

N 52p

A PRIMER OF ORGAN
REGISTRATION

—
GORDON BALCH NEVIN



786.7 N52p cop 1

Keep Your Card in This Pocket

Books will be issued only on presentation of proper library cards.

Unless labeled otherwise, books may be retained for two weeks. Borrowers finding books marked, defaced or mutilated are expected to report same at library desk; otherwise the last borrower will be held responsible for all imperfections discovered.

The card holder is responsible for all books drawn on this card.

Penalty for over-due books 2c a day plus cost of notices.

Lost cards and change of residence must be reported promptly.



Public Library
Kansas City, Mo.

182



JUN 24 '58

FEB 2 '80 01

JAN 11 '58 34

NOV 12 '71

FEB 27 '76

MAY 19 '77

JAN 15 '77

MAY 22 '77

JUN 1 '77

JUL 1 '77

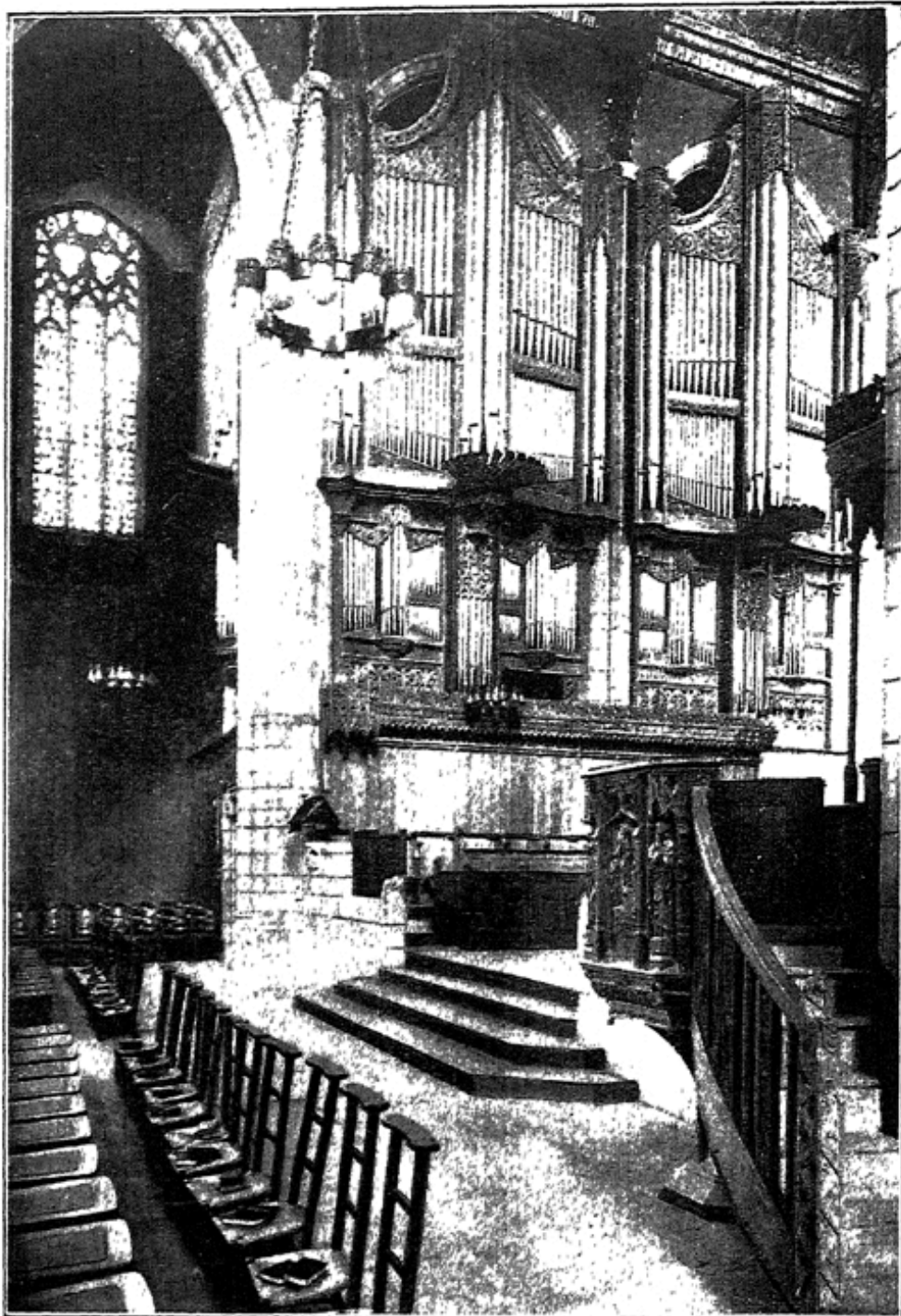
AUG 2 '68

JAN 9 '80 90

AUG 19 50 11

MAY SEP 3 1980

A PRIMER OF ORGAN REGISTRATION



CHAPEL OF THE INTERCESSION, NEW YORK
(Austin Organ Co., Hartford)

A PRIMER OF ORGAN REGISTRATION

BY

GORDON BALCH NEVIN

WITH

NUMEROUS ILLUSTRATIONS AND A
DICTIONARY OF ORGAN STOPS



1.75

OLIVER DITSON COMPANY

THEODORE PRESSER CO., DISTRIBUTORS

1712 CHESTNUT STREET

• PHILADELPHIA •

Printed in U. S. A.

Copyright MCMXX
BY OLIVER DITSON COMPANY
International Copyright Secured

CONTENTS

PREFACE	I
A BRIEF SURVEY OF THE SUBJECT	III
CHAPTER I—First Steps in Registration	1
CHAPTER II—Tone Classification and Pitch	10
CHAPTER III—Registration of Exercises in Duet and Trio Form	17
CHAPTER IV—Mass Registration; Tone Families	21
CHAPTER V—Two-color and Solo Effects	31
CHAPTER VI—The Use of Couplers	38
CHAPTER VII—Choir, Solo Voice and Hymn Accompanying	47
CHAPTER VIII—Some Practical Suggestions	55
CHAPTER IX—The Crescendo Pedal	65
CHAPTER X—A Glance at Organ Construction	69
CHAPTER XI—The Combination Pistons	83
CHAPTER XII—Dictionary of Organ Stops	91

5228803

LIST OF ILLUSTRATIONS

<i>ORGAN FRONTS</i>	Page
CHAPEL OF THE INTERCESSION, New York	Frontispiece
EMMANUEL CHURCH, BOSTON	10
FIRST BAPTIST CHURCH, Pittsburgh	17
FIRST CHURCH OF CHRIST, SCIENTIST, THE, Boston	21
ST. THOMAS' CHURCH, New York	31
OLIVER HOLDEN'S ORGAN, <i>circa</i> 1790, Boston	69
GREAT ORGAN IN MUSIC HALL, 1863, Boston	73

<i>ORGAN CONSOLES</i>	
CONSOLE with stops arranged in tiers	38
CONSOLE with stops arranged in jambs at 45°	47
CONSOLE with inclined manuals and stop-keys	55
CONSOLE with stops operated by tilting tablets	65
REMOTE CONTROL COMBINATION ACTION	83

<i>FIGURES AND DIAGRAMS</i>	
ACTION, adjustable combination stop	78
ACTION, electro-pneumatic	76
ACTION, tracker	71
ACTION, tubular-pneumatic	74
BELLOWS AND FEEDERS	70
CONSOLE, inefficient and efficient movements at the	61
COUPLERS, four types of control of	6
COUPLERS, analogy of electric light switches to	39
PIPES, Clarabella, Clarinet, Diapason, Gedeckt and Gems- horn	94
PIPES, Doppel Floete, section of	81
PIPES, Oboe, Salicional, Trumpet and Vox Humana	99
PIPES, various forms of	12
PIPES, Viol, section of small scale	81
REGISTRATION POSSIBILITIES for duets with an organ of six manual-stops	18
RELATIONSHIP of clavier and organ proper	2
SWELL-BOX, closed	80
SWELL-BOX, partly open	80

PREFACE

In preparing this *Primer of Organ Registration* for the use of teachers and pupils, the author has been led in his work by the realization of two important facts: *first*, that the potential organist is greatly in need of help in grasping the principles of registration; *second*, that it is an utter physical impossibility to formulate *rules* which will be operative in enough cases to justify their own existence!

The first point is enlarged upon in the *Brief Survey* with which this work begins. A word on the second point may not be inappropriate.

The organ of today, wonderful instrument that it is, presents to the careful investigator a range of variability in design, equipment and tonal scope which is without even a remote parallel in other musical instruments. Not only do the voicing practices of various builders offer the widest dissimilarities but the various instruments of any one builder will abundantly show that anything approaching *standardization* is a dream for the future.

It is this very element of dissimilarity that faces him who would write a text-book on Organ Registration; he is dealing with a varying number of *quantities*—each and every one of which is *variable*. In this respect the problem is vastly more difficult than would be, for instance, the writing of a text-book on Orchestration. The Symphony Orchestra has become a reasonably well standardized aggregation of units; its size does not vary greatly (barring a few “tone-poem” productions emanating principally from Germanic sources) and its com-

PREFACE

ponent units vary tonally only to the extent to which the human factor enters. Roughly speaking, the tonal factors may be said to be constant.

With the organ there are virtually no such things as constant factors; every organ presents new inter-relationships between the various units (stops) and it is folly supreme to attempt to reduce these irreconcilable factors to a system. *Until the organ becomes standardized to a reasonable extent the complete text-book on registration will be an anachronism.*

The author has therefore refrained from advocating definite combinations of stops for selected compositions, being well aware that such directions would have value only in occasional circumstances.

Instead, the work has been developed along the modern principles of self-teaching, and aims, first and foremost, to awaken the dormant faculties of self-criticism in the potential organist and thus cause him to *desire* better effects and to search after them. The principles of quantitative investigating having stood several of our greatest inventors in good stead, it seems not improbable that a similar course may be constructive in the art under discussion.

August 1, 1919

THE AUTHOR

A BRIEF SURVEY OF THE SUBJECT

The art of *registration*—that branch of organ technic pertaining to the use of the stops, couplers and accessories of the modern organ—is a subject of great importance in the development of fine organ playing, and must, indeed, be simultaneously pursued along with the usual mechanical practice if the desired perfection is to be finally achieved. Nevertheless, most teachers will freely admit that they find it a physical impossibility to include in the already over-crowded lesson period any *comprehensive* instruction in this branch of the art—for the simple reason that every available moment is required to cover with reasonable thoroughness the purely mechanical processes.

