PAPERS READ AT THE ANNUAL MEETING
OF THE
AMERICAN MUSICOLOGICAL SOCIETY
December 29, 1936, Chicago, Ill.
Held jointly with the
MUSIC TEACHERS NATIONAL ASSOCIATION

THE PLACE OF ACOUSTICS IN MUSICOLOGY
Harold Spivacke, Washington, D. C.

THE CONTRIBUTION OF PHYSIOPSYCHOLOGY TO MUSICOLOGY
Otto Ortmann, Baltimore, Maryland

THE HISTORICAL ASPECT OF MUSICOLOGY
Oliver Strunk, Washington, D. C.

THE RELATION OF THEORY TO MUSICOLOGY
Donald M. Ferguson, Minneapolis, Minnesota

THE BEARING OF AESTHETICS AND CRITICISM ON MUSICOLOGY
Roy Dickinson Welch, Princeton, New Jersey

THE VIEWPOINT OF COMPARATIVE MUSICOLOGY
Eleni H. Roberts, Tryon, North Carolina

THE SERVICE OF THE LIBRARY TO MUSICOLOGY
Carleton Sprague Smith, New York City

CHANGING RELATIONS WITHIN THE FIELD OF MUSICOLOGY
Otto Kinkeldey, Ithaca, New York

SOME ANALYTICAL APPROACHES TO MUSICAL CRITICISM
Carl Bricken, Chicago

THE BRAHMS VIOLIN CONCERTO: A STYLISTIC CRITICISM
Benjamin F. Swalin, Chapel Hill, North Carolina

THE DISTINCTION BETWEEN CLAVICHORD AND HARPSICHORD MUSIC
Leland Coon, Madison, Wisconsin

ON THE PROLOGUE IN EARLY OPERA
Hugo Lachtermith, Cambridge, Massachusetts

A Reprint from the 1936 Volume of Proceedings of the
Music Teachers National Association
TWELVE PAPERS
ON
VARIOUS PHASES OF MUSICOLOGY
THE PLACE OF ACOUSTICS IN MUSICOLOGY

HAROLD SPIVACKE
Library of Congress, Washington, D. C.

THE place of acoustics in musicology is similar to the position occupied by sound in music, but there is, unfortunately, no unanimity of opinion regarding either of these relationships. There are some who hold that sound waves, although indispensable, have little to do with the art of music itself. Others take the viewpoint that every musical performance is also an act of acoustical creation. The musician must actually make the physical medium necessary for musical communication. He cannot use the sound waves existing in nature as material with which to construct his forms as is possible in the other arts. It is the close connection between the physical medium and the aesthetic product which makes music unique among the arts. It is essentially this same close connection which establishes the place of acoustics in musicology. The production and reception of music are so dependent on the physical sound used that its study must be regarded as of the highest importance.

The history of acoustics explains in part the varying viewpoints in regard to it which are held today. Acoustics did not begin as an independent study until the nineteenth century, having been treated previously as a part of music theory. The two fields then gradually grew apart and, in 1885, in the first attempt to outline the scope of musicology, Guido Adler placed acoustics among the auxiliary sciences of the so-called systematic branch of musicology. In 1908, Riemann assigned to it one of the five sections of his "Grundriss der Musikwissenschaft," but limited its field to the study of isolated tones, which he regarded, however, as having little to do with music. Thus acoustics was placed outside the pale — it had gone too far afield in its develop-

---

1 Adler, Guido. Umfang, Methode und Ziele der Musikwissenschaft. (In: Vierteljahreschrift für Musikwissenschaft. 1, 1885.)
ment as a separate science and seemed to have forgotten the study
of music from which it had sprung. It was to counteract this
separation between acoustics and musicology that men like
Helmholtz founded another branch of the science, called, at dif-
ferent times, tone-physiology, tone-psychology, psychophysics, and
physiopsychology. These names, which are practically synonym-
ous, themselves indicate the scope of this field, which attempts to
bridge the apparent gap between the study of music and the study
of its physical counterpart in nature by investigating musical
hearing. Physical acousticians had already made some studies of
the human ear but, as Helmholtz pointed out, they were under-
taken only because the ear was the most convenient instrument
for the study of rapid elastic vibrations. Today the human ear
can be dispensed with entirely in the study of physical acoustics.

It was perhaps the subject matter of acoustical studies which
made it seem so far removed from music as to be completely with-
out interest to so many musicologists. Acousticians have so far
devoted most of their time to the study of the form and motion
of individual sound waves, to the characteristics of individual
tones removed from their musical context. Single musical tones
were broken down into their component parts, which are pure
tones. These pure tones were then studied from all possible
angles, their frequencies and their intensities were accurately
measured, and if they were studied in combinations at all it was
only in the most simple combinations. All this might have
seemed to have no musical significance. The cry arose, and still
arises, that sound waves are not music and that their study is at
best only remotely connected with the study of music.

As already indicated, this is the criticism which is usually
directed at acoustics and sometimes also at tone-psychology. It
seems to be based on an impatience with scientific method, which
always studies the simplest elements of a complex structure singly
before attempting to study these elements in combination. The
difficulties involved in the scientific study of a complex musical
structure are enormous. The acoustical musicologist would only
too gladly study such musical structures in his laboratory if only
he knew how to do so with any degree of scientific accuracy. The
study of musical structures may be said to be the ultimate goal
of all men working in this field. The fact that progress in this
direction has been slow only points to the work still to be done
but need not imply that it cannot be done in the future or that
it is not a fit subject for acoustical study.

That acoustical research is not devoid of musical significance
may be shown by an examination of the existing points of contact
between acoustics and the other branches of musicology and, as
far as is practicable in a short paper of this kind, the manner in
which a knowledge of the methods and results of acoustical re-
search can prove useful to these other branches.

The field most closely related to acoustics and really an out-
growth of it is that of tone-psychology. Its methods, as well as
the subjects investigated, are always at least partially acoustical.
In order to study the effects of sounds on the human ear, the
sounds must first be accurately produced. This is not as simple
as it may seem. Many psychological measurements call for the
use of pure tones, that is, tones completely devoid of overtones.
Absolutely pure tones are almost impossible of production, how-
ever, and only the best equipped laboratories can approximate this
ideal. The quantitative measurements of the tones used also
produce difficulties. Furthermore, the setting up of the apparatus
without interference with the free course of the sound, coupled
with the general problems of soundproofing a room add to these
difficulties. The human subjects used in psychological experiments
are usually much more willing and tractable than the mechanical
apparatus used.

Many of the problems studied in physiopsychological work are
also intimately bound up with acoustics and serve to make it
more useful musically. Although such things as beats, overtones,
combinational tones, frequency, and intensity may be regarded
as mechanical phenomena which can be expressed in mathematical
terms, when used in psychological studies of consonance and dis-
sonance, tone quality, pitch discrimination, loudness, and other
problems of musical hearing, the musical character of the inves-

1 Helmholtz, Hermann. *On the Sensations of Tone.* Tr. by Alexan-
tigation becomes more obvious. And it is fairly safe to say that the results of such researches have already proved their usefulness to the other branches of musicology, a usefulness for which the special field of acoustics must take at least partial credit.

The relationship of acoustics to comparative musicology is a similar one, for the methods of the comparative musicologist are also acoustical in great part. First of all, the initial step in practically all such work is the recording of the music to be studied, by means of the phonograph. Then, after transcribing and analysis, the comparative musicologist employs many criteria which are acoustical in their nature, such as those set up by von Hornbostel. Ethnological comparisons based on the instruments or intervals and scales used presuppose accurate acoustical measurements.

As already pointed out, musical theory and acoustics had a common origin. This was in the writings of the ancient Greeks. For many centuries the two sciences went hand in hand, using the same terminology and the same methods. Intervals were studied on the monochord, which is an acoustical instrument of measurement. Beyond this, however, the direct connection between the two subjects is slight in spite of a common terminology, and tone-psychology must serve as a connecting link. The problems of consonance and dissonance and the relative functions of chordal structures can be approached from both angles. That acoustics plays a great part in such studies seems obvious from what has already been said.

The relationship of acoustics to aesthetics is not so apparent and is more difficult to formulate than in the case of the other branches of musicology just discussed. The general philosophy of life, as well as the special aesthetic theories of the student, plays a great part here. Those holding a dualistic philosophy of life will probably avoid naturalistic explanations of aesthetical problems; while, at the other extreme, those with more mechanistic leanings will be apt to regard the two fields as identical. To the mechanist, aesthetic problems admit only of physical and physiological explanation. Since it can hardly be maintained that acoustics, in its present stage of development, can furnish a definite answer one way or another, further discussion of this fundamental philosophical question seems beyond the scope of this paper.

We come now to the examination of the place of acoustics in the field of music history. This is perhaps the broadest field in all musicology and anything connected with music has become of interest to the historian, acoustics itself having been a subject for music-historical study. The setting up of acoustical criteria for the music historian, however, has lagged behind and he has rarely used acoustical methods or viewpoints in approaching his subject. We have a good example of its necessity, though, in the music of our own day, which may some day come to be known as the electrical age of music. We have all seen how the radio and the phonograph have transformed our musical life. They have begun to have some influence on the forms of musical composition and an even greater influence on the style of musical performance. Future historians will find acoustical reasons for many of the changes which are taking place in the music of the present day.

This is by no means the first time that acoustical developments have had a profound influence on music in general. The study of musical instruments is largely acoustical. Without taking time to discuss the ever-present question of whether new instruments produce a new type of music, or whether a new type of music brings forth new instruments, or whether both are a result of the same driving forces, the acoustical elements in its study remain practically unchanged. The effects of the perfection of the violin on the music for stringed instruments, the relationships between the later Beethoven piano sonatas and the pianos in his possession at the time, the effects of the developments in wind instruments in the 18th and 19th centuries on the music of those periods are but a few of the better known examples. The characteristic use of dynamics in each period of our musical history is probably intimately bound up with the range of intensities possible on the instruments of that period. The subject has been approached mostly from the standpoint of the music historian so

---

American Musical Society

far, and only in a few isolated cases have acoustical measurements been made on instruments of the past ages with historical aims in view. There is every reason to believe that extensive acoustical study of musical instruments will prove of great aid to the historian in the solution of many of his problems.

