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*ON THE ARRANGEMENT OF THE STOPS, PEDALS,
AND SWELL IN THE ORGAN.*

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My attention was recently drawn to this subject in designing a small organ of three manuals, which has been built for me by Messrs. Gray and Davison. After the organ was so far completed that the design could not be altered, my attention was drawn to certain Resolutions and Recommendations put forward by the College of Organists. These have the most desirable object of securing uniformity in the arrangements under consideration. They differ in many essential points from the arrangements I have adopted, and, considering the great authority with which they come to us, I have, with some diffidence, desired to secure a little further discussion of some of the points at issue, that we may consider whether the Resolutions and Recommendations in question may not be susceptible of some amendment.

Uniformity in these matters is doubtless most desirable, but it seems to me questionable whether it may not be dearly bought at the sacrifice of points of principle. If I can show that the arrangements advocated are in any respect opposed to principles of convenience, I think I shall have made out a case for further consideration of the subject.

The first topic is the arrangement of the stops of the different departments of the instrument. The Resolutions in question place the stops of the great, choir, and solo organs on the right hand of the performer; those of the swell, pedal, and the couplers on the left, according to the scheme:—

Swell.	Solo.
Pedal.	Great.
Couplers.	Choir.

Now there are principles involved in any arrangement of this

description, which are clearly stated in Hopkins's book on the organ, and will, I think, be admitted without question by most players (Hopkins, 2nd edition, 1870, p. 283):—

(1) As a rule the left hand can be more easily spared for a moment than the right.

(2) The great organ stops are more frequently brought under the control of the feet of the performer by composition pedals than those of any other department.

Inference: that the great organ stops should be placed on the right, in which I quite agree.

But the writer proceeds: "The swell and choir organ stops are not nearly so often acted upon by composition pedals."* Here we must observe that it is now scarcely correct to associate the swell and choir together in this respect. In organs even of moderate size the swell is almost always acted on by composition pedals, while their application to the choir does not take place, at least in ordinary instruments. I therefore agree with Hopkins, in opposition to the Resolutions of the College of Organists, that the choir stops should be on the left. But it appears to me that on the principles just enunciated the swell stops should be on the right, at least in cases where they are adequately controlled by composition pedals. This point was brought to my notice by the arrangement of the stops in the organ at Magdalen College, Oxford. As I shall have to refer to this instance again, I may as well shortly indicate the general distribution:—

Positions of Stops in Organ at Magdalen College, Oxford.

Choir (in 1 column).	Couplers (in 1 column).	Solo (2 stops). Great (in 1 column).	Swell (in 1 column).
Pedal (4 stops).			

For a good many years I have frequently had the opportunity of watching the service-playing on this organ; and there can, in my opinion, be no doubt as to the convenience in this case of having the swell stops on the right, even though the compositions are not as complete as they would probably be in a new organ. If the swell and great organ stops are both on the right, it becomes unnecessary, so far as the numerical balance of stops is concerned, to place any others on that side; and I think that it is a decided inconvenience in the organ above mentioned that the two solo stops are on the right side. In shifting them while playing, I notice that the player nearly always puts the left hand over. Hopkins expresses no opinion on this point;

* This passage continues: "Moreover, as the numerous delicate shades and varieties of tone are produced from those departments chiefly—leaving the great organ for broad contrasts—the left side appears the most proper one whereon to place their draw-stops."

but the principles above mentioned decidedly lead to placing the solo stops on the left.

As to the pedal stops and couplers, there can be no doubt that the "Resolutions" are right in assigning them positions on the left.

To resume, therefore: I would ask if it is not worth further discussion whether it is not better to put the swell stops on the right, and the solo and choir on the left—in these respects varying the scheme of the College of Organists. Of course these principles can hardly be applied to organs with two manuals: in these cases the balance of the number of stops will generally require the swell stops to be on the left.

I think, however, there is much to be said in favour of a general recommendation that a third manual should be adopted, even in small instruments, in preference to having a large number of stops with two manuals only; and, in any case, the arrangements of a two-manual instrument can hardly be so complicated as to cause inconvenience to a player by divergence from the type to which he is accustomed. In the small organ recently constructed from my design, the swell stops were placed on the right, as in the organ at Magdalen College; the choir, couplers, and pedal on the left; and, as far as I am competent to judge, the arrangement was most convenient.