Organ students as a class, moreover, are peculiarly and noticeably ambitious to attain the material evidences of success—church positions and the emoluments attending such positions, and so are prone to desire a quick and early digital and pedal dexterity with which to impress the proletariat; granted such desire it cannot cause surprise that a branch of the art so esthetic in its nature often languishes in partial or even greater neglect.

As all teachers know and realize, to thus neglect this part of organ study is a great error—regrettable in the extreme, but the majority of teachers are honestly unable to see their way clear to remedy the matter, and so it is postponed—temporarily “shelved”—“until the technic has developed more,” with the inevitable result that faulty, stereotyped methods are acquired; this must be the expected result unless from the very first the student’s mind is directed to new paths of endeavor.

To wilfully neglect the study of registration is as absurd as would be the course of one studying to become an orchestral conductor who would content himself with a knowledge of the compass of the various instruments, together with the purely metronomic phases of his art—time, rhythm, accent, etc., and were to disregard the elements of tone, *timbre*, relative strength and blending properties of the tones which he would utilize. It would seem ridiculous for an embryo conductor to so pursue his study, but not a bit more so than for the organ student to follow a course which parallels it in all its unfortunate elements. Each is a worker in tones—a *tonal artist*, and each must be possessor of well trained, keen perception, nice discrimination, and well ordered imagination, schooled to select and blend with exquisite taste.

This book has been undertaken with a full knowledge of the existence of these conditions and a desire to furnish some aid to busy and earnest teachers and pupils; no attempt has been made to exhaust the possibilities of the subject, for such a course would have defeated the aim of the book, *viz:* to be a compact and brief but easily understood aid—pointing the way to a systematic progress in the study of the art. The work has been cast in such form as to be progressive along with the work mapped-out by the teacher; *from the very first lesson* the student is aided in comprehending what always appears to be a maze of stops and accessories.

The *Dictionary of Stops*, with which the work concludes, has been made “inter-locking,” so to speak, in as far as was possible, and presents a refuge to the bewildered pupil who—unable to find a desired stop needed in some composition—helplessly asks: “What stop shall I use instead?” Presenting with each stop treated a list of possible substitutes which may be used, the pupil is enabled not only to proceed with his practice uninterrupted, but by frequent turning to the dictionary, he acquires a working knowledge of the names of stops,

and—more important—by using the substitutes suggested gains some idea of the tone of the stop wished for *by the use of the nearest substitute for it*, thus becoming in a measure prepared in advance as to the quality of tone which may be expected in the desired stop itself; this is a very elementary principle, but a well-tested one.

Nothing is advocated herein which has not been well tried in the furnace of practical teaching experience; much of the work is the outgrowth of ideas which have originated during actual teaching, and the other ideas—those formulated away from the studio—have first been well and thoroughly tested before being set down here. It is the author's hope that the book may be of aid to his colleagues, and of help to the army of students—the earnest pupils who make teaching worth while.

A PRIMER OF ORGAN REGISTRATION

CHAPTER I

FIRST STEPS IN REGISTRATION

You have had your first lesson in organ playing; very likely it was taken at the instrument over which your teacher presides, and the problem now before you is to begin work on the instrument on which your practising will be done.

Among other things your teacher has doubtless explained to you that the keyboards on which the hands perform are correctly termed *Manuals*, you should immediately commence using the correct terms when speaking of the different parts of the organ, and so should always refer—when speaking of the actual *claviers*—to the Swell *Manual*, the Great *Manual*, as the case may be, thus differentiating the clavier from the portion of the organ which it controls.

You have doubtless expressed curiosity as to the reason for the multiplicity of these manuals (from two to four being commonly found, and occasionally even five) and have been told that the varying number of manuals is made necessary by the great elasticity in size of the organ, and that the increase of size so prevalent to-day has made imperative more keyboards for the easy and *facile* handling of these monsters. Authorities differ as to the exact number of stops which should be apportioned to a particular section of the organ, but it is pretty generally accepted that two manuals are sufficient

for an organ of about twenty-five stops, and that a larger number of stops would best be distributed upon three manuals; similarly that above forty or forty-five stops it is well to provide four manuals for the convenience of the player. Rapid changes of tone-color or

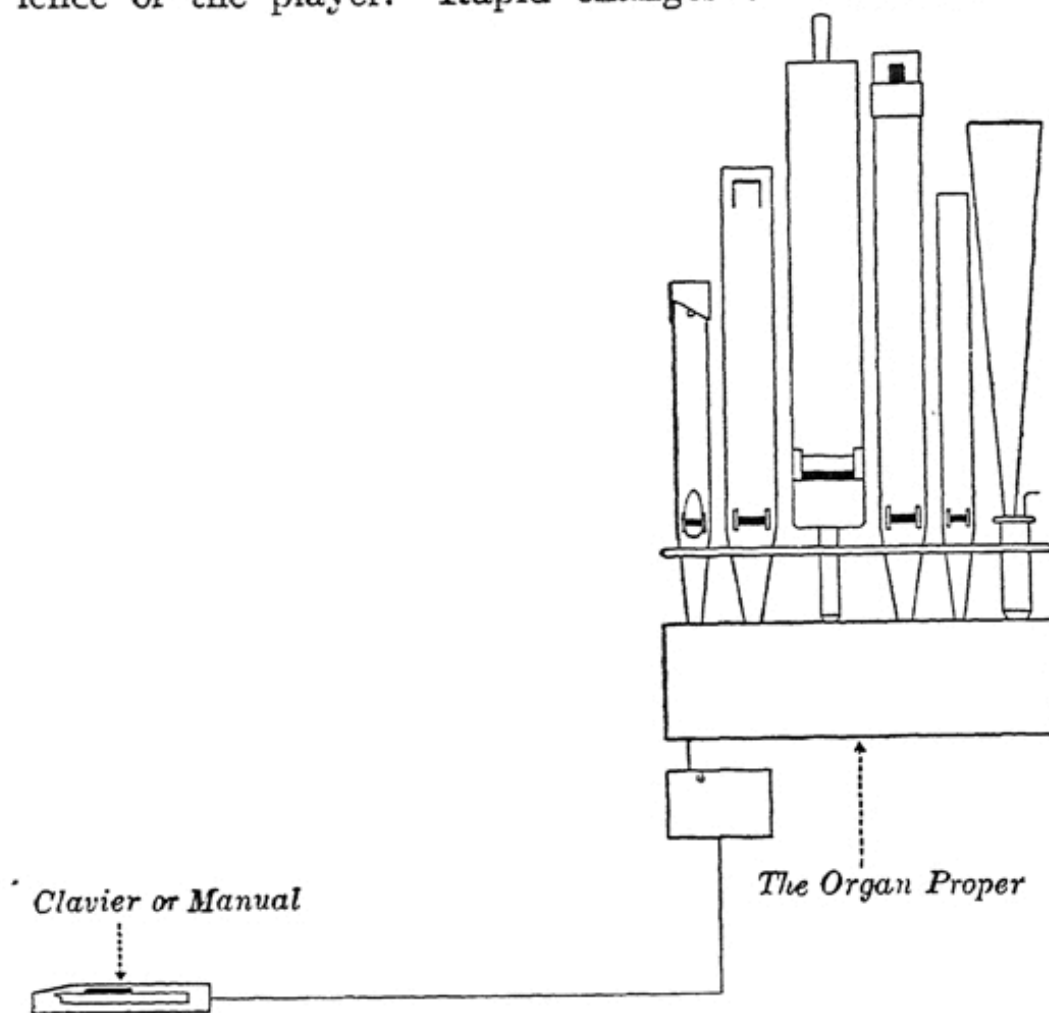


FIG. 1. RELATIONSHIP OF CLAVIER AND ORGAN PROPER

power, the necessity for quick and easy access to "solo stops," these and similar considerations account for the varying number of manuals found in organs today.

As a step in comprehending the organ as a whole, the author would advise that you persuade your teacher or some organ expert to show you the internal mechanism of an organ and explain the general operation of the same; the organ of today is such a vast and bewildering

piece of mechanism, the operation of the action is now so silent and unobtrusive, and the whole construction so mystifying to the uninitiated that a visit to the internal departments cannot help but be enlightening—particularly if the operation is explained step by step by an expert. In this way you will gain some understanding of the results following upon varying processes at the console, and at the same time a wholesome respect for the minds that fabricate such marvelous pieces of mechanism and no less a respect for those who cause it to speak forth its inspiring harmonies; moreover you will be more inclined to handle it with the respect and care that it deserves. Do not, however, go exploring by yourself—lest it require the services of an expert to right matters after you are through!

Some book of progressive technical material, frequently but incorrectly called a “method,” has undoubtedly been designated for you to use in commencing your work—such an one most likely as *First Lessons on the Organ* by the author of this book, and you have been assigned a certain amount of work to prepare. Your next problem is to discover “what stops to use” in beginning your work, and with that problem will begin your initiation into the mysteries of registration.

Here at the very start we will diverge from the usual cut-and-dried formulæ, and show you how by use of simple common-sense principles you will be able to quickly grasp the essence of the matter, and at the same time begin without loss of time upon your technical work—gaining familiarity with the different stops as you go along.

Seat yourself at the console of the organ at which your studying will be done and turn to your book of exercises; the first thing you will take up will undoubtedly be the rudiments of pedal technic. In *First Lessons on the Organ*, these exercises are found be-

ginning on page 19 and continuing to page 28; now how will you proceed? A moment ago we spoke of the varying number of manuals provided for the control of the organ; each of these manuals is provided with its own set of stops for the controlling of the section of the organ to which it appertains; this being the case, and with the point firmly in mind that *the organ as a whole is composed of a varying number of smaller organs—each complete in itself*, though inter-related, would it not be reasonable to suppose that there would be stops provided *controlling that portion of the organ appertaining to the pedal clavier?* This, in fact, is exactly what you *will* find to be the case, and so we will direct you to look over the stops carefully and see if you cannot find some of them with the abbreviation *Ped.* inscribed on them, or perhaps a group of stops with no such inscription, but grouped under one common name-plate with the word *Pedal* thereon. There may be but a few stops so designated,—indeed on the very smallest organs there may be but one such stop! But do not let that alarm you; the problem is not one of resources but rather of utilization of resources.

Having located the Pedal Stops now search for a stop labeled *Bourdon—16'* or *Subbass—16 ft.* Having found the stop, draw it and then try out the quality of the tone by playing a few notes in different portions of the pedal-board, listening to the quality of the tone, taking note of the amount of volume, and striving to *fix in the memory* a picture of *the tone* of the stop.

If there be other pedal stops, draw them in *rotation*, testing them out in the same way in all parts of the pedal-board, and comparing each stop with its neighbors; do this several times over, and while doing it strive to associate the name of the stop with the quality of tone produced when it is drawn, and *vice versa*.