Even the acoustics of auditoriums has its historical side, although it has not been applied more than superficially. Some interesting facts regarding the music of the fifteenth and sixteenth centuries might be deduced from an acoustical study of the cathedrals and halls for whose performance they were intended. This holds true of the ballrooms and halls used in other centuries as well, and presents another field for the acoustically minded historian. The only branch of acoustics which has enjoyed the full attention of the historians is mathematical acoustics because it is so intimately connected with the problems of musical intervals, tonality, and temperament.

These are but a few examples of the many points in which acoustics may prove of use to the historian. The future will undoubtedly see the scientific and historical fields brought into ever increasing contact.

In conclusion, it remains to say that although musical acoustics alone may be regarded as an integral part of musicology, in actual practice there is hardly a musicologist who limits his work to the field as defined in this paper. From Helmholtz’s day to the present practically all have combined acoustics with physiopsychology, but this should not be understood as minimizing the importance of acoustics. It is just another indication of the interdependence of all the branches of musicology.

The Contribution of Physiopsychology to Musicology

Otto Ortmann
Peabody Conservatory of Music, Baltimore, Maryland

The word musicology is not found in the older dictionaries: Murray and Century, for example. Hence its definition is not traditionally determined. Webster defines it, first, as “a branch of knowledge or field of investigation,” and, second, as “the historical study of musical documents, investigation of sources, gathering and organization of neglected data.”

In discussing the contribution of physiopsychology to musicology, both definitions should be considered. Musicology as a branch of knowledge or field of investigation naturally includes physiological and psychological problems in so far as these are related to the subject or subjects under investigation. Before outlining the contributions in this broader field, however, I should like to point out the possible contribution of physiopsychology to the historical aspect of musicology.

Even in the purely historic problems, musicology cannot dissociate itself completely from music as an art — understanding art, here, to mean the creations and participations of man. And so soon as we deal with human action or reaction we deal necessarily with a physiopsychological mechanism. The history of music is a history of human contributions, of individual and collective creativeness and recreativeness; from primitive music to the most sophisticated and highly developed arts of western civilization, and from the simple fusions of the organum and fauxbourdon to the polytonalities and tone-clusters of the present day.

All these things are psychological items, their chronological appearance and assignment being determined primarily, or at any rate, very often, by what has preceded them, and upon this relationship the comprehension of their nature and significance frequently depends.

Physiopsychology forms the basis of any interpretative study of even the elements of music. Music notation, for example, cannot
be adequately explained without taking into consideration the psychology of vision; tonal reaction must be interpreted in terms of psychophysiological theories of hearing; the question of harmony in its historic aspect cannot be understood except in terms of the hearer—which is again a physiopsychological response; rhythm is inseparably linked with the physiology of bodily movement and such time-relationships as those of breathing and heart-beat; the act of composition is essentially a psychological activity; the development of musical instruments has been determined as much by physiological as by tonal considerations, whether in the finger-and-hole parallelism of the primitive flute or in the physiologically serviceable, but tonally restricted proportions of our viola. Finally, the making and hearing of music, from the most elementary to the most complex stages, is a physiopsychological matter. Thus, whatever significance the raw materials of music may have, and whatever application they may find in the field of artistic music, can be adequately explained only by the use of physiologicaL and psychological concepts.

The definite contribution which these sciences make to musicology is the interpretation of data. Without this interpretation the mere compiling of data remains a purely statistical procedure. This latter is certainly a necessary branch of musicology. But in order for it to have any correlative value, in order for it really to have meaning, some interpretation of the data must be included. The reading of meaning into an array of items all the elements of which are physiopsychological in nature must necessarily be a psychological procedure. Even in studies of purely historic or statistical nature, this element of interpretation constantly appears. Quite frequently, a study thoroughly accurate and competently developed so far as the collecting of items is concerned, loses its value because of a wrong interpretation of the data. Some of the best known editions of the works of famous composers, and many textbooks, for example, contain errors of such misinterpretation, a condition which could have been avoided had an adequate physiologicaL and psychological analysis been made.

The interdependence of the historic and the physiopsychological fields is shown quite unmistakably in the papers which have thus far been presented by members of the American Musicological Society. In these, without actually thinking of the psychological approach, most authors naturally pass from data to meaning, and the questions brought up by such papers are primarily questions dealing with the interpretation of the data—the correct compiling thereof being more or less taken for granted. Not infrequently, in spite of the attempt to keep discussion to mere classification, functional relationships force themselves into the foreground and ultimately determine the value of the contribution. These interpretations in terms of artistic trends, historic relationships, or musical concepts must use, directly or indirectly, psychologic terminology and principles, and the fact that they grew naturally out of even non-psychological premises, is proof of a close basic relationship.

This, then, is the contribution to the historic phase of musicology. But, again, judging from recent trends in the musicological field, the past must be linked with the present, and this, in turn, with the future. With this transition, the mere statistical compilation recedes into the background and the question of meaning or significance increases in importance. The danger in musicological research dealing with the present is in the impossibility of localizing the problem in the broader field. In other words, in getting a proper perspective or correlation. And, to a still greater degree is this perspective necessary when we deal with problems of the future, which cannot be even formulated adequately without an interpretation of the past and the present. The contribution which physiopsychology can make here is in the introduction of a systematic approach. It can help to separate central trends from local deviations, it can assist in both the definition of problems and their presentation in perspective.

A survey of the problems today engaging the attention of musicologists will show the impossibility of detaching them from a psychophysiological basis. Such are investigation of primitive and oriental musics, of the Greek modes, of tonalities and scales, whether evolving or fixed, of harmonic dualism, and of all forms of music-making.

The investigation of modern styles of composition, for ex-
ample, cannot be made on purely musical grounds. There are instances where the composer's style, so far as instruments are concerned, is determined primarily by the physiological, or, more accurately, by the kinesthetic limitations of the composer. In fact, all questions relating to musical performance contain important physiological determinants. What we call technique is primarily a kinesthetic or physiopsychological attribute which differs as widely among individuals as does sight or hearing. And it is just as definite in its manifestations. Consequently the entire field of vocal and instrumental technique is dependent upon this sense. And the analysis of modern harmony, so far as its artistic values are concerned, is based not only upon frequency ratios but also upon tonal intensity, which, in this sense, is definitely a physiopsychological response. The outlining of new theories, the speculation on possible and probable music trends are again founded on psychological concepts.

The moment we ask for the "why" or the "how" of things, the moment we introduce the element of application, whether this be to music experiences generally or to other problems of research specifically, we necessarily introduce a psychological viewpoint, for whatever music or even musicology may mean is itself determined by the human mind — in other words, by a physiopsychological organism.

In fact, the usual duality which we meet in defining musicology — the historical as against the comparative — is itself rather a difference of viewpoint than a difference in content. Both types of investigators may begin with the same data. If the results they reach are different, this difference is one in the meaning which they read into the data; and meaning, as I have said, is a psychological, not a musicological concept. Many studies would have greater value and many others could avoid error if this question of viewpoint or aim were adequately considered.

The third contribution which physiopsychology makes to musicology is the possible introduction of experimental procedure. Nowhere is order or system needed more than in investigations concerning themselves with the fine arts. The content and function of these arts are such that systematic analysis is, in the opinion of many, extraneous to the entire field. All the more, therefore, is it necessary to resort to the controlled conditions offered by this procedure, whenever possible. The difference between the viewpoints of the practicing musician and the research musicologist is essentially one between an individual or personal emotional synthesis and a systematic, intellectual analysis.

The entire field of music education at present points toward a closer correlation with general education. It is very advisable, therefore, that opposing viewpoints be brought into some relationship. In this connection the facts of experimental procedure are of decided value. In fact, they are the only form of proof acceptable to many. They cannot be applied to all problems of musicological research, but, wherever they can be applied, physiopsychology can make a definite contribution. The value of the experimental procedure is known to any one who has worked in both the fields of music practice and psychology, and I can say from experience that many problems of general interest and specific practicability could not have been solved by any other means.

Thus the contributions which physiopsychology makes to musicology are not specific to any single problem or group of problems, but instead, form the general basis to which all musicological studies must turn when content is elaborated into meaning. Physiopsychology contributes three things: it helps to interpret the data of the historical approach; it organizes, systematizes, and unifies and lends perspective to the functional approach; and it contributes the experimental procedure to a field where it is needed. Its effects, therefore, are general rather than specific, and, because of this fact, some music psychologists feel that the physiopsychological field should not be considered a part of the musicological field. It is not a part, it is rather the substructure on which musicological research is based. Not all studies need reach into the substructure, but when problems arise which demand musical interpretation, historical correlation, or experimental verification, the solution can be found only in this physiopsychological foundation.
THE HISTORICAL ASPECT OF MUSICOLOGY

Oliver Strunk
Library of Congress, Washington, D. C.

The program of this session was planned, I take it, with a view to providing for the members of our two societies a broad view of the relations — as President Kinkeldey has it in the title of his concluding paper, of the changing relations — within the field of musicology as a whole. To this end the field has, as you see, been subdivided, and I need scarcely tell you that the particular plan of subdivision represented in outline by this morning’s program is simply one of the several plans that have at one time or another been proposed. Musicologists will recognize in it the plan put forward by Hugo Riemann in his Fundamentals of Musicology (1908), familiar, surely, to every one of you through the critical examination of it by Waldo Selden Pratt in the first article of the first number of our first — and only — musicological journal, The Musical Quarterly. Whatever its logical defects, the Riemann scheme has at least the very practical merit of simplicity. I know no other that would have lent itself as readily to the purpose at hand. Let us accept it, then, as it stands. Let us take, as points of departure, Riemann’s formulations of the general task of musicology and of the special task of musical history. They will help us, I think, to fix a little more precisely than we might otherwise the peculiar relation of musical history, on the one hand, to musicology; on the other hand — and this is not less important — to the great body of historical knowledge.