The next point I wish to mention is the arrangement of the stops of each department. The principle to which I attach importance here is that the stops of each department should, as far as possible, be arranged in a single column—not in masses, in the modern fashion. The stops of the great, swell, and choir organs at Magdalen are arranged in this way, and of course it was common in old organs. The single column is the form in which specifications are always drawn. Consider how easily and rapidly the eye runs over the specification in this form, and how long it often takes to make out and remember the composition of a mass of stops of the modern type. In the largest organs I believe double columns would be sufficient, and these are not so very much less clear than single columns.

The next point is as to the pedals. I entirely agree with the "Resolutions" that the pedals ought to be parallel. I have never been able to understand how legitimate passage-playing could be carried out on a radiating pedal-board, which is so narrow in scale towards the back that it is hardly possible to put down the pedals singly in that region. As to the concavity recommended, I do not myself think it of much importance. On the whole, I rather prefer the pedals flat; but I had my recently built organ provided with a pedal-board of slight concavity, and it is not inconvenient. As to this point of concavity, I should mention that some uncertainty has arisen, owing to the description of the curvature as that of

an arc of a circle having a radius of eight feet six inches. Organ-builders, though intelligent and practical, do not all know what a radius means; and, a short time ago, I was introduced by an excellent country builder to a most astonishing-looking pedal-board, in process of construction, as the new pedal-board of the College of Organists. The *diameter* had been taken as eight feet six inches, instead of the radius, so that the pedal-board was curled up at the ends in a most curious way.

The remaining point in connection with the pedals arises on the resolution that the front of the short keys form an arc of a circle having a radius of eight feet six inches. I have had some experience of pedal-boards made like this, or nearly so; I think them most inconvenient, and this feeling is shared by others. Quite recently, without any mention of the subject on my part, the organist at our college chapel had a pedal-board of this description altered back so as to have the fronts of the sharps in a straight line, on the ground that he disliked the new arrangement. I have tried to analyse the reason, and, as far as I can make out, it is that by the curved front of the sharps the available portion of the ends of the pedal-board is brought too far forward under the seat, so that there is the same difficulty in getting at the ends as if the whole pedal-board were too far under the seat. That is my suggestion.

As to the swell. The first Recommendation of the College of Organists is, "that the consideration of organ-builders be directed to the widely expressed desire for some means of operating on the swell in addition to the ordinary swell pedal." Quite independently of this recommendation I designed the new swell action from the back of the seat which was applied in the organ recently built for me. It is particularly in connection with this new action that I regret that so few of the members of the Association responded to my invitation to see the instrument. Our excellent secretary, whom I must take this opportunity of thanking for his kind assistance, was however there. There is a movable back to the seat, to which a breast-strap is attached. By leaning forward lightly against the breast-strap the swell is opened. It was demonstrated, on the occasion in question, that it was possible to play such a piece as the first movement of the First Sonata of Bach, or the opening of the Passacaglia, with employment of the swell throughout, while both feet were engaged with the pedals as they ought to be. At the same time my impression is that the employment for which it will be felt as the greatest relief is the use of the swell during accompaniment. There are two classes of players in this respect at present. The one do not attempt to use the swell while the pedals are going; the others habitually keep one foot on the swell pedal, sacrificing the continuity and effect of the pedal part to that necessity. Of course there are some artists also who succeed in doing

wonderful things with the present imperfect means, but I think even they will probably feel the new action a relief, when they have got accustomed to it. I must admit that I was struck with the difficulty which appeared to be felt by some practised players in discarding the swell pedal and trusting to the new contrivance: but I cannot doubt that this difficulty would disappear with a few days' practice.

The second Recommendation of the College of Organists is that there be some contrivance to fix the swell pedal at any point. This has been met by a contrivance of Messrs. Gray and Davison: the swell pedal hitches of itself at any point when the foot is removed; it acts independently of the back swell action. As to the composition pedals. I think it may almost be laid down as a principle that the various *piano* compositions should lie together. No player is, I believe, quite above the possibility of making a mistake in the composition pedal he touches; and where there are many such pedals they must all lie rather close together. The risk of putting down any *ff* pedal when *piano* is meant seems to me a thing to be avoided. I have placed the *piano* for the pedal organ and couplers about the middle, and the *piano* for great and swell on both sides of it, the *ff*'s being at the two ends. I should say that, as I am accustomed to play on a small organ, I have not formed any decided habits in any of these respects, and I seem to myself to look on the various schemes with an unprejudiced eye.