You will discover that a majority of the stops, perhaps

even all of them, are of 16 ft. pitch — so marked; in the next chapter we shall go into matters of pitch a little more carefully, but at present it will be sufficient if you take careful cognizance of the fact that these stops are (particularly in the lower octave) of a very deep tone—somewhat hard to recognize accurately as to pitch, and it may occur to you that there must be some way of *adding* to these stops other stops of more easily recognizable pitch. Your glance falls on the manuals and you think of the bright, clear tones which you have heard issue from those parts of the organ, and you wonder if there is not some way of combining or *coupling* these higher pitches with the grave tones of the pedal organ. And in that one word *Couple* you have the key to the situation; a *coupler* is what is needed to achieve the desired end. Look over the console for a *coupler*; it may be in the form of a stop, a stop-key, a domino-tablet, or a piston (see Fig. 2) with the inscription: *Sw. to Ped.* (Swell to Pedal)

You have it? If it is a stop, draw it; if a stop-key, press it down; if a domino-tablet, press in at the bottom; if a piston—there will be an *on* and an *off* piston—press the *on* piston. You have now effected a mechanical connection which will permit you to play from the pedal-clavier, or *pedal-board* as it is generally called, that section or unit of the organ primarily commanded by the Swell manual. It now remains but to draw a suitable stop or stops from the Swell organ (with which your connection is made) to furnish the brightening effect, and you are ready to proceed with your practice of the pedal exercises.

However, delay for a moment your work on these studies, and devote a brief space of time to familiarizing yourself with the stops of the *Swell* section—in *just the same way as you did with the Pedal stops* a moment ago. Proceed in the same manner; first locate the stops, either under a common name-plate, or each with the

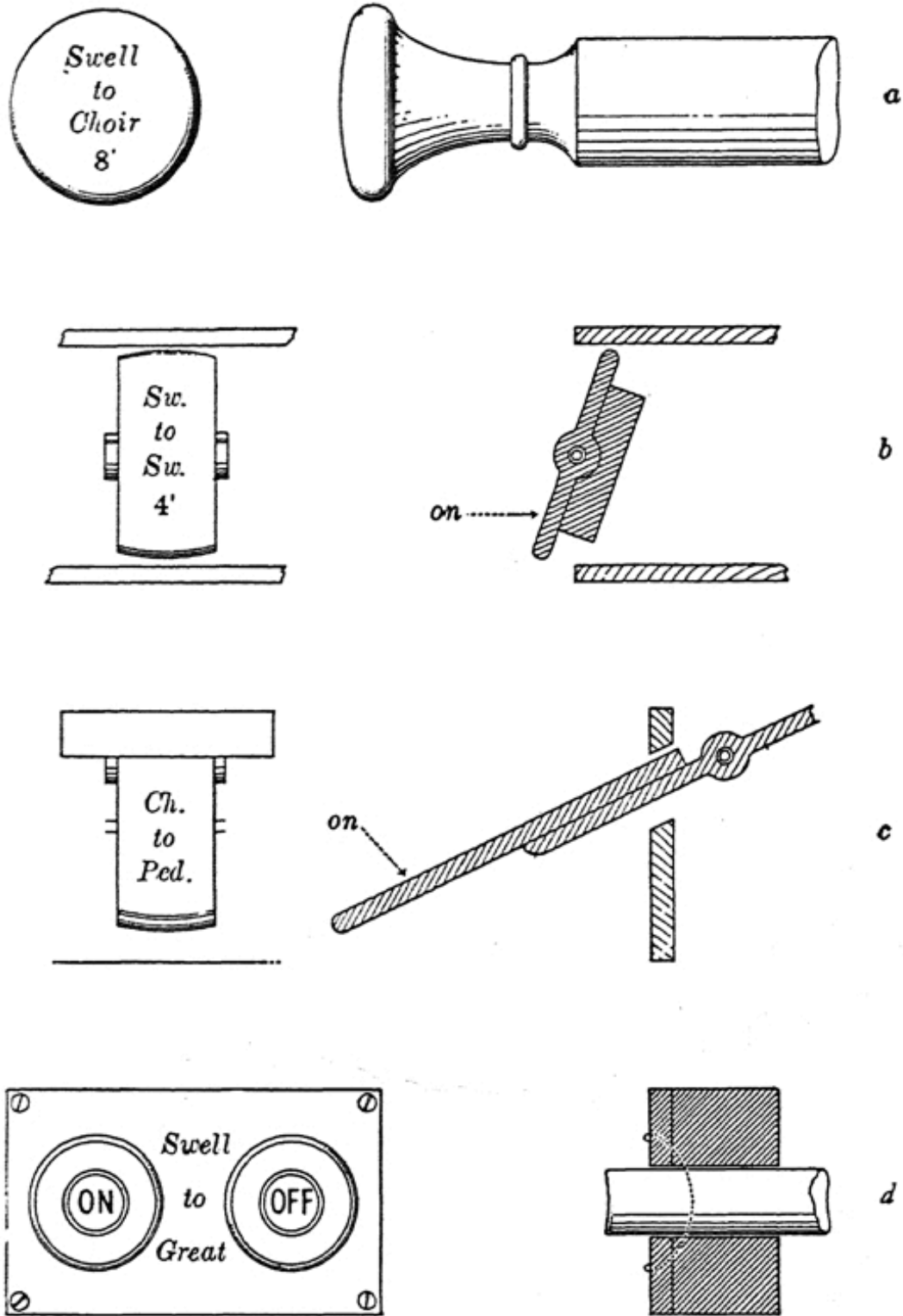


FIG. 2. THE FOUR TYPES OF COUPLER CONTROL
 a, Stop; b, Tablet; c, Stop-Key; d, Piston

common abbreviation *Sw.* engraved upon it. Then, having located the stops, submit them to a thorough testing out, holding a common chord in the middle portion of the clavier (See Fig. 3) and drawing the stops in rotation, holding each a moment and *striving to associate the tone which you hear with the name on the stop.* Go over these stops several times in the same manner as you did with the Pedal stops, concentrating your mind on the perception of the *qualities* of tone you hear. *Do not slight this apparently simple process:* few realize how long is the time necessary to train the ear to *hear* and the mind to *recognize*.



FIG. 3

You are now ready to proceed with the pedal exercises; you have drawn the *Pedal Bourdon 16 ft.*, added the *Sw. to Ped.* coupler, and you will now add *one* of the Swell stops,—which one being not so important as that it be of *bright, clear tone*,—such an one as the $\frac{1}{4}$ ft. *Flute* (*Harmonic* form generally found on the Swell) and proceed with your exercises as directed by your teacher. Go through your entire assignment of pedal exercises with this registration.

But when you are ready to again start through the exercises most certainly *select some other stop from the Swell stops*, such as the *Salicional 8 ft.*, or the *Oboe 8 ft.*, and again go through the entire assignment. And so on: the next time changing to some other stop, the *Open Diapason 8 ft.*, the *Flageolet 2 ft.*, etc., etc. The particular stop used is not the important matter; it is the constant changing (at widely spaced intervals, at first, it is true) of the stops that is important. By so doing you will begin to study *tones* as well as mechanics *from the very start*, and will thus make doubly good use of your time. This seems a point of childish simplicity on which to dilate, but the fact of the matter is that during these early hours of practice the seeds of slovenly, careless registration are all too often sown; the pupil draws some-

thing which will make an audible noise—and with that one combination is content to let the matter of registration rest. How much better is a plan, simple it is true, which takes for its prime principle that of seeking variety from the very start! And this is what we are urging upon you.

And now let us carry the idea to its logical conclusion: on the second day of your practice begin changing the stops a little more frequently—let us say in the middle of the assignment as well as at the end of each repetition. The next day, increase the frequency a little more until, at the end of a week, you are changing stops with each exercise.

Having done this, transfer your attention to another manual, using next the *Great*; with this transference of attention, your need of the *Swell to Pedal* coupler will temporarily vanish, but a similar need for a coupler rendering available the *Great* stops on the *Pedal Clavier* will arise, and you will of course find the *Gt. to Ped.* coupler and bring it into play, silencing at the same time the *Sw. to Ped.* coupler which you have been using. Proceed with the *Great* stops in the same way, and do not be in too much of a hurry with it! Stick to single stops for the present; it will be less confusing, you will gain a better knowledge of their individualities, and you will have ample opportunity for experimentation with them in combinations at a later time. Pursue this method with reasonable thoroughness and you will soon notice that your hand seeks the stops with a degree of facility and that you are beginning to know what to expect when you draw any given stop; this is an indication that without undue effort on your part you are absorbing the rudiments of tone-color—a knowledge that you can acquire in no other way than by some system that has as its basis repetition and comparison, and which is made available for you in this very easy form.

In connection with this work you may be given exercises leading to the formation of a correct manual touch; in *First Lessons on the Organ*, this matter comprises pages 1 to 17 inc. With these, too, proceed in a similar manner, using *single* stops, changing them frequently and concentrating your attention on *hearing* what the tones really sound like. A word of caution: avoid for the present stops of 16 ft. pitch, also *Mixture* stops (3-rank *Cornet*, 4-rank *Mixture*, etc.) and very powerful stops of the *Trumpet* and *Tuba* type; this caution is given because these stops are not suitable for protracted use in such exercises as you are using at this early stage. It is also well to avoid stops of 2 ft. and 2 and 2-3rds ft. pitch for use in these exercises, their pitch being so high.

In the next chapter matters of pitch will be taken up, but for some little time you should confine yourself to a thorough working-out and study of the prime stops as suggested above; this work requires several weeks at least, and should not be slighted. The study of prime tones is the rock foundation of a sure technic of registration; its value cannot be over-estimated.

CHAPTER II

TONE CLASSIFICATION AND PITCH

During the investigations outlined in the first chapter you have discovered that the stops command tones of varying quality, volume and pitch; we shall in this chapter show you how the apparently numberless characteristics of the stops may be very easily reduced to groups and classified with ease.

Let us first consider the question of pitch. As we noted in the preceding chapter, there are to be found on the stop-knobs numerals denoting the pitch-length of the respective stops, viz.: 16 ft., 8 ft., 4 ft., and 2 ft., together with these other designations: 3 rank, 4 rank, etc. The former relate to the pitch-length of the stop in question, the latter to the number of ranks of pipes present in the particular stop under consideration.