To begin with (Riemann says), musicology has the general task of determining the psychic expression-value of the primitive elements in musical creation; of formulating the physical characteristics of musical sounds and the mechanical requirements of their production and prolongation; of demonstrating by simple, basic facts the effect of these sounds on the organ of hearing, and through its agency on emotion and intelligence, that is, on inner consciousness; and of tracing the employment of these sounds in the complex musical structure.

It is not difficult to see in this orderly and carefully considered progression of Riemann’s a statement of the dependence, one upon the other, of four of his five musicological disciplines: Acoustics, psychophysiology, aesthetics, and theory. Where, you may well ask, does history come in? Apart from conceding that the single parts of his system appear sometimes to stand quite unrelated to one another, Riemann does not give us the answer. Despite their seeming lack of relationship, he says, their common aim — the explanation of music’s wonders and the tracing out of its natural roots — combines them all in higher unity.

Commenting on Riemann’s scheme, Pratt objects that it confuses logical categories, that musical history ought not to have been ranked as coördinate with such disciplines as acoustics and physiology. Here, surely, is the crux of the matter. Musical history is at once less and more than these — less, in that it is not in itself a distinct field within a system of fields; more, in that as a point of view, as a way of looking at the subject, it comprehends all fields, embraces the musical fact as a whole. It is, in short, an aspect — not a part — of musicology, and the author of this morning’s program has in this one word admirably expressed its special and peculiar function. To remind you that the first musicologists — Chrysander, Adler, and Riemann too — were in fact historians is simply another way of bringing out this basic, simple truth. Of all musicians, it is the historian whose broad view of the art leads him most naturally to this sort of thinking.

Turning now to the second question proposed at the outset of this paper — the peculiar relation of musical history to the great body of historical knowledge — I draw again on Riemann, this time for his expression of one of the commonplaces of modern music-historical method.

The history of an art (he says) must obviously rest primarily on investigation of the existing art-works themselves; only where these are lacking ought it to fall back, for further motiva-
tion and to complete the picture, on contemporary and later re-
ports and theoretical formulations.

This is, of course, the familiar antithesis common to all fields
of historical research in which the worker is privileged to deal
more or less directly with the historical fact. Just as the literary
historian is concerned, not with literary men but with literature;
just as the art historian is concerned, not with artists but with
art; so the musical historian, relying for his knowledge on scores,
not on books, must write the history of music, not of musicians.
Can these analogies be pursued further? They cannot, and this
is precisely my point, self-evident, to be sure, but none the less
fundamental. For the musical historian, unlike his colleagues
working on literature and the fine arts, does not have the actual
art works before him. What he has are simply more or less
faithful and intelligible directions for performance. Follow them
he may, but the result is at best an approximation. His position
indeed, is something like that in which the student of classical
architecture might find himself if, instead of dealing with the
fragmentary remains of an ancient structure, he had only a
ground-plan - and a ground-plan leaving much to the experience
and taste of the artisan - to work with. Here, then, lies the
special problem, the special difficulty, of musical history, there the
special reason for the existence of its three so essential auxiliary
disciplines - the history of musical performance (Aufführungs-
Praxis), the history of musical instruments (Instrumentenkunde),
and the history of musical notation (Notationskunde.) Here,
too, its special relation to the field about which Miss Roberts is
to tell you something later on. For it is to the comparative
musicologist that the musical historian must look for a reconstruc-
tion, through analogy, of those early beginnings from which no
records have come.

THE RELATION OF THEORY TO MUSICOLOGY

Donald N. Ferguson
University of Minnesota, Minneapolis

IT WAS, I find, with the boldness which our familiar proverb
does not attribute to angels that I accepted your chairman's
invitation to speak on this topic. For I cannot tell exactly what
musicology is; and I am convinced that there exists no tenable
theory of music. You will therefore be addressed by one who has
no formal training in metaphysics, on the relation of the non-
existent to the unknown!

This morning's discussion has already in some measure de-
finite the unknown — musicology. This paper, then, need con-
cern itself principally with the non-existent. Our question is,
what is, or what ought to be, the nature of a theory of music?

A theory is the explanation of a phenomenon in terms of
other things than the phenomenon to be explained. These “other
things” are what may be called axioms — basic facts momentarily
irreducible to any simpler terms. Nineteenth century physics, for
example, explained not only the principles of mechanics but also
the phenomena of sound, heat, light, and electricity in terms of
matter and motion. Twentieth century physics has so far altered
its axiomatic base as to describe matter itself as a form of energy.
But its theoretical principle has not altered.

Analogically, the theory of music must explain music in
terms of something which is not music; and the superstructure of
that theory must show no essential disrelation to the axioms upon
which it rests. One strong pier of that axiomatic foundation the
physicists have already built for us. They have reduced the sub-
stance of music — tone — to terms of matter and motion (air and
vibration). The certainty of their findings leaves nothing to be
desired. If music were simply tone, as the physicist sees it, the
theory of music would be already established.

But tone, as the physicist sees it, is not music. Music is es-
essentially a fact of tone-relation; and that relation is more a
mental than a physical fact. Moreover, the fact of tone-relation is only the beginning of music. For music arouses in us sensibilities not even related to the sense of hearing or to those powers of coördination which bind units of tone into concepts of musical form. Our art would not have a tithe of its present interest for humanity if it did not in some way possess the power of emotional expression. A completed theory of music must therefore relate the facts of musical substance, structure, and expression to foundations not described in terms of the art or practice of music itself.

Ignoring rhythm, which is indispensable to music but which is a fact by no means peculiar to music, the basic facts of musical structure are doubtless the scale (the foundation of melody) and consonance (the foundation of harmony). A theory of music, therefore, must do more than answer the questions, "What is a scale?" and "What is a concord?" in mere terms of musical practice. Its problem is rather, "Why is a scale?" and "Why is a concord?" — or, more exactly, "What are scales and concords, in terms of something else than those musical intervals which are drawn from the things to be defined, in order to define the things from which they are drawn?"

For an answer, we naturally turn first to the physicist. But although I speak in the timid voice of the non-mathematician, I am sure that we have no positive physical theory of the scale. So far as I know, indeed, no physicist pretends that our diatonic scale is a scale of nature. He sees that most of the tones of that scale are present somewhere in the harmonic series of a fundamental; but he can find no physical principle upon which those tones are selected, and he also knows that you cannot find the subdominant of the scale in the overtone-series of any fundamental. There is no F, that is, in the harmonic series of C.

The fact of consonance, however, appears to have a positive physical foundation. The first four partials of a fundamental tone give a major triad. And most of those tone relations which we call concord and discord are describable in terms of lower or higher vibration ratios. The physicist knows that this coincidence of mathematics with sensation does not, in the strict sense, explain the sensation. Yet the correspondence is so striking that, if it were only complete, we might feel that Leibnitz, with his famous dictum, *musica est arithmetica nescientis se numerare animi,* had actually linked the theory of tone relation to the physical theory of tone. But instead of completeness there is here intolerable inaccuracy. Physics says that the perfect fourth is a concord; but the musician blandly asserts that the perfect fourth with the bass is a discord. Physics finds the minor triad high in the harmonic series (in the 10th, 12th, and 15th partials), and not therefore founded on the fundamental; the musician feels it to be as positive a tonic harmony as the major triad. I need not further suggest the many ways in which the musician gloriously defies apparent physical law. Neither his scale nor his system of harmony will exactly square with physical principles. But it would be a disaster for our art if such things were established; for once the possibilities of a physically absolute scale had been exploited, we should indeed be confronted with the calamity that Rubinstein thought he saw in Chopin's music — *finis musicae.*

In this connection, it seems odd that any of the proponents of ultra-modernism, the movement of musical freedom *par excellence,* should attempt to invoke physics as the justification of its practice. You have doubtless seen the twelve-tone scale "explained" as the series of partials from the eleventh to the twenty-second. There are eleven, not twelve, intervals in this octave-series; every one of them is successively smaller as the series ascends; and not one of them is the true half-step which, multiplied by twelve, would give an octave. The twelve-tone scale, whatever its possibilities, would surely be unthinkable unless all its homologous tones were equidistant from each other. Mr. Ernest Newman does not say so, but I am sure it must have been his delicious Kryzmaly who started this kind of physical reasoning. For it was Kryzmaly, you remember, who expanded the doctrine, "Every note of the twelve-tone scale is as good as any other" by the brilliant qualification, "and better!"

Our perception of tone-relation will not square with the physicist's measurements of vibration. We turn, therefore, to the psychologist for a possible completion of the theory of music.
He also is at first concerned with a physical mechanism — the ear — which transforms intangible disturbances in air into nerve currents.

There are many disputed theories of hearing. Of these, the "telephone" and the "resonance" theories are the most widely accepted. The telephone theories assume that the whole basilar membrane is employed as a sort of transmitter-diaphragm, projecting the unaltered frequencies of vibration from tympanum to brain. The analysis of these vibrations — the transmutation of vibratory sensation into tonal concept — must accordingly occur wholly in the brain. The resonance theories assume that the basilar membrane vibrates in certain regions only, as if sympathetically, in response to the varied frequencies of the stimulus. The auditory mechanism itself, that is, performs a part of the analysis of vibratory sensation into tone-idea. The resonance theories seem to offer some physiological justification for the commonly accepted idea of concord as a fact of relation between tones of simple vibration-ratio, and hence to support the classical rather than the modernistic view of concord and discord. But it is evident that no more than the beginning of that complex tonal idea which is music is made in the auditory mechanism itself. Our judgments of tone-relation are made in the brain.

