{d}^{\prime}$ first, and then the $4-3$ substitution on $b$. This

means that the latter must be very fast indeed. The two should end up feeling like one gesture.
The fundamental purpose of this fingering could be described as a way to play all of the notes legato without awkwardness or discomfort. This is achieved by a significant increase in the amount of fingering busy-ness: as fingered here this passage involves sixty-one fingering events to play forty-three different notes. For comparison, Example 8 shows one possible fingering without substitution, based on a willingness to allow many of the notes to be played non-legato. (Remember, however, that Reger in his own hand marked this piece sempre ben legato.)
Try this fingering out, leaving aside for the moment its musical or historical appropriateness. Keep everything light, and make the non-legato gestures smooth and non-abrupt. Is one fingering easier than the other? What differences in feel do you notice?
(Note: Based in part on feedback from readers of The Diapason, I will possibly add further exercises and examples to the final version of this sec tion on substitution. These will deal at greater length with substitution on black notes and with non-adjacent fingers. I will move on next month to exercises and approaches to learning to play with hands and feet together.)

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