In the first class mentioned in the preceding paragraph, the numerals indicate the theoretical (and rather arbitrary) measurement of the tone-length of the pipe producing the lowest note of the particular stop (*CC* on the manuals and *CCC* on the pedals). Note that this length is only expressed with approximate accuracy, and is not by any means a mathematical statement of the length; there are countless variations from the denoted length due to different methods of construction in the different pipes, and also the employment of various wind-pressures and styles of voicing. These all have their effect on the exact length of the tone-wave, but as we are considering these matters from a viewpoint in which questions of physics and science have little place it will be sufficient for you to remember that the figures denote



EMMANUEL CHURCH, BOSTON
Organ in West Gallery

the *approximate tone-length of the lowest pipe in the particular stop under consideration.*

With regard to the second class of nomenclature referred to above, a word of explanation is advisable. In the earlier days of organ building it was discovered that an organ composed entirely of stops of normal (8 ft.) pitch was incapable of producing effects of any degree of brilliancy; this, as is now known, was the result of the very low wind pressures employed—which wind pressures made it impossible to develop from the pipes then in use an adequate degree of harmonic brilliancy. The tones achieved were sweet, mellow and pleasing most assuredly, but a full organ composed of them was dull and lacked “fire” and incisiveness; to remedy this condition was adopted the expedient of including stops speaking the octave above the normal pitch. This was found to be a great step forward and, very naturally, the plan was extended and stops of two octaves above normal pitch were included. From this start it naturally came about that the builders soon included stops speaking a twelfth (octave and fifth) above unison, and later other stops producing tones found necessary by the scientific analysis of the production of *tone-harmonics* generated (in a greater or lesser degree) by a prime tone and necessary to its usefulness. Prime tone devoid of any harmonic development (were such tone possible to produce) would be entirely useless, for it is the presence of these harmonics or overtones—in varying degrees in different tones—which gives the distinguishing characteristics to the tones. *Mixture* stops therefore were adopted as a means of supplying artificially certain of the harmonics needed to give character and brilliancy to the tone; but like most excellent things they were much abused and over-done, and are today looked upon with disfavor in many quarters. Nevertheless, they have their sphere of usefulness, and when well made and properly voiced they add much of richness to the tone of the organ.

This function of stops of other than unison (or below unison) pitch can be easily demonstrated by the pupil himself, and will greatly assist in clearing away a point of mystery which troubles many organ players as well as pupils; we will ask you to seat yourself at the organ and with your own ears as jury, test the case in this simple manner: draw all the stops of 8 ft. pitch on both the Swell and the Great, couple the Swell to the Great,

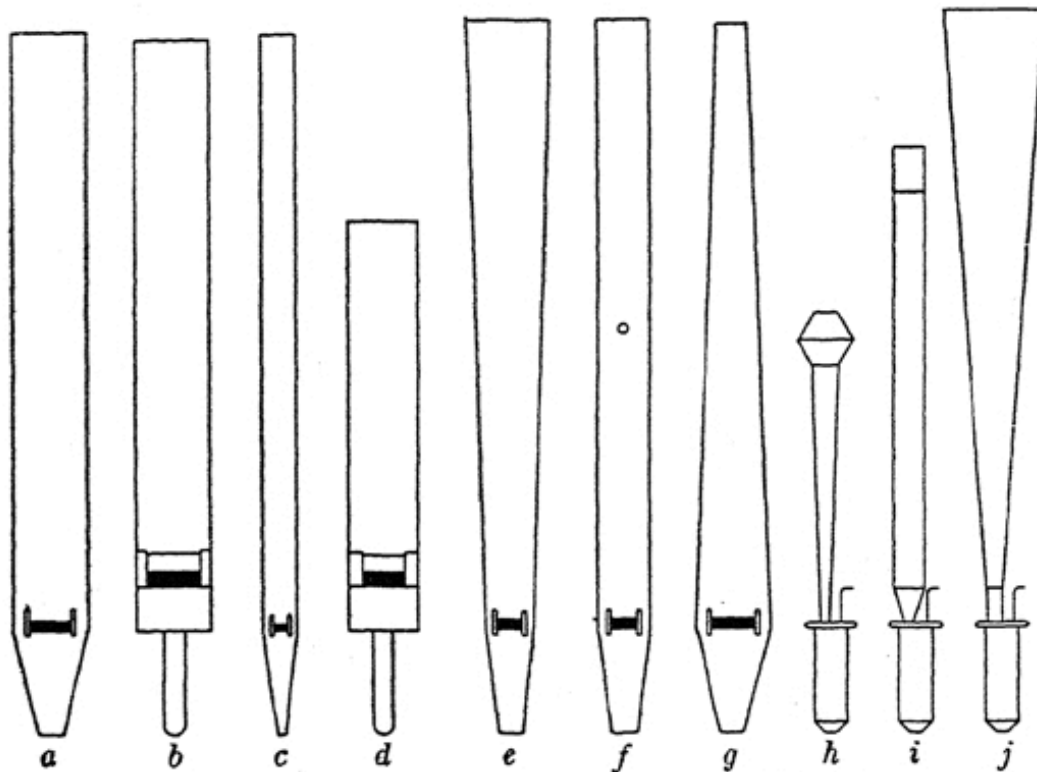


FIG. 4. VARIOUS FORMS OF ORGAN PIPES

a, Diapason; b, Clarabella; c, Viol; d, Gedeckt; e, Dolce; f, Harmonic Flute; g, Gemshorn; h, Cor Anglais; i, Clarinet; j, Trumpet.

and play through on the Great some simple hymn, chorale, or similar piece of music, listening carefully to the resulting effect. Immediately after this, add all the stops of 4 ft., 2 and 2/3rds ft., 2 ft., and Mixtures (*Cornet, Furniture, Sesquialtera*, etc.) if they be present, and again play through the same selection used a moment ago; do not your ears tell you why we have these stops of higher pitch in organs? Do you not see that

without these elements of clear pitch definition, so clarifying in their effect, the organ would be a monstrosity?

In like manner can be explained the presence of stops speaking an octave below unison pitch (16 ft. pitch for the manuals)—for these stops furnish the element of support necessary, particularly in organs of medium or larger size, to prevent a *top-heavy* or “screamy” effect. It is this fact which accounts for the inclusion in all large specifications of stops of 32 ft. pitch on the Pedal Organ—the grand, majestic, rolling effect of such stops being one of the prime features which have caused the organ to be called the “King of Instruments.” Especially in the happy balance of these two classes of stops is the hand of a Master Builder shown.

From these questions we pass on to consideration of tone qualities; here we have a complex matter, but one which may be denuded of many of its difficulties by gathering together for consideration the various stops and arranging them in four principal groups, or “tone-families.” Subdivisions of these groups would, from a technical standpoint, be desirable, but for this first step we will omit such division and will arbitrarily arrange the stops in the four main divisions into which they easily resolve themselves.

These divisions are:

1. Diapason, or organ foundation tone.
2. Flute tone, including *Gedeckt* tone.
3. String tone, including *Gamba* tone.
4. Reed tone, both *Clarinet* and *Trumpet* tone.

Continuing along the lines indicated in the first chapter, we will now ask you to seat yourself at the console, having provided yourself with a sheet of paper ruled with vertical lines dividing it into *four* columns; at the top of the sheet place in order the names of the tonal divisions as given above, and you are ready to begin your investigating.

The process will be simple and will reduce itself to an orderly working over or trying-out of the stops, drawing them—*one at a time*, playing a few notes or chords on each one, *listening* to each tone carefully and then trying to decide into which of the groups its peculiarities will entitle it to fall. We will suppose that you have drawn, for instance, the *Swell Open Diapason*; with this stop you will have not a bit of difficulty; with its name as a guide, and with its tone so characteristic of the organ, you will immediately assign it to column one.

Next we will suppose may come a *Flute* of 4 ft. pitch; the name of this, too, will guide you, and the tone—clear, liquid and vividly imitative of its orchestral prototype will serve to place this stop in its proper class without further consideration. Get these two stops firmly fixed in mind and make a mental note of their tone colors so that with the consideration of another stop of the same families there will be no doubt as to which is its kin.

And now for one not quite so easy! The *Oboe*; what family will this stop claim? Well, perhaps this can be best answered by comparison and gradual elimination; you are certain, of course, that it cannot belong to either the *Diapason* or the *Flute* family, for you have compared the *Oboe* with representatives of these two families. It must then belong to either the String or the Reed family; now which one presents the logical claim? Possibly a mental reference to the instruments of the orchestra may help at this point, for you must realize that the modern organ has many stops whose tone is patterned after orchestral prototypes and whose faithfulness of delineation is frequently little short of the incredible.

First think of the instruments of the string band: violin, viola, violoncello, double-bass; does it seem likely that this tone under consideration can be analogous to that of any of these instruments? Is there any “resin” in the tone, such as is common to all bowed instruments? Does not the tone suggest, by its name, of course, but

equally by its tone "acid-sweet and cloying" a kinship to the wood-wind band, and if so, will it not at once fall under the classification of *reed* instruments and, in our distribution, of *reed stops*? And this is, quite correctly, its place.