What Santayana calls "literary psychology" — "the art of explaining how animals feel and think" (in contrast to "scientific psychology, the record of how animals act") must then be invoked for the amplification of our theory. Once inside the brain, music becomes a mode of tonal thought, and is subject to what the psychologist sees as laws of thought. Professor Ortmann, studying the response to music at sensory, perceptual, and imaginal levels, comes to the fairly obvious conclusions that "reaction to music is a form of reaction in general, and obeys the same laws," and that "the determinant of reaction to music is capacity plus experience and training." But these words, experience and training, imply habit formation, and force us to the conclusion that, in so far as it is an affair of formed habits of thought, the response to music is a convention. In this light, our idea of the scale is itself a convention: a habit with a history. We know something of the historical formation of that habit. That series of notes which is to us a scale centered on C was to the Greek musician a Lydian mode, centered on A. To the mediaeval musician, it was a Hypolydian mode, centered on F. If the scale had been an absolute, physical tone-relation, neither these historical interpretations nor that of the modernists would have been possible. But if our idea of the scale is a convention, then it follows that our whole habit of musical thought, and our whole vast literature of music is also founded in convention. Again we may rejoice, for if it were not so, the system of music would be rigid and rapidly exhaustible in interest.

But the theory of music is not simplified when laws of thought as well as principles of physics are admitted as musical axioms.

We delight in the freedom with which its essentially conventional system of tone-relations has endowed our art. But it does not follow that that freedom is limitless, or that any convention of tone-relation to which we may become accustomed will prove a permanent extension of the range of our art. The psychologist knows that the toleration of discord, for instance, may multiply for some ears to a degree unimaginable to the laity, but may still remain, as a developed habit of discord-thinking, entirely normal. He will not allow us to think even of Schönberg's tone-rows as instances of abnormal musical thought. But he will agree that there may be something more involved in the convention of musical thought than the exclusive business of tone-thinking and tone-pattern-making; and that if that something more exists, it may prove a contravention of reasonable laws of thought to restrict the musical mind wholly to matters of tone pattern.

For most of us, music is far more than an affair of tone patterns. We know the fugue, indeed, as the form most congenial to Bach. We know the sonata as the form most congenial to Beethoven. But can Bach's utterance, through the form of the fugue, be understood without reference to the Reformation, or Beethoven's sonatas without reference to the Revolution? Musician and public alike find in these and other patterns an
interest beyond and outside of their interest as purely musical structures. And this, in the last analysis, is an interest in music as an expressive art.

But if music possesses the power of expression, our theory of music must again be expanded so as to account for that power. And again it must be done in other than purely musical terms. If music is actually expressive, its patterns must be more than purely musical designs. They must somehow appear as the patterns of emotion itself, or at any rate as somehow related to knowable facts of emotional experience. Certainly, if a given musical pattern, such as the King Mark motive in “Tristan,” is both musically intelligible and emotionally expressive, then it is clear that the imagination of the composer, in its creation, was guided by the consideration of this emotional objective as well as by what may be called the “absolute” consideration of musical design. I believe, indeed, that psychology is doubtful of the possibility of absolute musical design. For musical patterns are conceived and apprehended by the same mental powers which correlate other than musical objects. The very language in which we describe musical structures shows that our musical perception is analogical, not absolute. We speak of lines and curves of melody, of masses of harmony; we speak of musical phrases, sentences and cadences, and of balance, contrast, and involution; we speak of motion in music, though it is evident that the music itself does not move; and we speak of color as an attribute of something addressed to the sense of hearing. These are not actual characteristics of the musical substance. They are analogies: figurative concepts which describe music in terms of something else than music. The interest of musical patterns would be enormously reduced if such concepts were obliterated from our minds.

But if music possesses these likenesses to facts of design, of color, of motion, of speech itself, is it impossible that it should also possess knowable relation to feeling? This, it seems to me, is not only the most vital but the most practical of the many questions which are included in the vast problem of the theory of music. For whether we know it or not, we have a theory of music; and solve our problems, whether of composition or of actual performance, in accord with the theory we hold. And in proportion as our theory is insufficient, our practice will also be limited.

We have, I repeat, no tenable theory of music. We may hold, with the ultra-modernists, to a theory of music as an esoteric, absolute art; we may believe, with the sentimentalists, in music as the “universal language”—a language so easy that it does not even have to be learned; and we may take almost any position we please between these extremes. And no matter what position we take up, we may defend it with all the frenzy of bigotry and ignorance because there is not a competent theory of music, accepted by men of intelligence, to give the lie to our shallow pretensions. In this day of extremism we need above all things a tenable theory of music.

What, then, is the relation of Theory to Musicology? Theory is a soul, wandering in the wide womb of uncreated night, seeking earthly birth. The relation of Musicology to Theory will, I hope, be one of parenthood.
THE BEARING OF AESTHETICS AND CRITICISM ON MUSICOLOGY

ROY DICKINSON WELCH
Princeton University, Princeton, New Jersey

A moment's scrutiny of the title suggested for this paper makes evident a need for working definitions. The words used are not precisely blank checks to most minds, but they are to many indefinite and confusing in connotation. We may not hope in a few minutes to establish exactitude of definition in fields that have for decades or centuries eluded such precision. But it is important that we attach, however arbitrarily, some reasonable and discriminating meaning to words whose commonly accepted implications tend to merge, overlap, or become synonymous. The aesthetician must certainly be a scholar; the critic must be both scholarly and philosophical; the scholar is involved in both aesthetics and criticism. Where does one of these activities leave off and the other begin? At what point precisely does a man function as scholar, as distinct from critic and aesthetician; and what may be the bearing of one of these functions on the other?

Professor Dent's confession at the beginning of his Harvard Tercentenary lecture that he was ignorant of the exact scope of musicology may be taken as cold comfort by some of the rest of us who find ourselves in the same position. Not only are the several official definitions of the field confusing, but as one observes the types of study offered under this general title, the confusion is further confounded. A student of my acquaintance was recently accepted as a candidate in a two-year course leading to a Master's degree in musicology, though she knew at that time absolutely no harmony, very little musical literature, and neither played an instrument nor sang. Students in other musicological courses are engaged in paleography, iconography and, strictly speaking, archaeology. The diversity of training represented by the implied requirements for these several courses suggests vast differences in purpose. It might appear that the term musicology, like less reputable designations of certain types of music study, has come to mean precisely what its users choose to have it mean.

But, unless to the musicologist nothing musical is alien, we must assume some limitations to the field. It is reasonable to assume that the musicologist's proper and central concern is for exact knowledge of his basic monuments and a clear perception of their relationships. It follows that some branches of musical study are either contributory to this central objective, or are, so to speak, derivative from it. As contributory subjects I should designate a working knowledge of harmony and counterpoint, an awareness of the major problems and chief documents in the whole history of music, and a familiarity with a large and diverse amount of musical and other literature as well as an acquaintance with general history and with the necessary languages. Among the subjects that are derivative are those with which this paper is chiefly concerned, namely, aesthetics and criticism.

For, obviously, aesthetics is properly the business of the philosopher or the psychologist — or the poet. Philosophers and psychologists vociferously claim a whole or part of the field, though the poet, as evidenced by Horace, Keats, Housman, doubtless has the last and the most important word. Clearly enough, the effort to understand the phenomena of beauty involves philosophical acumen. Clearly, too, since the perception of beauty is a function of mind and emotions, the psychologist deserves to be heard. And since beauty cannot be proved, but must be felt, there is obviously an act of intuition present in its perception which the poet can perform better than most other men.

Criticism, however, is a function of the scholar, but only of such scholars as are more than erudite. Indeed, much excellent criticism has come from men with little or no claim to scholarship. Again, in criticism as in aesthetics, it would appear that an important word, if not the last one, is said by the poet. Both the aesthetician and the critic are largely concerned with things that can never become matters of exact knowledge. Both reveal their special gifts — as philosopher or judge — only when they make evident their awareness of intellectual or emotional phenomena that take place in the presence of certain facts.
With these few distinctions in mind, it becomes apparent that it would be far easier to point out the effects of purely musicological studies on aesthetic judgments and on criticism than to demonstrate any influence of aesthetic theory and critical norms on the scholar’s major interests. Critical statements and aesthetic theories may in themselves become matters of scholarly research. Each suggested norm of criticism and each formulated theory of beauty adumbrates a vast field of related material. Scholarship, in a word, must apply itself to the history, understanding, and clarification of the results that philosophers and critics achieve. But this in no way alters the musicologist’s central purpose. Yet, on the other hand, criticism and aesthetics are constantly being altered or confirmed by the scholar’s labors. Obviously, as music is more fully known, as forgotten works are excavated, as textual criticism yields a true sense of the composer’s intentions, the experience of music is altered and upon this alteration may follow a changed feeling for beauty and a revised or confirmed judgment.

The scholar must of necessity disregard preoccupation with all formulated and latent dogmas of beauty when he is in search of facts. To the strictly scientific mind there can be no difference in value between a critical text of the *Battle Symphony* and that of the *Eroica*. If we prefer one to the other, we are exercising judgment; we are criticizing upon an aesthetic bias. Much musicological research, to be sure, lapses from its strict and proper business; almost unwittingly the scholar will observe in his publications that he is examining “a particularly beautiful example” or has come upon “a noble specimen.” But he cannot afford, as a scholar, to dwell much on these judgments. The aesthetic theories and the norms of criticism a scholar may prefer are not tools for his research nor are they strictly relevant to its results.