If I have seemed presumptuous in expressing my opinions so freely, I beg pardon. My object is to elicit the views of those better qualified to judge than myself.

DISCUSSION.

The CHAIRMAN having invited discussion—

The SECRETARY said: It appears to me that Mr. Bosanquet attaches an undue amount of importance to the position of those stops that are controlled by composition pedals. For my own part I regard composition pedals really as necessary evils. They are terribly convenient things, and induce a player to use just a few stereotyped forms of his organ, instead of using the instrument in its almost infinite variety, simply because certain stops can be conveniently shot out by composition work. Mr. Bosanquet rather deduces an argument from Mr. Hopkins's book than quotes it. I think it is not stated in plain words that the choir draw-stops should be on the left hand.

Mr. BOSANQUET.—Yes; Mr. Hopkins states quite clearly that he prefers the choir on the left.

The SECRETARY.—As against that I may state that I was a good deal concerned at the College of Organists in drawing up these Resolutions. We were much guided and influenced by Mr. Hopkins's experience, and he generally concurred in the Resolutions. I believe we are all very much in the position that has been described: that is, all of us who have an instrument cast in a certain form, if it is not easy of control, we are disgusted with it, and are always talking about its inconvenience, but we grow attached to the habit of finding our stops in certain positions. When the College of Organists first took action in this matter they were at great pains to ascertain the most common and familiar arrangement, and generally—if no principle to the contrary was involved—they recommended those arrangements which were most common and usual. One chief object was that players in going from instrument to instrument should not continually find themselves adrift. With regard to the new method of controlling the swell, I am not sure that anybody trying it for the first time would be able to judge impartially of it. For myself, when I was strapped in, I felt in a very helpless condition, and I could not but remark that even an experienced player—for Mr. Bosanquet will allow me to say that he played the organ as though he had considerable experience—made a great many involuntary actions of expression; for instance, when he had to turn over there was a *crescendo*, and at sundry other places a *crescendo* came when it was not wanted. At the same time I am quite sure it is not a matter to be judged too hastily from such accidents as these.

The Rev. J. HELMORE.—May I be allowed to ask Mr. Bosanquet whether it would be practicable to make the swell to open by pressing backwards instead of forwards?

Mr. BOSANQUET.—Yes, in fact I got the idea of the back swell—the very one which I am speaking of—from one made by Mr. Cooper, which was in St. Sepulchre's some years ago. It was an arrangement in which you leaned back to open the swell. But, as the swell is always the top row of keys, and you have to stretch out your arms to reach them, you cannot under any circumstances lean back when you want to play with any power. Mr. Cooper, as I am given to understand, used this arrangement solely for the purpose of obtaining a full *crescendo* climax on the great organ when he had the swell coupled to it; it was not intended for action on the swell by itself. It occurred to me that the natural position to obtain emphasis was leaning forward; when you press a considerable number of keys down it is more natural to lean forward than to throw yourself back at the same time; for instance, if you watch any player—I do not care how quiet

he may be—if he has a lot of very full chords to play, he will lean forward in putting them all down, so that the accent is obtained by a very natural and almost automatic process in that case. The only difficulty was in connecting the forward motion with the action on the swell. I imagined a lot of difficult and roundabout ways of doing it in the first instance; and this strap, which I think was suggested by Messrs. Gray and Davison, proved the simplest outcome of it altogether. You fasten it in a moment with the buckle, or you might fasten it more easily than by a buckle if you think fit. It may be buckled as tightly or loosely as you like. I do not think if it were pretty loosely buckled it would cause those effects to which Mr. Higgs alluded, and I confess I do not think there was very much of that. I think, considering one's natural want of experience with the arrangement, that it was wonderful to have so little of that. No doubt everything of this kind must have these defects. The swell pedal unquestionably has its defects, and the only way in which those difficulties are so well got over is by the long constant practice that excellent players have had with it. I think if they were to give anything like the same constant practice to this new arrangement they would soon find it a very effective thing indeed. You might unbuckle the strap swell when you want, and you can use the swell pedal quite independently of the strap.