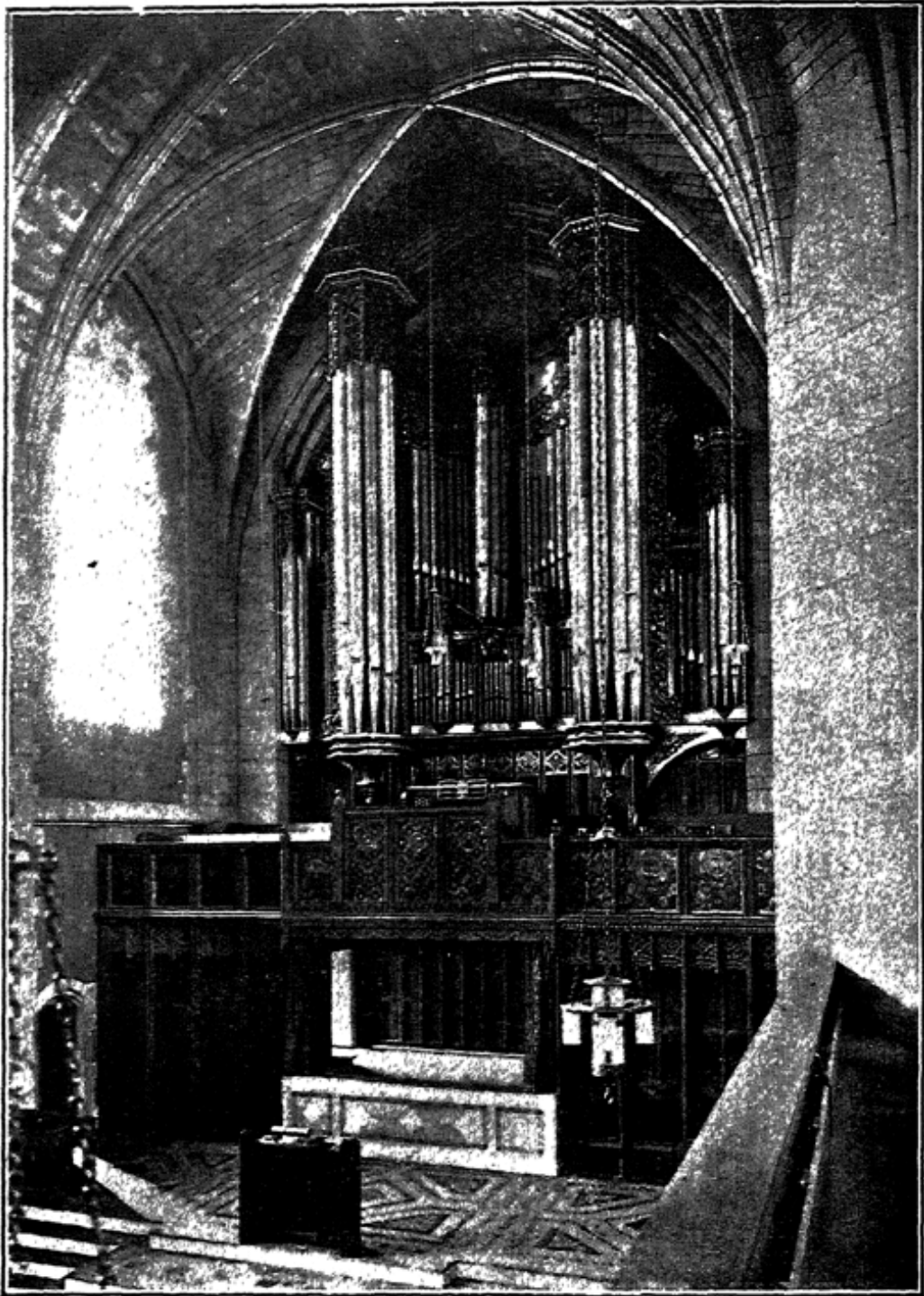
Finally will present itself some such stop as the *Salicional* or *Viol d'Orchestre*, and with it you will have come to the last of the divisions (the *third* column, however) and the family of stops which undertakes the imitation of the string band of the orchestra. It must be admitted, at the outset, that the exercise of not a little imagination is often needed to see the analogy between the string stops and their orchestral prototypes, but, as a rule, in at least some portion of their compass (most often in the lower octaves) a considerable likeness may be discerned, while in many modern examples the faithfulness of imitation is absolutely startling.

You now have found one specimen of each of the tone families indicated on your chart; proceed at once with all the remaining stops of your organ in the same manner using as tests those stops already assigned to their places and by comparison deciding upon the place of each of the other stops. A word of caution may be given: do not let the *name* of such a stop as the *Stopped Diapason* (truly a misnomer) deceive you; rather let its *quality of tone*—so very different from that of the real Diapason family—tell you in which class to place it. Decide by tone, rather than by name!

When you have run through the whole gamut of stops at your disposal, *then—and only then*—turn to the Dictionary of Stops in the back of this book, and compare your findings with the definitions of the stops there given, check up your errors and note where your judgment was wrong. Finally, at the organ, go over the table of stops, noting where the stops should correctly be placed and where your untrained ear led you astray.

As a commentary on this work and finally to fix the

correct grouping of the stops in your memory, go over at the console the families of stops of like tone, each list by itself, endeavoring to fix in the memory the stops of each tone division, and so to train the memory that the mere act of thinking of any stop name will at once call to mind the quality of tone commanded by that stop. Thus a reciprocal training will be achieved:—the mind to recognize and classify any tone heard, and the imagination to form a mental picture of the tone which will be heard when a given stop is drawn. This will not be accomplished in a day, but by firm concentration the time necessary will be reduced to the minimum and the desired mastery attained; in this respect all details of organ study are alike.



FIRST BAPTIST CHURCH, PITTSBURGH, PA.
(M. P. Möller, Hagerstown, Md.)

CHAPTER III

REGISTRATION OF EXERCISES IN DUET AND TRIO FORM

Having mastered the simple manual and pedal exercises discussed in the first two chapters you will be introduced next to duets or two-part exercises between the hands (alternately) and the pedals, as found in *First Lessons on the Organ*, pages 28 to 35 inclusive, the purpose of these being to cultivate independence of motion between the hands and feet. During the study of these exercises you will have opportunity further to progress in your acquaintance with tone colors.

In taking up these duets the method of procedure should be similar to that adopted for the work already done: first couple one of the manuals to the pedals, the Great—let us say; draw now on the Great some stop of medium strength of tone—such as the *Gamba*, *Melodia*, or *Second Diapason*. To this add a pedal stop of not too strong tone—the *Bourdon 16 ft.*, in all probability, and consider this as your fixed tone for the bass for a little while.

Now against this fixed bass, you are to select in rotation the various stops of medium strength tone of the Swell organ, as the tones for the other voice of the duet; first, the *Open Diapason*, then the *Salicional*, then the *Oboe*, etc., changing the stops with each exercise as at first. In this way you will absorb the elementary principles of blending and contrast—and in this the work is the logical expansion of that done in the preceding chapters.

Extend the principle to its fullest ramifications.

changing the combination selected for the bass voice of the duet, and again going through the exercises with the change of registration for the upper voice with each new exercise. Finally, try your hand at combining some of the soft 8 ft. and 4 ft. stops to form the combination for the treble voice of the duet, such combinations as the *Salicional* and *Flute*, *Gedeckt* and *Flute*, etc.

Having exhausted the possibilities of the Swell stops as directed above, reverse the arrangement and couple the *Swell* to the Pedals, now playing the manual part of the duet on the *Great*—varying the stops of this manual

<u>Swell</u>			<u>Great</u>			<u>Swell</u>			<u>Great</u>		
Sal.	Ged.	Flute	Dul.	Mel.	Flute	Sal.	Ged.	Flute	Dul.	Mel.	Flute
1	○			○		○			○		
2		○		○		○				○	
3			○			○					○
4	○				○		○		○		
5		○			○		○			○	
6			○		○		○				○
7	○							○	○		
8		○						○		○	
9					○			○			○
											10
											11
											12
											13
											14
											15
											16
											17
											18

FIG. 5. REGISTRATION POSSIBILITIES FOR DUETS WITH AN ORGAN OF SIX MANUAL STOPS

in exactly the same way as before, and finally trying a few combinations of 8 ft. and 4 ft. stops before going further. Countless changes of effect and contrasting shades of tone are thus introduced to the ear, and the resulting *ear-training* is of the greatest value. Before leaving this work it will be well to make use—though sparingly—of some of the more powerful stops—the *Great Open Diapason*, *Swell Cornopean*, and the heavier Pedal stops—*16 ft. Open Diapason*, etc., using these stops only during short spaces of time—an admonition which is equally applicable at all stages of progress.

When you have covered this duet work to your teacher's satisfaction you will pass on to the study of trios employing simultaneously *both* hands and the feet, under the heading "Trios," pages 36 to 47 inc., *First Lessons on the Organ*.

Should you be so fortunate as to have the use of a *three*-manual organ for your practice, the logical thing, of course, will be to couple one of the manuals to the pedals, reserving for each of the hands one of the other two manuals not so coupled, thus giving free scope for changes of tone in all three parts of the trios. But if, as is more likely, the organ is a *two*-manual instrument you probably will be compelled to limit yourself to but two distinct qualities of tone, coupling one of the manuals to the pedals for the purpose of rendering the pedal notes easily distinguishable. *Note carefully*, however, that this direction does not retain its force should your organ be equipped (as should all organs, large or small) with a clear incisive stop of 8 ft. pitch such as the *Violoncello*; the possession of such a stop will render the pedal part quite clear and decisive, and no resort to coupling will be necessary. Unfortunately, stops of this character are omitted from the pedal resources of many medium size organs and practically *all* small organs, so that in a great majority of cases coupling is imperative; commercial exigencies of the day dictate the specifications of all too many organs so that in countless cases the result is a collection of solo stops—attractive in themselves no doubt, but included by the sacrifice of vitally needed foundation work.

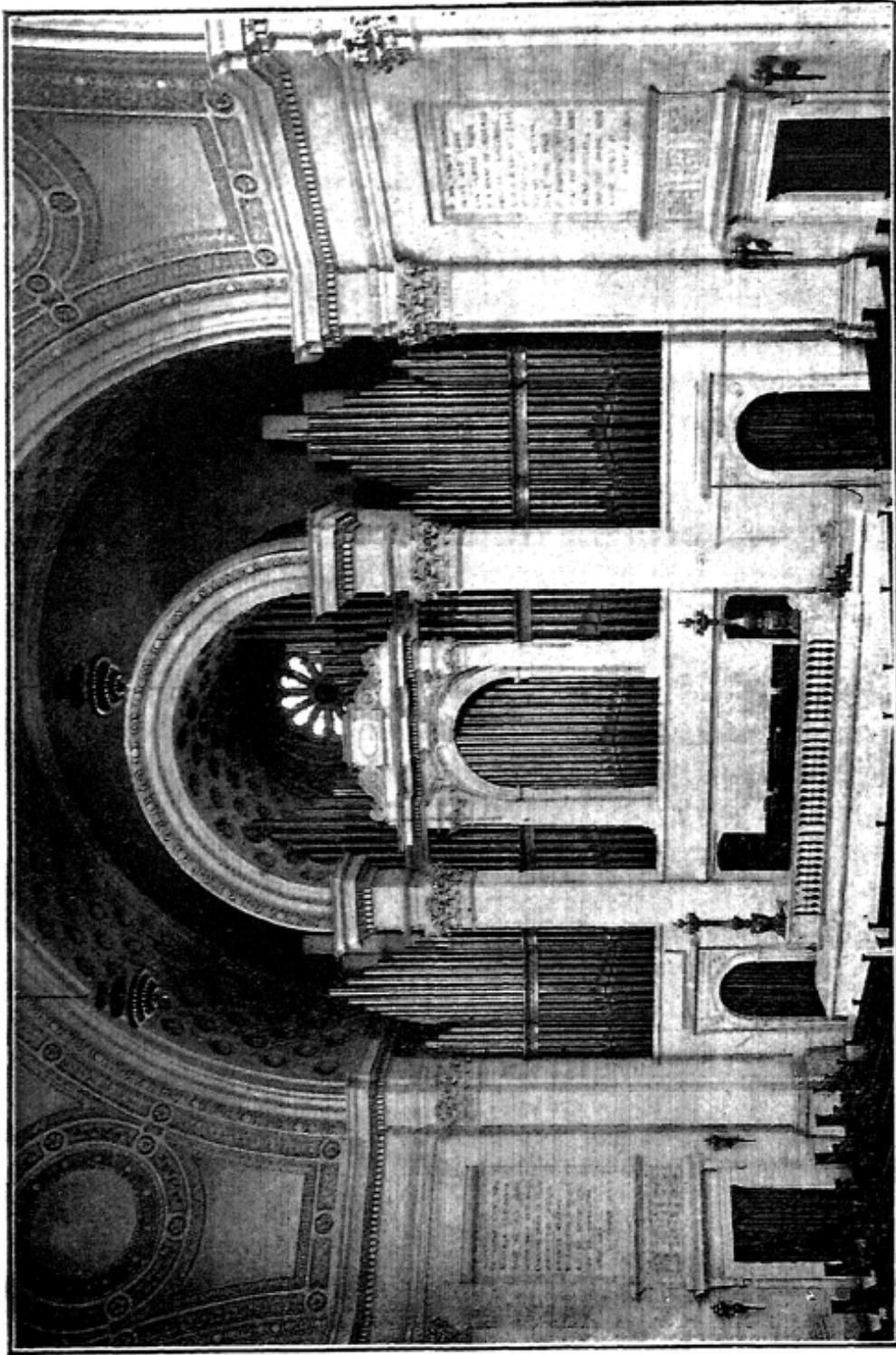
In these trios the course to follow will, logically, be an expansion of the work done on the duets; vary the stops first on one manual, then on the other, and—if it be possible—finally on the pedals; try to approach the maximum number of effects possible. Given even a dozen stops the mathematical possibilities of re-arrangement are astounding; let your endeavor be (as