The relation of purely scholarly research as a whole to the problems of beauty and of judgment is directly and succinctly stated by Adler in his *Der Stil in der Musik*: “Wir wollen hier nicht mit dem Worte ‘schön’ operieren,” he writes, “denn ein Kunstwerk mag seiner Zeit vollendet schön erscheinen und von den kommenden Generationen mögen sich dann nur wenige dieser Anschauung anschliessen. Der Stil einer Epoche, einer Schule, eines Künstlers, oder eines Werkes kann unabhängig von der begleitenden Vorstellung der Schönheit betrachtet und untersucht werden und gerade dem Historiker obliegt es, sich ausserhalb der Schönheitsauffassung seiner Zeit zu stellen und die Stile unabhängig davon in ihrem Wesen zu erfassen, zu erforschen, und zu erkennen.”

One may easily trace changes in both the general conception of beauty in music and in critical estimates which have resulted from the recoveries of certain music. The most obvious cases in point are the results of the publications of the Bach Gesellschaft. An equally interesting, if elusive, study would concern itself with the probable reasons why certain critical and aesthetic pronouncements were possible, and with their effect, if any, upon the actual work of composers. We should like to have a compilation and an elucidation of the major aesthetic pronouncements about music similar in method to Riemann’s “Theory of Music from the 9th to the 19th century.” The major documents which would occupy this study come to mind immediately as do the problems that suggest it. Contrast, for example, Boethius’ observation that music is to be regarded “aurium relictum judicio” with Artusi’s assertion that music should “charm the senses and delight the ear,” and so on to Hegel and Croce, and you have a body of statements extremely contradictory and confusing. Compare these statements, which are primarily concerned with musical experience, with aesthetic theories evolved by those philosophers who hoped to envisage the whole of the experience of beauty whether in music or outside it and again you have extraordinary contradictions. And, finally, we should find it suggestive, if not otherwise profitable, to have before us a compendium of statements made by creative artists themselves, confessions of faith which presumably guided creative effort. Doubtless this glimpse into the composer’s mind would but confirm the general conviction that the creative artist is less aware of his own processes than is his audience.

The aesthetician and the critic have constant need of the scholar’s labor. The scholar may take over theories of beauty and critical judgments as objects of his research. But the scholar
may function fruitfully with little or no concern for aesthetics and criticism; indeed he must guard himself against confusing theory with fact, judgments with proof. The relation of the several types of study which are the provinces of philosopher, critic, and scholar is suggested by Professor Dent in the lecture earlier referred to. Students, he says, must be encouraged "to look at music technically, scientifically, and analytically." At the same time they must be urged "to experience music emotionally and to widen their emotional range and intensify that experience to the utmost. The teacher's difficulty is to persuade them . . . that these two outlooks are not in the least incompatible; that they are only the front and back, the outside and the inside of the same thing."

THE VIEWPOINT OF COMPARATIVE MUSICOLOGY

Helen H. Roberts
Tryon, North Carolina

I IMAGINE that back of the committee's plan for including a paper on the viewpoint of comparative musicology in this symposium there lies at least one reason similar to that expressed by Curt Sachs in the foreword of his recent little book (1933) entitled Vergleichende Musikwissenschaft. Sachs says: "This book owes most to the researches of Erich M. von Hornbostel and Robert Lachmann. Its aim is not to furnish new data but so to bring together the old as to open up to wider musical and teaching circles the knowledge and present-day pedagogical value of comparative musicology."

While it is true that almost all musical investigation undertaken in a spirit of research is in the last analysis comparative, since such research would be almost valueless to us without some basis for reference and comparison, the kind of studies that are now coming to be classified under the term "comparative musicology" deal with exotic musics as compared with one another and with that classical European system under which most of us were brought up. Studies in exotic music have been in progress now for many years, but so laborious a process has it been to gain thorough acquaintance with even one exotic musical art, to say nothing of many, and so few workers have been engaged in such studies, that only now are the fruits of their labors becoming sufficiently voluminous, searching, and authoritative for the new science to have a firm enough foundation on which to rest.

Most musicologists of the past have contented themselves with scientific researches into the musical art in which they were trained. They have classified and worked out the details of its structure, laid down the theoretical principles according to which the art is supposed to have been built up but which may actually be developing as a whole in complete defiance of them. Or they
may have followed some minute details of the works of certain composers or performers, attempting to define their individual styles or the period art of a group or school, but all within the music of a given tradition. Musicologists are not confined to Europe and America; there are Chinese, Japanese, Hindu, Arabian, and other musicologists studying only their respective non-European musics, whose sole aim is to expand and clarify them. These I should consider musicologists in the strict interpretation of the word. They confine themselves to the outlook of a single musical tradition, however many may be the angles of vision possible from this outlook.

Comparative musicology reaps the benefit of the studies of musicologists just as any other comparative study relies on the detailed reports of students who have gone into their specialized subjects with single eye and mind. And the comparative musicologists themselves, often to achieve their aims, must from time to time turn to typical musicological procedure. An unknown music, to be compared with other musics, must first be studied in detail within itself, with due regard for a methodology which is capable of furnishing bases for comparison.

But always the comparative musicologist should work with an eye to bringing out, not only the characteristic traits of a given music, but to contrasting or likening them to those of other musics. His scope is infinitely wider than that of the orthodox musicologist, if the term may be allowed. Certainly his work is often more difficult and, in some respects, now increasingly valuable to music as a whole, as Sachs has indicated. For it stands to reason that the various musical systems that have grown into existence are what they are because of a certain narrowness and fixed procedure, their "set" having been determined first, perhaps, by something like accident, followed by recognition of and preference for, these procedures, which have led to treatises, formulae, and systems. Only a few of the various systems in existence, however, have been consciously studied by their makers and devotees. That is, few systems have their own musicologists. Lack of these, nevertheless, does not necessarily mean that the systems lack refinements and subtleties that would tax our own genius. Where these are greatly at variance with our own experience, their detection and evaluation are sometimes difficult and delicate, while the characterization of the features of the art as a whole involves at one and the same time not only the most detailed investigation but the broadest possible experience and vision as to the psychological point of view underlying the assembling of these details into an art.

Those musical arts which have been aided and complicated by instruments capable of rich and definitely fixed tonal variety, and which have been consciously systematized by their own musicologists, tend, in particular, to have one kind of complexity, namely, tonal complexity. There is another kind of tonal complexity in those primitive musics which rely for their tonal variety chiefly on the flexibility of the voice. Those musics which employ musical instruments of limited tonal variety and less definitely fixed pitches have in many instances developed another kind of complexity, namely, rhythmic.

These two complexities, tonal and rhythmic, have so often commanded attention in exotic musics on which treatises exist, that they were the first and sometimes the only features of an unknown music to which the early comparative musicologists gave any prominence in their studies. But the differences between various musics are greater than those of scales and rhythms, important as these may be as determinants of style. Each music is structurally different from every other; that is, different in its principles of composition or movement, of both melody and rhythm. The large number of traits possible in musical composition are brought together in varying ways and in varying quantities. Some traits may be totally absent from a given music, while some other musics are very rich in traits or composition devices. When it is realized that out of melody and rhythm may come almost endless units or elements of design, depending on the grouping of pitches and note lengths, and that the varying combinations of and plays with these units or elements can create an enormous diversity of larger patterns, it is seen how important is the handling of the stones out of which the structures are made. It is also amazing, when the extent of possible diver-
sity of patterns is realized, to find that anything like unified styles exist at all. Yet we know that there are very profound differences between Oriental and Occidental musics, and that the pattern of each is defined enough to be recognized. We know that there are still noticeable divergences between the various Oriental musics in themselves and between the various Occidental musics in themselves, though it may be hard to analyze, define, and catalogue them. We also know that within any given "national" music are apt to be lesser differences such as are found between musics for different uses, such as secular, religious, and military music, for example.

Similar observations apply to the unwritten, unsystematized primitive musics, or perhaps I should say, un-musicologized musics, since systems exist even when their makers are not conscious of them, just as grammar exists without grammarians, — so prone is the human mind to the creation of patterns in all manifestations of its activity.

It is an endlessly fascinating study to analyze these musics and to reduce them to "system," to characterize them and compare them with one another. This is not merely a pursuit for the pleasure of the scholar — a sort of antiquarianism, or passion for collecting musical curiosities. It tremendously widens the horizon of the ordinary musician to know something about how these other musics function.

Like everything else in life, left to grow alone a musical art tends to become introverted, stagnant or set in special ways — ways so strangely limited among certain groups, despite the great possibilities for growth and development inherent in the musical material itself. For new development there must seemingly be a fusion of different heritages. Musicians need to know with more complete understanding and sympathy, how alien musics are made, and to appreciate their beauties which to many, alas, are so obscure. Only when some non-European forms are as clearly understood and as keenly enjoyed as our own will composers feel their way into new and greater music of the future, built up from their combined beauties.

We have so far been discussing the music itself, the product of various instruments, including the voice, which in "primitive" music, at least, plays a very large part. We have seen that the viewpoint of comparative musicology enables us to visualize different musical systems and styles, not only from the side of their theory and their tonal content, but, what is more important, the art products themselves. It enables us to contrast the beauties of one music with those of another, much as we might compare different graphic arts for color, design, and so on. In capturing the characteristic traits of any of these arts and summing up their total into a clean-cut description, we perform an intricate and difficult mental exercise from which we derive an intellectual and aesthetic satisfaction.

In the field of the musical instruments themselves, comparative musicology finds another fascinating realm of research endeavor and speculation or fact-proving. While probably the instruments of other than European peoples are now so well known that any with entirely new acoustical or structural peculiarities are unlikely to be discovered and utilized in further development — the future development being along lines of recombinations of what is already known — comparative studies of instruments are most fruitful from the historical evidence they furnish.