MR. SOMERS CLARKE, jun.—I have not had the pleasure of seeing the organ Mr. Bosanquet speaks of, but I should be obliged if he would explain to me how the strap was applied. It strikes me, in the case of country organists—one very often sits under very curious performances in the country—and I cannot help thinking that if the performer were strapped in, that with every movement from one side to the other, for pulling out the stops and so on, the result would be very alarming. Would it be easy for the player to get in and out? because very often you see that the player moves backwards and forwards from the instrument; he does not wish to sit on the stool longer than is necessary.

MR. BOSANQUET.—I fastened an ordinary strap to the back of the seat, which turned on hinges; at first it was rather heavy, but I got them to lighten it, and eventually it moved very freely indeed. There are a couple of holes, I think, about the height of my shoulder; from this I pass the strap under my arms, and just buckle it. Most people can fasten a buckle very readily. It takes me about four to five seconds, but it would be easy to make a simpler fastening still.

MR. SOMERS CLARKE, jun.—Have you tried it with a surplice on?

MR. BOSANQUET.—No, but I do not think there would be any difficulty about that. I have used it sometimes passing

over the shoulder. I will explain another modification of the affair that I had completed quite roughly on our organ at St. John's College. It was fitted by a country builder, and in some ways I think the arrangement is very good. [Mr. Bosanquet drew a sketch illustrating the arrangement.] There was an arm fastened to the floor behind the seat, which carried an upright lever; from the top of that a strap passed through a couple of holes and passed round the performer. This is more easily done than in the arrangement of the organ by Messrs. Gray and Davison. In the organ by Messrs. Gray and Davison the seat was necessarily fastened down; * the adjustment of the movable back at the bottom did not admit of being disturbed, but the other is more simple to make, and it has the great convenience that it does not involve the fixing of the seat. But the great difficulty is in getting the mechanism to act lightly enough. It is essential that it should be comfortable that it should be very light indeed. I have been able to get this machine to act with sufficient lightness to be quite comfortable; but the one of Messrs. Gray and Davison was very light. It is possible in playing a delicate passage to give a decided accent on any particular note, almost on any part of the note; to play suspended notes where you want to give a slight accent at the beginning of the bar; it was possible to give an accent in the most perfect way, with hardly any movement at all. Anybody knows how easy it is to give considerable effect by slight accents delivered in that way, but ordinarily it has been quite impossible to do that whilst playing a pedal part at the same time.

Dr. GLADSTONE.—It seems to me that the most serious objection is that it would be almost impossible during the course of the same piece to fix the swell pedal if the strap has once been used—say, for instance, if you wished it for a climax.

Mr. BOSANQUET.—There is no difficulty at all in that. You only put your foot on the pedal and fix it: the two things do not interfere with each other. It works backwards and forwards without doing anything when the swell pedal is fixed.

Professor MONK.—I suppose that some of us will remember that in one of the organs exhibited at the 1862 Exhibition the movement of the swell and the motion of the Venetian front was controlled by the mouth of the player by such a mouth-piece as that of the clarinet, for instance. Of course there the pneumatic apparatus was present in the whole instrument, and the moment a slight impetus was given by the mouth of the player various examples of bellows power were brought into use, and themselves lifted the front. I think we have all

* This has since been found unnecessary.

of us felt how great a luxury it would be to be able to control the movement of the front of the swell without using the pedal, especially by the freedom which would be given to the two feet. Having ventured to say this, I will also venture to say a word or two on my own behalf, entirely unconnected with the observations of the present paper. Some little time ago I had an idea that it might possibly be an advantage if some little movement could be given to the seat itself. This is entirely, of course, a matter of experiment. I got a personal friend of mine, who is connected with some branches of the organ trade, to make me a seat which would revolve. It was capable of receiving from the performer just a slight impulse in a direction either to his right or to his left. The motion is, of course, and must needs be, of the slightest. It seems just this, that the seat following the effort of the player, goes towards his right for the high part of the board, or towards his left for the low part of the board, and goes with him to the slightest extent. As I have said, this is quite an experiment, but I have had it fitted, and find it answer very well.