nearly as possible) to exhaust these possibilities before going further in the work.

Quite possibly your studies may at about this point be amplified by excursions into one of a number of books of rather more advanced studies in trio form, and in them you will find a splendid field for cultivating tonal control; in most of them slight registrative directions are given which will furnish the clue to the general effect desired by the composer. First follow these directions as closely as possible, and later seek to vary them considerably—still not altering the basic intention; you will learn much from this experimentation and derive not a little pleasure therefrom. Use different gradations of power, of contrast, of quality, and above all strive to really *hear* what you are doing, for in the degree of accuracy with which you hear may be said to be written the degree of proficiency which you will attain as a tonal artist. The countless throngs of organ students (and organists) who plod along, year after year, using the same limited, unbalanced, raw, tiresome combinations are a pathetic but arresting indication of the fact that the average untrained person is not developed to the point of accurate *hearing*, to say nothing of possessing ability to register properly.

From the first day at the organ your purpose must be to truly hear, *hear*, HEAR, and your intention must be firm to use as much care and thought in working out beautiful effects *during your practice*, as you would desire to secure during a public performance. Be always striving for perfection—both in your registrative explorations and in your mechanical processes.





THE FIRST CHURCH OF CHRIST, SCIENTIST, BOSTON.
(Hook and Hastings Co., Kendal Green, Mass.)

CHAPTER IV

MASS REGISTRATION: TONE FAMILIES

And now to begin the fascinating though difficult art of combining in mass the tones which you have so far been studying as individuals! Very few rules can be laid down for this work; no list of "stops that combine well" will be offered you, indeed we wonder by what authority certain persons can state that some stops do and other stops do not combine! Such dogmatic assertions we regard as arbitrary, to say the least, and would rather suggest that all stops (granted, of course, that they are of excellent character as individuals) combine well for certain effects; these effects would in some cases be of use only in the rarest cases, we grant, but such would not affect the contention we have just made.

Moreover in many cases it will be discovered that where it has been stated that certain stops do not combine well what is actually the case is that the combination was not in good *balance* for the particular use made of it. Indeed it is an open question whether one may not say that any combination is good and useful,—provided it is used at a time and with a composition to which it is suited.

The first steps in this work will engage your attention with the combining of stops of near tonal relationship, as: *Flutes* and *Diapasons*, first on the Swell organ, and then on the Great. This can well be taken in conjunction with the study of the rudiments of hymn-playing—which study many teachers wisely introduce during the first three months of instruction.

The process will be very simple, and is as follows: draw first on the Swell organ the 8 ft. *Flute*—which will probably be found under one of the following names: *Gedeckt*, *Stopped Diapason*, *Clarabella*, etc. Now play over a line of a hymn to familiarize the ear with the tone quality. Push in this stop and, drawing the *Open Diapason*, play another line of the hymn to fix in the mind its quality. Having heard both singly, draw them together and play through the entire hymn noting carefully the resulting blend of the tones; it will be well, at this stage, to test the effect of the balanced expression lever—commonly called the swell pedal—on the volume (and to a lesser degree on the quality) of the stops under its control. A word of caution may be extended—that you endeavor to use the expression levers in a smooth, restrained, and artistic manner, avoiding the spasmodic, jerky, “pump-handle” style so painfully common with tyros.

Proceed in the same manner with stops of similar tone and name from the Great organ and—having done so—pass on to stops of wider dissimilarity of tone, as for instance some of these:

- Swell 8 ft. Flute with 8 ft. String (Salicional, Viol).
- Swell 8 ft. Flute with 8 ft. Aeoline.
- Swell 8 ft. Diapason with 8 ft. String.
- Swell 8 ft. Reed (Oboe) with 8 ft. Flute.

And all the others which you may be able to devise—including the stops of the Great organ in exactly the same way. “Ring the changes” on the many combinations possible—even on a small organ—testing the tone colors with short melodic phrases in different parts of the keyboard as well as with the harmony of the hymns—and above all seeking to really *hear* what you are producing. A simple, well-written piece of music such as William Faulkes’ *Prelude Solennel*, Fig. 6, will afford excellent opportunity for the forming of simple registrations; note the composer’s intention that the piece be

PRELUDE. SOLENNEL

Prepare { Sweil 8'
Great 8'
Choir 8' & 4'
Pedal 16'

WILLIAM FAULKES

Larghetto

MANUALS

p Gt. 8'

PEDAL

16 (uncoupled)

Copyright MCMVIII by Oliver Ditson Company
International Copyright Secured

quietly played throughout, and select your registration accordingly.

The next step will be the constructing of "tone families," or mass groups of the different pitched stops of the same tone color; at this point it is fitting to remark that with all small organs, and indeed with many organs of fair size, it will not be possible to build complete families of all tones. The commercial exigencies of the day are such as to preclude the possibility of even approximately scientific specifications; however, as a rule, fairly complete families of *Flute* and *Diapason* tone will be found available.

Let us therefore take first the Flute family, first on the Swell organ, then on the Great, finally combining the two. On the Swell you will find some or all of these stops:

- 16 ft. Bourdon, Gedeckt, or Double Diapason.
- 8 ft. Bourdon, Gedeckt, Stopped Diapason, or Flute.
- 4 ft. Flute (Travers, Harmonic, Chimney, d'Amour).
- 2 ft. Piccolo, Flageolet, Fifteenth.

A selection from these stops will comprise your Swell family of Flutes, and you should now continue your hymn-playing selecting from them stops at three different pitches; starting first with the 8 ft., adding the 4 ft., and lastly the 2 ft. Then you should throw off one of the stops and add the 16 ft., etc. Having thus obtained a glimpse of the composite effect of a family of tone, you should investigate the possibilities of pairs of stops of the same tone: 16 ft. and 4 ft., 8 ft. and 2 ft., 16 ft. and 2 ft., etc., in short all combinations possible with the resources at hand.

In the same manner study the resources of the Great organ, for though they will be of more limited scope they are nevertheless of much importance; finally couple the Swell to the Great and try the greatly increased scope thus made available. Certain simple compositions may at this point be examined with regard to utilizing the

knowledge acquired in the previous work: The beautiful Bach chorale-vorspiel *Alle Menschen müssen sterben* can be charmingly registrated for soft flutes with swell-box

SCHERZO in D Minor

Meno mosso
Ch. Flutes 8'

GOTTFRIED H. FEDERLEIN

MANUALS

Sw. to Ch. off

PEDAL

The image shows the first system of a musical score for Scherzo in D Minor. It features three staves: a grand staff for manuals (treble and bass clefs) and a single staff for the pedal (bass clef). The key signature is D minor (two flats) and the time signature is 3/4. The tempo is 'Meno mosso'. The registration for the manuals is 'Ch. Flutes 8'' and for the pedal is 'Sw. to Ch. off'. The music consists of a melodic line in the right hand and a bass line in the left hand, with the pedal providing harmonic support.

16' 8' 4

Sw.

The image shows a piano accompaniment for the Scherzo in D Minor. It features a grand staff with treble, middle, and bass clefs. The key signature is D minor and the time signature is 3/4. The registration for the piano is '16' 8' 4'. The music includes a melodic line in the right hand and a bass line in the left hand, with the piano providing harmonic support. A swell-box (Sw.) is indicated in the middle staff.

Flute, Gamba

Gt.

The image shows a flute and gamba part for the Scherzo in D Minor. It features a grand staff with treble, middle, and bass clefs. The key signature is D minor and the time signature is 3/4. The registration for the flute and gamba is 'Flute, Gamba'. The music includes a melodic line in the right hand and a bass line in the left hand, with the flute and gamba providing harmonic support. A gamba (Gt.) is indicated in the middle staff.

Copyright MCMXI by Oliver Ditson Company
International Copyright Secured

FIG. 7

closed; Gottfried Federlein's *Scherzo in D-minor* contains an episode requiring flutes at various pitches; A. Walter Kramer, in his *Morning Song Op. 28, No. 2*, has made

a felicitous use of the soft flutes in the second theme, and numerous compositions and arrangements of the

MORNING SONG (CHANSON MATINALE)

A. WALTER KRAMER
Op. 28, No 2

L'istesso tempo Ch. Flutes 8', 4'

MANUALS *p* *mp*

PEDAL

tranquillo

Gt. *mf*

Copyright MCMXIII by Oliver Ditson Company
International Copyright Secured

FIG. 8

French school, notably in the compositions of Guilmant, Widor, Bonnet and Vierne, and certain arrangements

from the works of Claude Debussy afford ample opportunity for the display of flute tone.

Turn now to the Diapason family; only on the Great are you likely to find a complete family of tone, and it will be—in whole or part—as follows:

- 16 ft. Double Open Diapason.
- 8 ft. Open Diapason.
- 4 ft. Principal or Octave.
- $2\frac{2}{3}$ ft. Twelfth.
- 2 ft. Fifteenth or Super Octave.

And perhaps a *Mixture* of 3, 4, 5, or even 6 ranks. In this table you will note two pitches so far unfamiliar to you: the Twelfth, and the Mixture.