This historical evidence is not merely that of the process of development of any given instrument or family of instruments, interesting and instructive as that may be to the student of music. There is another kind of evidence that is valuable to history in general. On account of their very nature as toys, so to speak, of leisure, and their use for other than utilitarian needs, on account of their relative complexity and the difficulty inherent in first making any invention, to say nothing of the same one more than once, musical instruments may afford very good evidence of common cultural heritage from prehistoric beginnings among peoples now perhaps rather widely separated in geography, language, and culture. There are details of structure in musical instruments that offer proof when it is lacking, or seemingly lacking, elsewhere. Thus von Hornbostel's comparative study of pan-pipes brought to light some very important evidence for cultural con-
nections between several regions widely separated by oceans, and the same may be had from a number of other instruments where the difficulty of independent invention makes it highly improbable if not impossible for any parallelism.

Average music students know far too little of all these rich musical possibilities in the world at large, of which the art of their own tradition affords only so narrow a view, and it is to be hoped that comparative musicology will come into its own, not only among scholars, but in the curricula of all of our music schools.

THE SERVICE OF THE LIBRARY TO MUSICOLOGY

CARLETON SPRAGUE SMITH
New York Public Library, New York City

The library can and should be a center of musicological activity. Being a librarian, I am tempted to say the center of musicological studies. Few libraries serve musicology as they might ideally, but a number have branched out in recent years and there are signs of improvement. I am going to discuss about a dozen points concerning the equipment, personnel, and functions of library service.

1. First and foremost, a library is the one place where a man may logically expect to find the music of the past and present in printed and manuscript form.

2. Secondly, the great numbers of books written about music — usually divided into (a) Incunabula, (b) Books prior to 1800, (c) Books since that date, (d) Librettos, (e) Musical Magazines, (f) Catalogues, etc. — in short, the tools of the modern scholar, are only available in large institutions. (The days when a scholar could own all the books he needed for scientific research are unfortunately — in some ways — gone. Only one in a thousand can afford to make a library such as the late Werner Wolffheim built up.)

While libraries are not yet the developed centers they should be, still most of them aspire to the things I have outlined above. That, however, is not enough. I look forward to the day when:

3. Phonograph records of the classics — and sound proof booths in which they may be heard — and

4. Folk song material in both written and recorded form will be available to musicologists using our libraries. And it seems to me also that

5. Collections of old instruments in playing condition are quite as important as the original music itself.
Where is all this material to come from you ask? Does not the speaker know that library budgets are very limited and that such things cost money? Yes indeed! But the fact is that my proposal is really one of economy. Many of our large cities possess collections of books about music in one library, a number of important collections of chamber music and orchestral scores in another, folk song discs perhaps in the university, musical instruments in the art museum and phonograph records in any number of other places. If this material were housed together and made available to the musicologist and the general public, the community would be served efficiently and the centralization and concentration of these collections in the long run would be a real economy. In short, most of the material for a general knowledge of music being scattered it is not half as useful as it should be.

A library with only books and music is too much like a morgue. Music differs from the other arts in that it must be heard to be appreciated. Very few of those who visit music libraries possess the necessary faculty and training to transfer the visual impression of a music score into an auditory one. As Oscar Sonneck, the late Chief of the Music Division of the Library of Congress, aptly expressed it: Our music libraries contain “thoughts practically buried alive, encapsuled in books of mute hieroglyphics”; and he went on to say that some day we must have “Museums of Music, where in sundry feasible ways the public appeal of works of musical art may be made to endure, in effect similar to the permanent and ever-direct appeal of painting, sculpture, etc. in museums of fine arts.”

Let me next turn to the personnel of a music library. If musicologists are to be served, the individual in charge of the section must have had some musicological training. One frequently finds that music is a subsection of the art department and that the head of the division has but an indifferent knowledge of musical history — and cares less. Music libraries must have specialists to run them — exactly as state archives and historical associations have.

The specialist, however, should not be a crank. Occasionally one meets with a man stressing the preservation angle of his position rather than the useful side. After all, a library is but a means to an end and is meant to provide for a certain public.

6. Briefly then, a music library should have a trained director with capable assistants, among them a cataloguer who is both a musician and a library school graduate. Every member of the staff should be able to read German, French, and Italian and at least one member should have some knowledge of Slavic languages.

Why is such specialization necessary? For many reasons, but let us just take the problem of music cataloguing. Only a few days ago I picked up some sonatas by the Austro-French composer Ignaz Pleyel, a pupil of Joseph Haydn. The set was dedicated to Queen Charlotte Sophia of Great Britain, the wife of George the Third. For filing purposes, I wanted to know if we had any other editions of the same works. Investigation showed that the same music was published during the composer’s lifetime in England, France, Austria, and America in the following versions: for piano alone; for flute, cello, and piano; for violin and piano; and as duets for flute and violin. These four were scattered through our catalogue until a standard title establishing the first and original version put matters right.

7. The importance of close cooperation between the library and its public cannot be overemphasized. Librarians can be of great service to musicologists if they are familiar with the bibliography of music. I have known many an assistant who has been of real help to scholars of international standing, frequently calling attention to material which would otherwise have escaped them. In turn, the investigators have often aided the librarians by pointing out material they did not know they had or correcting mistakes in the catalogue. Any inquiry, no matter how difficult, receives careful attention from the librarian, and a considerable amount of research is done gratis. In each city, if the musical organizations work closely with the library, the efficiency of the service will be increased. There are musicologists in the
opera, the symphony orchestras, chamber music groups, musical clubs, colleges, phonograph stores, radio stations and sound picture companies. Here are a few bits of service which have been given to such organizations or individuals in them:

1. The Metropolitan Opera Company wanted to find a little known Rossini opera it could revive. The library, among other works, had *Matilda di Shabran* and *Il Signor Bruschino*. The conductors came, consulted them and the latter work was performed.

2. Searching for an unusual work to be played at an extra concert, the Philharmonic Symphony Chamber Orchestra asked for a recommendation from the library. Justin Heinrich Knecht's "Pastoral Symphony" *Le Portrait Musical de la Nature*—a precursor of Beethoven's Sixth Symphony—was found and played with great success.

3. The Stradivarius String Quartet, desirous of performing some early French quatuors, was supplied with compositions by Pierre Vachon and François Joseph Gossec.

4. A Ben Johnson Masque was planned by the MacDowell Club. Seventeenth century ms. and printed music, some of which was written for the masque in question, was run to earth by the library.

5. Wanting a little known 18th century violin concerto, the Smith College Orchestra performed one scored from an old manuscript in the library.

6. In reply to a demand for harp and flute concertos, an assistant supplied the Eastman School of Music with a list of unusual material some of which is only available in the library.

7. Bringing out a large record catalogue, the Gramophone Shop finds itself indebted above all to the phonograph bibliography of the library.

8. On the occasion of a Shakespearean broadcast, the National Broadcasting Company learned at the library that Orlando di Lasso set a song which Shakespeare refers to.

9. One of the moving picture directors writes to know what hymns the Christians sang while they were being thrown to the lions by Nero.

And so it goes. By not consulting a library, the moving picture *Little Women*, starring Katharine Hepburn, fell into the ridiculous error of featuring Tchaikovsky's version of *Nur wer die Sehnsucht kennt* (written after Miss Alcott's book was published) instead of Schubert's or Beethoven's setting of which she was obviously thinking.

8. Let me return to the equipment side of a library. One of the chief problems in this country for the musical scholar is the difficulty of consulting holographs of the great musical masters, most of which are in European archives. With the perfection, however, of film photography, it is now possible to obtain reproductions of the Beethoven, Bach, Mozart, and Handel manuscripts abroad and deposit them here in our music libraries. The films may be projected either onto a small desk for the scholar or a large screen for the classroom student. Enlarged prints even may be made from the film negatives. Every American music library should plan to build up this side of its collection.

With the increase of these films, we should before long have a number of splendid film archives in this country. There is no reason—providing the European libraries do not suddenly become jealous of their material—why we should not one day come to have just as useful reference centers here for every phase of musicological research as we find abroad. As a matter of fact, films are more durable in some cases than the originals, and manuscripts may be enlarged many times the initial size and made clearer by our modern projectors. Obscure points can thus be definitely cleared up.

9. While we are mentioning films, it might be well to refer to another development which should be a tool of musicologists, namely, the dance. We have diagrams of the steps which Fanny Ellsler and Taglioni took, we have prints and engravings of these celebrated artists in action, but few of us can really say just exactly what this or that dancer did. Today, our dancers are beginning to be filmed, and future musicologists will know exactly what steps were taken. The tone-film, perhaps the color film, will be of great help in studying the dances of Bali, China, and other non-European countries which we find so difficult to understand. A little cooperation from the film companies would enable our music libraries to become really useful in this way. For instance the "shot" of Rudolph Valentino doing the tango in
The Four Horsemen of the Apocalypse is an excellent bit of 20th century dancing. No dance archive is complete without it.

10. Making scores of the parts of old music in a library is another important feature of true musicological service. We still are comparatively poor in orchestral, solo concerto, and concerto grosso full scores, and material assembled and copied on transparent paper is of tremendous advantage to musicologists and music lovers throughout the country, particularly because black-line print copies may be struck off from these "masters" for a few cents a page.

If the conservatories, symphony orchestras, private scholars, and composers will cooperate with libraries in this, we shall all be saved a great deal of duplicated time and effort — and money.

11. Giving lectures on and concerts of the unusual things in a library — whether they be compositions by 16th century composers or 20th century ones — tends to make the music library a live forum where scholars, players, composers, and dancers may meet and exhibit their talents. The importance of a music library as a living place must be kept in mind. (There should, incidentally, be practice rooms for trying out music in the library and of course a concert hall.) If there are old instrument collections and if some of the instruments may be played on, these will aid enormously in finding out about the tone color of the early musical palette.

12. Again, in connection with old instruments, engravings or prints of players and instruments may be of help in determining how certain works were performed and how obscure instruments were played. The foresighted libraries today are building up, consequently, collections of musical iconography. Portraits of musicians — for example, Frescobaldi, Bull, Bach, and Handel — give us an added conception of the men. In short, the pictorial side plays an important part for the musicologist.