Mr. BOSANQUET.—Does this affect the swell in any way?

Professor MONK.—Not in the slightest; I simply avail myself of the opportunity just to mention what is of itself too trifling a matter to be brought before the Association as a separate subject. I have one of these organ seats with me, and if any gentleman will be at all interested in seeing it I shall be very pleased to show it to him at the close of the meeting.

Dr. GLADSTONE.—May I ask one question with regard to fixing the swell pedal?—the only pedal I have had any experience of (of that kind) being one with more than one notch, which caught at one particular point in its descent, not at any other. That in the wretched instrument at the Bow and Bromley Institute not only stops when you do not wish it, but refuses to keep closed when you do. I do not know what is the cause; whether it is the vibration of the bellows, or what it may be, but something certainly causes this swell pedal to open of its own accord. It seems to me that the old-fashioned principle is the safest, but I should like to know a little more about the one mentioned.

Mr. BOSANQUET.—This is not my contrivance at all. Messrs. Gray and Davison are responsible for it. I do not say that on the whole I should advocate it very strongly, or that I attach very great importance to it, but certainly it answered its purpose as far as I could see entirely. The principle of it is this: that about two inches from the end of the pedal is put a button rest, which is connected with a catch, which works in a rack. When you touch this button the pedal is released from the rack, and so long as you keep your foot on it the pedal is free to move, but as soon as you take your foot off

the button, the pedal sticks in the rack. The only difficulty I have found is to get the pedal to close exactly. There is some force requisite to depress the button. Under these circumstances it seemed to me if one was not very careful the button would rise before the pedal had entirely completed its upward course, and become hitched before it had reached the top. But I think that is to be got over if you cut away the top tooth. It is not adopted for the first time in my organ; I believe it has been in use for some other instruments made by that firm, and has given satisfaction. At all events there it is, and it undoubtedly effects the purpose when you get accustomed to it; but, like other things, it needs a little practice. Sometimes the person puts his toe on the end of the pedal, and tries to force it open without touching the button; and it will allow of that being done, but you cannot force it up again. I think, with a very little attention, you would be able to use it with more convenience. I only use it when I want to keep the pedal down for a considerable time.

MR. STEPHENS.—It appears to me the process is not quite complete, because it does not enable you to fix the pedal exactly where you wish it. The rack must be fitted with notches after all, and you are at all events at the mercy of the notches. I think the great desideratum is to be able to fix the pedal exactly where you desire it. There is a certain amount of quality obtained by coupling the swell reeds to the great organ, and you cannot arrive exactly at what you wish unless you can fix the pedal where you desire. It appears to me a very desirable thing to be able to do so, but it appears as if the invention has yet to be made which would enable you to accomplish so desirable an end. With regard to the mode of using the swell of Mr. Bosanquet, I have not had practical experience, and I fear I should find it very awkward at first, and that I should be giving my listeners the idea that I was very much troubled with spasms, and, to use an organist's language, we should certainly have involuntary *crescendos*.

MR. BOSANQUET.—Perhaps Mr. Stephens is not acquainted with the modern balance swell pedal, which does attain the object he speaks of. You work the pedal by the toe and the heel, and the shutters of the swell are placed vertically instead of horizontally.

DR. GLADSTONE.—That is like the one at the Bow and Bromley Institute: you cannot close it quickly if you wish, and it will not remain closed when you have closed it.

THE CHAIRMAN.—I think, ladies and gentlemen, this subject has now perhaps had your full attention. Another paper of great interest is waiting for your audition, but before proceeding with that I think we must give our thanks to Mr. Bosanquet, and also to Professor Monk, for the opportunity he has given us of inspecting his new invention.

The SECRETARY.—With the Chairman's permission, I should like to say one thing in relation to Mr. Monk's kind offer to exhibit his new organ seat. It will be in the memory of those present at the general meeting last week that the Council called attention to a little incident that happened about this time last year, when Dr. Stainer brought down some curious MS. horn music, which excited a good deal of interest. The Council think the Musical Association might be made very useful if those members who have portable curiosities of any kind, such as books or instruments, would kindly bring them for exhibition. If any one will communicate with me I shall be glad to announce their intention to exhibit anything curious at any of our meetings.