We cannot give space to a digression into acoustical matters to thoroughly explain the *necessity* for these stops; all that has been covered in many available treatises and manuals of science. Suffice it to say that these stops supply certain tonal ingredients (harmonics, or upper partials) which are but weakly produced in normal pitched stops; their presence adds a brilliancy, a “clang” to the tone—especially the mezzo-forte or forte tone—without which a feeling of dulness might be noticed. This you can quickly prove for yourself: first draw all the 8 ft. Flute and Diapason stops and play through a hymn; add all the 4 ft. and 2 ft. stops and play through another verse of the same hymn. Finally add all the higher pitched stops: the $2\frac{2}{3}$ ft., 2 ft., and Mixtures, and listen to the transformation which they work. Some one has characterized the addition of a good Mixture to a full combination as “falling like a *shower of stars*” over the tone mass—a most felicitous description!

Having worked out separately the possibilities of the Flutes and Diapasons, try your hand at combining them, proceeding from the soft stops to those of mezzo-forte strength, adding soft 4 ft., then stronger 8 ft., etc., finally the “upper-work”—generally drawing Flutes

before Diapasons to avoid sharp "cutting-in" effects—and thus achieving a reasonably smooth crescendo from the two families. In connection with this work some such composition as William Reed's *Triumphal March* will be useful; particular thought should be given to obtaining a reasonable amount of variety in the registration of such numbers—without diverging too far from the composer's frequent dynamic (*f*, *mf*, *ff*, and *sf*) marks. In such pieces—where it is the intention of the composer that considerable power be utilized—the variety must be attained by changes of tone *color*, rather than by the more usual varying of intensity.

The String and Reed families will, by reason of their universal incompleteness, furnish obstacles to their study by similar methods; they are so generally limited by commercial necessity that single stops are the rule rather than the exception. String tone is, however, being more appreciated at its true worth, and it is a pleasure to note that fair-sized organs are now being equipped with something approximating a complete string family on at least one manual.

On large organs, too, it is not uncommon to find reeds at 16, 8 and 4 ft. pitches on at least one manual—generally the Solo or Great; these are of the same tone quality as a rule, and in fact are frequently the very *same stop* rendered available on two manuals. On the Swell, it is common practice to include a 16 ft. of mezzo-forte strength, and 8 ft. stops of two or three tone qualities and strengths. These, however, can hardly be classed as *families, per se*, as the voicing will render them so *individual* that they can be classed as a family only in regard to their *construction* and not in regard to their tonal characteristics. Nevertheless, you should experiment with these also, seeking to become so familiar with their characteristics that you will at once recognize the quality—even if a stop be drawn at random with the eyes closed.

SORTIE, in F Major

Prepare {
Swell: Full
Great: *ff* without reed
Choir: Flute 8'
Solo: Tubas 16' & 8'
Pedal: *ff* without reed

JAMES H. ROGERS

Vivace, ma non troppo

MANUALS

PEDAL

Gt. *ff* Sw. to Gt. and Ped
Gt. to Ped.

CODA

Meno mosso

rall.

Add Solo reeds

Vivo

sempre ff

Copyright MCMXI by Oliver Ditson Company
International Copyright Secured

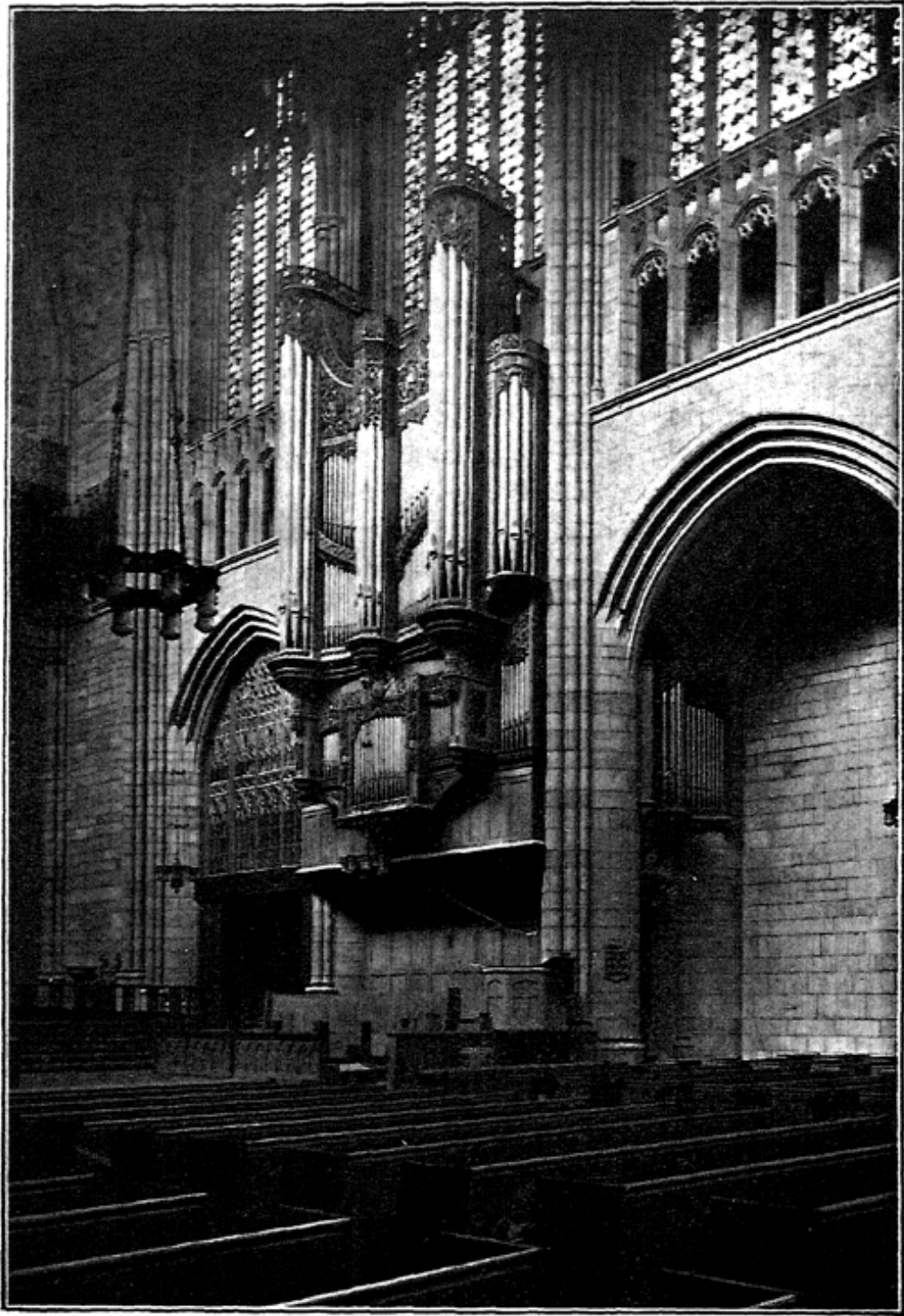
FIG. 9



FIG. 9 (Con.)

An artistic use of powerful reed stops is seen in the coda of James H. Rogers' *Sortie in F-major*; despite the buoyant and vivacious character of the piece, the composer designates the omission of the heavy solo reeds (*Tuba*) until the last sixteen measures—thus retaining a store of power for his final, closing climax.

In concluding this chapter, mention should be made of the omission of treatment pertaining to the Pedal organ; this has been done intentionally, and for the reason that—in the present day, when the majority of organs are being built with sadly incomplete apologies for pedal organs—it is virtually a waste of time and space to direct that the pedal organ be studied with any pre-determined system. Pedal stops—as now furnished—are usually of so limited variety that the best that can be asked of this department is that it furnish a bass of approximately correct *volume* to balance the manual combinations in use; the pedal organ will be considered in later chapters, however, in its relation to this aspect of the matter.



ST. THOMAS' CHURCH, NEW YORK.
(Ernest M. Skinner Co., Boston)

CHAPTER V

TWO-COLOR AND SOLO EFFECTS

The study of solo effects—the methods by which one voice is thrown into prominence, the blending of prime tones to form both the solo voice and parts accompanying—these are the logical outgrowth of the preceding study of single tones and families of tones; perhaps no stage of registration study holds out more alluring prospects to the student than this upon which we now emerge.

A solo voice may be contrasted with and given prominence above its accompaniment either by *difference of volume* as the preponderant factor, by *the use of dissimilar tone color*, or—as most often happens—by a *combination of the two methods*.

The first method of differentiating solo and accompaniment is in reality an expansion of the monochrome principle which we have up to this time been using very considerably, and it is—moreover—the simplest to grasp; for these reasons we will give a brief illustration of the possibilities of the idea—selecting for use that family which perhaps more than any other presents *less* variance of tone from accepted ideals—*viz.*: the Diapason family, using the stops of that name at different pitches, and also the very soft form commonly known as the Dulciana. Only a few of the combinations would be of practical usefulness, but as a key we give below a table of several of the most obvious arrangements:

SOLO COMBINATION	ACCOMPANYING COMBINATION
Swell Diapason.	Great Dulciana.
Great Diapason.	Swell Diapason.
Great 16 ft. and 4 ft. Diapasons.	Swell Diapason.
Great 8 ft. and 4 ft. Diapasons.	Swell Diapason.
Great 4 ft. Diapason (Sw. to Gt.),	Swell Diapason.

These obtain the effect of solo and accompaniment by no other means than that of relative strength or dynamic value. You should now study the possibilities of this tone utilized as above suggested, using in all probability hymn tunes and chorales as before—but playing the soprano part as a solo, the left hand taking the alto and tenor voices, and the pedals playing the bass (with the accompanying manual coupled to the pedals); work of this nature will doubtless be demonstrated and assigned by your teacher.

In the same way should be studied the Flute and String families, endeavoring to discover all the solo and accompaniment combinations possible for use. It is frequently found to assist greatly if the student will first write out a list of the stops found in the organ on which he practises, grouping them as families of tone and checking up the list with the dictionary of stops found in the back of this book, then proceeding with the study of the available contrasts as outlined above. Forming a list of the available stops tends to clarify the matter, as it quickly summarizes in immediately available form the exact resources at hand.

It is altogether likely that during this investigation some doubts may arise as to the effectiveness of certain of these arbitrarily formed combinations; these doubts *may in some cases* have not a little foundation for their existence, but frequently it will be found that the difficulty lies in their employment in an unfortunate position on the keyboard. What the singers describe as the *tessitura* or *location* of a passage—whether it be high, low or medium, is an important factor which must be considered when forming combinations for public performance; in other words, what might sound well in one part of the keyboard on a given stop, might sound abominably on another stop in exactly the same *locale*. These are matters which, later on, will demand your

attention constantly, but for the present it will be well to give free rein to your experimentation—noting what effects are good for *general* use and what for *bizarre* and special use only. In a very general way it may be stated that Flutes are most effective in the higher portions of their compass, Diapasons and Reeds in the middle and lower octaves, and Strings especially are most pleasing in the lower octaves.