Finally, we must stress the importance of American music — past and present. After all, we are trying to build up an Ameri-
CHANGING RELATIONS WITHIN THE FIELD OF MUSICOLOGY

Otto Kinkeldey
Cornell University, Ithaca, N. Y.

The course of intellectual activity does not continue through a long period of time in a fixed direction without variation or change. No line of scientific research remains forever perfectly straight. No field of scholarly investigation has boundaries rigidly prescribed, unalterably fixed with relation to adjacent and cognate fields, never changing from the moment when work begins until human interest in that field dies out. It lies in the very nature of the human mind, when once a point of orientation has been definitely established, to take sights in new directions, to discover new aims and objectives.

No one of my hearers is unaware of the radical changes in direction, in style, even in meaning, which take place in the arts, and in the art of music more startlingly than in the others. One might expect that in the rationally controlled efforts of so-called scientific thought, such changes would be impossible. But even the human reason itself, however firmly we may be convinced of its essential and ultimate unity and consistency, does, from time to time, appear in a new role, assuming a different garb or presenting a new physiognomy.

The mathematics, the chemistry and physics, the natural sciences of the present day are in some cases looking and moving in directions totally different from the course and trend followed by those same sciences fifty or a hundred or a thousand years ago. We cannot expect, then, that the outlook and the direction of scholarly investigation in the field of music should not be subject to fluctuations of the same kind. Changes in the methods of approach, new overlappings into adjacent fields, new coörditions and correlations of the fundamental elements result in new definitions, new axioms, new concepts, new conclusions.

These changes do not mean that the concepts, the principles and the conclusions that belong to the past are outlived once and for all, and may be thrown permanently into the discard. If Planck and Einstein seem for the time to have thrust Newton from his high supremacy, this does not mean that Archimedes, Galileo, and Kepler lived in vain. On the contrary, the shifts and changes frequently involve a return to apparently outworn and useless principles and methods. Often, when we believe that we are stepping boldly into new and unexplored territory, we find ourselves face to face with old ideas, pronounced dead long since, but now asserting themselves with new vitality and a new and unexpected usefulness.

The word "musicology" as applied to the scholarly and scientific investigation of every phase, material and immaterial, of the art of music, in all its manifestations, is a comparatively new term. The science itself (and I use the word science here in the wider sense in which it is applied to history, philology, aesthetics, and to the humanities in general) in its modern organization is comparatively new. Even within its relatively short modern existence the varying and changing emphases placed upon this or that aspect of this study as expounded in the papers which have been presented at this meeting, are great and important enough to justify the title of my own paper. We shall be greatly aided in our attempts to understand the significance of these various emphases or differing methods and principles, if we do not confine ourselves solely to the short period in which modern musicology developed. Scholars in music who were not primarily artist creators but investigators of fact and reflective systematizers, existed long before the word musicology was invented. If we find that even in earlier and earliest times the differing approaches and the changing relations which we observe today were not unknown, we may interpret that as a reassuring sign that the differences and the changes are not evidences of unsound foundations or false procedures. We may assume with confidence that they lie in the very nature of the material with which we are dealing and of the human mind which seeks to apprehend and explain this material.
We are accustomed, when we look for the beginnings of higher culture and civilization, at least of Western civilization, to begin with the Greeks. And we may begin with them when we seek to discover the first signs of a rational, a scientific approach to the facts of music. Indeed our inquiry brings us at its very outset into the presence of one of the greatest names in the history of science or of human thought. Looming up out of the mist of legend and tradition, the figure of Pythagoras stands before us as the first great musicologist. We do not know exactly when he lived. It was at some time in the sixth century, B.C. His teachings do not appear in writings of his own, but in the works of his followers. But he helped to lay the foundations of Greek philosophy, and he is one of the first mathematicians whose teachings have come down to us in more or less authentic form.

The kind of speculation in music that appealed to the Pythagoreans was the application of a number theory to the facts of music, for numbers and number relations were the foundation principles of their whole philosophy. Precise observation in a truly scientific spirit enabled them to furnish explanations of tones and tone relations, of intervals and scales, which are theoretically valid up to the present day. And so we may boldly affirm that mathematical acoustics was the first branch of musicology to reach a firm foundation. This foundation has remained fixed for twenty-five centuries, and, at least in its primary elements, is as useful today as it was in the beginning. There has been no change in the relations which this study bears to the art of music in general or to other problems of musical research. The expansion and the later development of the field were, as we shall see presently, subjected to certain fluctuations and to periods of inertia.

But the Pythagoreans pushed their number philosophy beyond the limits of actual audible musical sounds. The ideas of order and harmony which came out of their musical studies they applied in their philosophy of the universe. Their cosmology, or theory of the structure of the universe, sought to find in the solar system, in the planets, the sizes of their orbits or their distances, one from the other, number relations which reproduced the relations found in harmonious sounds. The heavenly bodies, in their movements, were said to produce music — music, to be sure, too subtle for the perception of human ears. This was the “Harmony of the Spheres.”

On this point we may readily speak of a changing relation. For no later philosopher or musicologist has ventured to go quite so far. No modern cosmology is as basically musical as that of the Pythagoreans. The musical mysticism of the present day, which sometimes runs riot in our pseudo-philosophical and pseudo-critical literature, cannot lay claim to the sound reasoning or serious philosophical method of these old Greeks.

Another aspect of Greek musical thought may deserve our attention for a moment. The Greek philosophers who came after the Pythagoreans did not continue musical studies along the line of mathematical acoustics. The greatest of them, Plato and Aristotle, who lived several centuries after Pythagoras, could hardly be numbered among the musicologists. It is true that Plato takes his cue from Pythagoras when he tries to explain the soul as a musical harmony. But the point I would like to make here is that both Plato and Aristotle, when they come to discuss music in their philosophical works, pay particular attention to its ethical qualities. The effect of music on the character of man and the necessity for regulating the musical education of the young, the need for actually prohibiting certain kinds of music, are the things that interest these thinkers.

We have not yet in modern times established a branch of musicology called musical ethics, but there have always been men who felt the urge to sound an ethical note in their discussion of musical art. They exist at the present day. In their lowest form these utterances take the shape of violent outbreaks against the insidious effects of dancing and of dance music, or against the brutalizing influence of jazz. A more serious and more dignified treatment of the question is to be found in the field of church music. The attempts to set up norms for adequate church music are usually based on ethico-religious foundations.

Greek thinkers and writers after Plato and Aristotle (who lived anywhere in the region of the Eastern Mediterranean,
roughly from the third century B.C. to the third or fourth century A.D.) devoted themselves chiefly to another phase of musical rationalization which we still cultivate at the present day. We call it musical theory. This is the aspect of musicology which comes closest to actual musical practice and artistic creation. For the Greeks it consisted largely in an investigation of musical intervals and their mathematical relations; in the study and systematization of scales and modes; and some, though not greatly detailed, consideration of musical forms. We still rationalize about the materials of musical composition and formulate rules for their use in very much the same way. The greatest change that came over the method of musical theory appeared some three hundred years ago with the addition of the problem of simultaneous tones to that of successive tones. The Greeks, and ten centuries of theorists after them, paid no specific attention to this problem, which looms so large in our modern Western musical theory.

One last comment will conclude this survey of musical thought in the beginnings of our own civilization. Musical history, which has taken so large a share of the attention of modern musicologists, played a very insignificant rôle in Greek musical literature. Only one Greek writer, Plutarch, who died 120 A.D., author of a treatise on music as well as of the famous "Parallel Lives," attempts to incorporate more historical information into his work than was usual at that time. But his is not the well-authenticated, documented type of research which we now look for under the name of scholarly historiography.

It is not my purpose here to trace the history of musicological ideas from the Greeks to the present day. I have dwelt at length on the Greeks in order to make it clear that certain aspects of musicological activity, which we seek to correlate and coordinate in our modern work in this field, are as old as our Western civilization itself. Two of the movements started by the Greeks continue today—musical acoustics and musical theory. Whatever changes we may observe in the aspect of these branches of science since the beginning, their fundamental positions and their elementary principles have remained practically the same.

Let me say just a word about the middle ages. The thousand years from the sixth century to the sixteenth have bequeathed to us a wealth of musical literature, a large part of which has a truly musicological character. I refer here, not to the purely pedagogical parts of this literature which deal with problems of notation or with practical rules of counterpoint, but to the more speculative, philosophical writings. They expand and develop the mathematical acoustical principles of the Greeks. They transmit some of the Greek musical ethical theories about the moral effects of various modes. We have a slight echo of this type of musical speculation in modern times, but it is now no longer ethical but rather aesthetic. We are all familiar with the attempts to assign particular colors, special emotion—or feeling—qualities, to the individual keys.

One other concrete example from this period will show how views and aims change. The medieval writer often tried his hand at a classification of music. One of these classifications, which seems to have been original with Boethius in the sixth century A.D., distinguishes three classes of music: (1) mundane, (2) human, (3) a kind of music which is constituted by certain instruments. Boethius was still a true Pythagorean, for by mundane music he means the music of the worlds, the harmony of the spheres. By human music he means, not what we should expect, namely, the music audible to human ears—which is the only music in which we moderns are interested. He is thinking of that harmony of soul and body which makes life possible, that musically proportionate mixture of spiritual with corporeal elements which makes a harmonious life, just as a lower and a higher tone properly adjusted according to the correct numbers produce an agreeable consonance. It is his third class which comes nearest to the music in which we are interested. It would not be correct to translate his description merely by the words "instrumental music," for that would seem to exclude vocal music: He is still classifying according to his number philosophy, and his third class consists of that audible music from which the number relations were first deduced by the measurements of the strings or tubes which produced varying tones.
Our modern classifications have no such metaphysical basis. We are wholly practical when we distinguish vocal and instrumental music, sacred and secular music, or music for solo performance, chamber music, and orchestral music.