We now turn to the subject of contrast by *dissimilar tone color*, and a complex matter it is; with the limited number of stops of even a very small organ the possible number of combinations runs into the dozens, and it is this fact that makes a comprehensive analysis virtually impossible. Here it is, indeed, that the musician possessing an *imaginative* mind so completely overshadows his less gifted brother; such a man will sit at a strange console and draw from the organ effect after effect that his less naturally gifted *confrere* has never dreamed could be drawn from it! This would seem to be the result of intuitively forming a mental picture of the tone effects possible, and the process seems to defy analysis; however, it is fortunate for the great majority who do not possess this Heaven-sent gift that there is a possible method of exploration available to any and all, and that by a logical (one might say a mathematical) scheme the resources may be completely utilized. It seems almost trite to point out that anyone by an expansion of the simple principles of investigation which we have been urging can inevitably discover all the effects possible—if the process be but continued long enough! But the fact remains that—with all the resources conveniently at hand, and with the stops fairly crying to be experimented with—the great majority of pupils never even think of branching out on any independent trips of discovery on their own initiative. Because of this, we have kept reiterating this point throughout the work so far, and we cannot too often urge

that *the constant aim be to seek out some new effect each day.* To demonstrate how numerous are the possible effects on even a very small organ we have tabulated below a list (not exhaustive by any means) of effects possible on an organ of but ten speaking stops—about as small an organ as will commonly be encountered. The specification of stops of the organ will be as follows:

SWELL	GREAT
8 ft. Open Diapason	8 ft. Open Diapason
8 ft. Gedeckt	8 ft. Melodia
8 ft. Salicional	8 ft. Dulciana
8 ft. Aeoline	4 ft. Flute d'Amour
4 ft. Flute Harmonic	

PEDAL

16 ft. Bourdon

And here are some of the combinations of these stops as solo and accompaniment considered *without* the effects possible by use of couplers:

SOLO	ACCOMPANIMENT
Sw. Open Diapason	Gt. Melodia
Sw. Salicional	Gt. Dulciana
Sw. Gedeckt and Flute	Gt. Dulciana
Sw. Diapason and Salicional	Gt. Melodia
Sw. Salicional and Flute	Gt. Dulciana
Sw. Diapason, Gedeckt and Flute	Gt. Melodia
Sw. Full (all stops)	Gt. Melodia and Dulciana with or without Flute
Gt. Open Diapason	Sw. Open Diapason, or Salicional and Gedeckt
Gt. Melodia and Flute	Sw. Salicional, or Gedeckt and Aeoline
Gt. Dulciana	Sw. Aeoline
Gt. Flute	Sw. Aeoline
Gt. Full (all stops)	Sw. Full (all stops)

And these are, of course, not all of the effects possible—or anything like it; consider how the vistas widen when the increased flexibility of octave couplers is added! And if such a variety of results is possible with the small resources of a little organ such as the above—have we

not a right to expect from larger instruments a most varied scheme of registration?

In addition must be considered the factor of control introduced by the swell-boxes of the organ; the degree to which the box is open is often the determining factor in producing a good effect. Frequently when the student is wondering "why that combination sounds badly" the answer will be found to be that the swell-box is either not open enough or is too widely open; it is a curious fact that combinations which are raw to the extreme with the box open take on qualities of charm with the box partly or altogether closed, and conversely—others seem to suffocate with the box closed more than a very little. Reeds need the refining influence of the swell-shutters, while Flutes seem to undergo a change of quality with suppression and lose their "bloom" as the voicers term it. The student should therefore try the effect of the swell-boxes on combinations while exploring for new effects.

At this point (if indeed not earlier) the student will inevitably cast longing eyes toward some of the myriad "solo-stop" pieces, and—granted that the study of advanced technic be not neglected—there is no good reason why some of the "syrup" should not be included along with the heartier fare! But it should be pointed out that this relaxation should not be permitted to result in playing nothing but this type of music; melody pieces have their place and use, but they are not the end and aim of organ music by any means.

In taking up such pieces the safest rule is to stick to *single* solo stops at first—*prime timbres* as the French say, and then very slowly progress into the field of solo combinations.

Such pieces as Adolphe M. Foerster's really excellent *Pastorale*, Roland Diggle's *Reverie Triste*, J. Frank Frysinger's *Berceuse in A-flat*—to name but a few—are of great value at this point, and have the additional

PASTORALE

ADOLPHE M. FOERSTER
Op. 62, No 4

Moderato
Sw. Oboe

ORGAN *pp*

Ch. Flute

Ch. Clar.

Sw. Diap.
Salicional

Sw.

allargando

Detailed description of the musical score: The score is written in 3/4 time. The first system shows the Organ part with a piano (*pp*) dynamic and the Ch. Flute part. The second system continues the Ch. Flute part. The third system introduces the Ch. Clar. and Sw. Diap. Salicional parts. The fourth system features the Sw. Oboe and Sw. Diap. Salicional parts, with a tempo change to *allargando*. The score includes various musical notations such as slurs, accents, and fingerings.

Copyright MCMXVI by Oliver Ditson Company
International Copyright Secured

FIG. 10

value of being worth playing long after this period of experimentation is passed. The first mentioned is such an interesting example of registration in contrasted prime colors that we present a series of short selections from it and strongly advise all students to include it among their study material for this period.

The simplest principle which can be laid down for this work is this: First form your solo combination, or select your solo stop; if it be a combination of stops first select *two* that together please you, and if more stops are wished, build upon these two, adding others which will blend well with them. When you have your solo combination arranged, select from the stops on another manual a stop or stops which will render adequate support, a certain amount of contrast, and *not too great a volume* of tone. As a rule, the student does not err in this latter respect—but in the converse—using too weak an accompaniment, with the result that the effect is all “top and bottom,” the melody strong, pedal ample, but accompaniment almost inaudible; *guard against this with care*. It might be well to hint that you will do well to be more *sparing in the volume of the pedal organ* than of the manual accompaniment. Much guidance may be derived from observation of the balance effected by famous accompanists in the recital world of the day and their work should be studied with these points in mind.

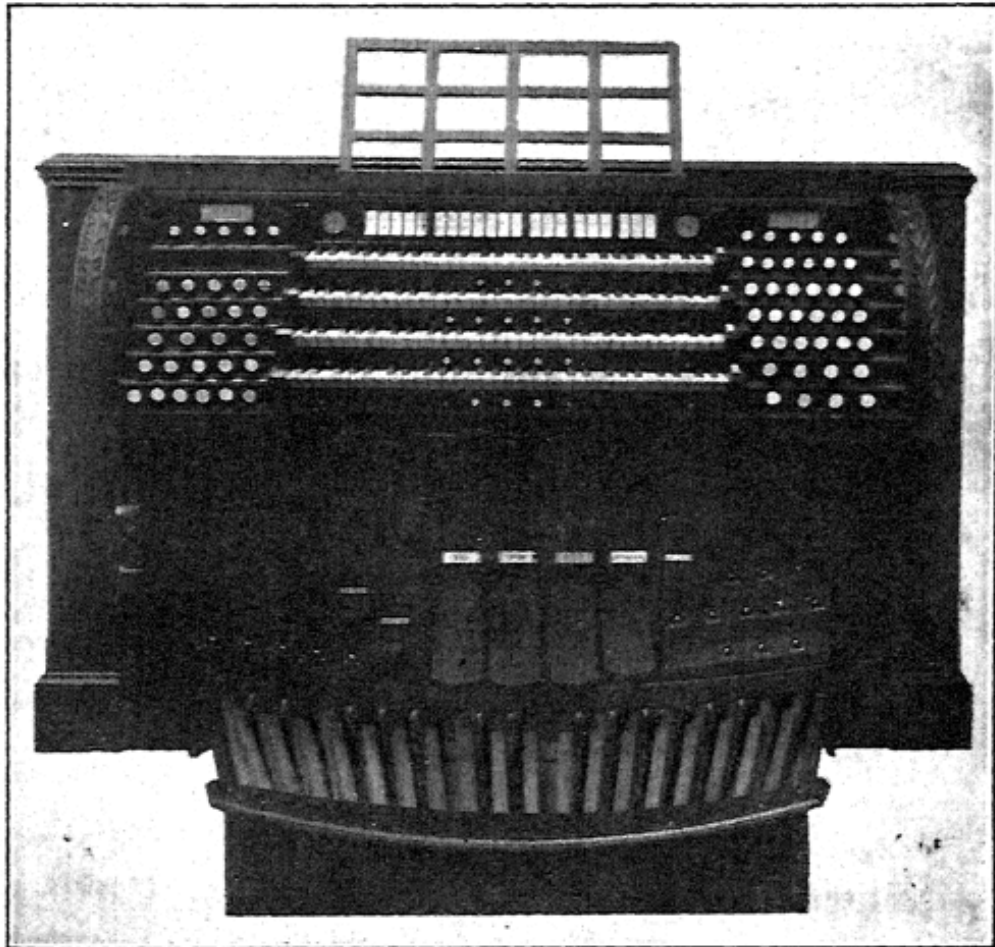
CHAPTER VI

THE USE OF COUPLERS

Consideration of those important mechanical aids known as *couplers* has been left until this point—as discussion of such a complicated subject prior to attainment of a fair mastery of the speaking-stops would in all probability only result in confusion to the student.

Couplers are mechanical devices by which different units or sections of the organ may be played from claviers or manuals other than their own proper claviers; through their use increased sonority is achieved—as the tonal resources of two, three or more units may be controlled as a concrete whole. With them varied and complex blending of tones, both in solo and harmony, is secured, and by their use not only are many unique and unusual effects made possible, but—with exercise of good judgment—it is possible to greatly alleviate inherent faults in the tonal design of the organ itself—faults such as improper balance of tone, and missing stops of special qualities.

An analogy may be drawn between the couplers of the organ and the electric switches in the lighting system of one's house; the lights in the different rooms may be considered as representing the different organs (Swell, Great, Pedal, etc.), the player himself may be likened to the main switch of the whole house—through which the energy is transmitted, and the couplers stand in the same relationship to the different organs and the player as do the individual switches in each room of the house. It is easy to see that the act of turning on the main switch of the house will have no effect on the lights in



CONSOLE WITH STOPS ARRANGED IN TIERS; COUPLERS CONTROLLED BY
TILTING TABLETS
(M. P. Möller, Hagerstown, Md.)