Let us turn finally to the situation that confronts us in the varied aspects of modern musicological science. Let us consider first those branches which, as I have tried to show, are of very ancient lineage. If there are any changes in the content of musical theory or in its relation to other phases of musical rationalization, these changes do not affect the elements on which the whole rational activity is based. The most ultra-modern music theory still rests, like that of the Greeks, upon a logical classification of tones and intervals, with their relations to each other, and a systematic setting up of scales. If modern theory places a strong emphasis upon the chordal or harmonic aspect, which was unknown to the older theory, this is not an unmixed blessing, for it has crowded the important factor of melody and its independent consideration somewhat into the background. That the superstructure erected upon this interval and scale foundation changes with changing styles of composition does not affect the fundamental unity of all musical theory.

The relation of musical theory to other branches of musicology has also remained practically unchanged. And this, I believe, is due to the fact, mentioned earlier in this paper, that its association with the practical art of music, with the problems of artistic creation, is far more intimate than is the case with any other branch of musicology. Even if we were willing to abandon research and speculation in all other fields, we should still need a well ordered musical theory for the practical training of artist musicians. Now and again a theorist borrows new ideas from the field of acoustics and elaborates a new phase of theory on this basis. Sometimes the speculative theorists wander far away from any apparent practical purpose, as did the ancient and medieval writers in their elaborate number speculations, or more modern writers like Moritz Hauptmann in his harmonic theory, or Arthur von Oettingen and Hugo Riemann with their theories of dual harmony. Some of the speculative efforts are conceived by their authors with the express purpose of immediate practical application, like the mystic chord method of Scriabine or Schönberg’s theory of composition with twelve tones.

The other ancient discipline, musical acoustics, shows a more varied history. The old Pythagorean experimental observations and the number theory founded upon them sufficed the race of musical acousticians for more than twenty centuries. Then, with the early stages of modern experimental science in the beginning of the seventeenth century, a marked change begins. It coincided with the accidental acoustic discoveries of a practical musician, the violinist Tartini, who in 1714 first observed difference tones upon his instrument, and used them to arrive at a pure intonation. The really scientific contemporary of Tartini, the father of modern experimental acoustics, was the French mathematician Joseph Sauveur, who, strange to say, was totally deaf from his birth. Yet to him we owe the first scientific observations on harmonics or overtones and the first method of actually establishing the correct vibration numbers of a tone. His method involved the counting of beats.

In the direction thus given, a long line of keen observers and skillful experimenters carried the science to more advanced stages. The names of Euler, R. Smith, Chladni, and Tyndall will suffice to form the bridge to Hermann v. Helmholtz; and with Helmholtz we come to another changing relation. Helmholtz was by training a doctor of medicine and a professor of physiology. Whereas before his time acoustics had been largely a matter of pure physics, Helmholtz, with his epoch-making work *The sensations of tone as a physiological basis for the theory of music* (1863), introduced a physiological and a psychological element into this field of research. Since his time we have theories of hearing as well as theories of sound.

The generation which followed Helmholtz again introduced a new emphasis. Founded on Helmholtz, a new psychology of music was created. English writers like Herbert Spencer, James Sully, and Edmund Gurney followed a more or less independent course. But the chief continuator of Helmholtz in Germany was Carl Stumpf. The impetus given by Stumpf and his school to
comparative psychological studies, the desire to make the psychological deductions about music valid, not merely for a particular region or country but for the whole human race, led to a new discipline in the field of musicology. The musical experience, reactions, and habits of groups of the human race outside our own limited European family were needed to complete the picture. The skilled anthropologist and ethnologist were summoned to lend their aid, and a striking changing relation is seen in the newest branch of musicological science, generally known as "comparative musicology." Its effects on the older methods of musicology and on the general trend of studies in our field is quite likely to be the same as the effect of the science of comparative philology on language studies in general. For example, the older, highly speculative and subjective solutions of the problem of the origin of music are giving way to what we call a more scientific approach, based on the material gathered by the comparative musicologists and on their careful determination of the still observable phenomena of musical development which they consider most remote from our European—presumably high—state of culture. That the changing relation was not brought about solely by a new theoretical attitude, but that a purely mechanical factor was also involved—the invention of the phonograph—requires no more than a passing reference here.

I have tried to show how the old physical acoustics changed into physiology, psychology, and comparative ethnology. Let us return for a glance at the further development of the physics of music, for here, too, the present trend shows a strikingly new character. After the time of Helmholtz, mechanical acoustics became a sort of stepchild in the physical laboratory. Other aspects of physical science absorbed the attention of the scientists. Above all else a new, wide field was opened up in the study of electricity. And it is precisely from this field that the return was made to a new activity in the study of physical acoustics. New theories and experiments in electric waves, an extraordinary development of knowledge and of skill in the control and manipulation of the high frequencies which characterize these waves, opened the way for a return to acoustics. The conversion of these high-frequency electric waves into sound waves proved easy. The ultra-refined precision of electrical instruments provided new means of producing, of controlling, of combining, and of analyzing sound waves; and the science of acoustics was with us again with an entirely new method. The practical application of the new science in radio broadcasting and loud speaker technique is known to everyone. But the theoretical and the experimental work in the laboratory have not been restricted to this one field. The old relation of physical acoustics to psychology has not been neglected. Take a single example. The new apparatus and methods of investigation have made it clear that the human ear is quite ready to accept a properly adjusted combination of overtones as a substitute for a fundamental which has absolutely no objective existence. If much of the present-day laboratory work still has a more or less practical and commercial objective, namely, the improvement of the telegraph and the telephone, there is no reason why the near future should not bring us a body of investigators whose aim is more purely musical.

Before we leave this consideration of the relation between musicology and natural science, one or two other modern movements should be mentioned. It was stated that Helmholtz introduced a physiological element into the science. But his was wholly a physiology of the ear. In recent times the physiology of musical performance has received a fair share of attention. Our scientific investigators are beginning to inquire not only how we hear, but also how we sing, how we play the piano or the violin or the trumpet. Comparatively recent also are the studies which, by a combination of physiological and psychological method, attempt to determine and measure the musical talent of an individual. Our forebears had neither the interest nor the precision instruments nor the scientific method which the successful pursuit of such studies presupposes.

Let us pass on to another field of musicological study. No one who bears in mind the fact that music is an art, can fail to realize, when he thinks seriously about music, that this art, like all the
other arts, presents certain problems which no number of acoustical data, however accurate, no amount of psychological observation, however keen, no physiological investigation, however minute, and no massed knowledge of matters of fact, however well-ordered, can solve. And yet the human intellect presses for an answer to these questions. The problems and the answer lie beyond the limits of the objective sciences. They are in the realm of pure intellect. I purposely avoid saying the realm of pure reason, for the feelings, the emotions, play so large a rôle in the formulation, if not in the solution, of the problems, that most men are loath to see them entirely excluded from consideration.

Now, this particular sovereign activity of the intellect constitutes the field of philosophy, and when it is centered upon art in general or upon a particular art like music, it forms that special branch of philosophy which we call aesthetics. It is perfectly true that the musical philosopher may call upon the other branches of musicology to provide material or even to suggest methods for his speculations, but his real work lies, as I have intimated, beyond the limits of these other studies.

The development of an independent philosophy of music is a comparatively recent accomplishment. It is true that we find occasional aesthetic utterances about music in the Greek philosophers, but they can hardly be counted as a systematic theory. The same is true of the medieval writers. These, like the Greeks, associate their aesthetic ideas closely with ethical notions. But from the eighteenth century onward we find musical aesthetics of a more or less strictly philosophical character introduced into the general speculations in the field of aesthetics. In France it is the elaboration of the principle that art is the imitation of nature which provides the thinkers with the opportunity to philosophise about music. The words "imitation of nature" are not by any means taken in their most literal signification, but are subjected to very wide philosophic interpretation. Batteux and Rousseau are two names which should not be omitted in this reference to the beginnings of systematic musical aesthetics. And as English contemporaries of these thinkers we might mention Joseph Addison, James Harris, David Edward Young, and Edmund Burke. You will note that none of them is a musical specialist. But Charles Avison whose Essay on musical expression appeared in 1752 was a musician.

The great German metaphysicians, beginning with Kant in the eighteenth century and going through Hegel, Herbart, and Schopenhauer down to Eduard von Hartmann, all paid due tribute to the philosophy of music, but theirs was hardly a musician's aesthetics. A violent change in relations came about with the publication of Hanslick's little brochure On the Beautiful in Music in 1854. Like wildfire it spread over the world. Thinking musicians as well as professional philosophers took sides for or against the aesthetic doctrine of Hanslick. Since then speculation in musical aesthetics has again been allowed to go back to the philosophers, but more of these now come from the ranks of the psychologists like Fechner, Wundt, and Lipps in Germany, and in a certain sense Herbert Spencer in England. The old type of general philosopher who leans strongly to aesthetics and includes music in his speculations may be represented by the Italian Croce, and France has given us at least one especially musical aesthetician, Charles Lalo, brother of the composer Edouard Lalo.

I have left the consideration of musical history as a scientific study for the last, for when all is said and done, by far the greater part of the mental energy which has been expended in musical research and investigation has been devoted to historical studies.

Real musical historiography does not go as far back as modern acoustics. We can hardly begin to speak of thoroughgoing musical history-writing until the middle of the eighteenth century. It is true that Wolfgang Kaspar Printz in Germany (1690), Giovanni Andrea Bontempi in Italy (1695), and Pierre Bourdelot in France (he died in 1708, but his work was published by his nephews, Pierre and Jacques Bonnet in 1715), are forerunners of the later school. But with Padre Giambattista Martini (1757-1781), Sir John Hawkins (1776), Charles Burney (1776-1789), Jean Benjamin de Laborde (1780), and
Johann Nikolaus Forkel (1788-1801) we open a line of real music historians which has continued to the present day.

As in the other musicological disciplines, the line of historiographical progression has not been perfectly straight. Methods and viewpoints have differed with successive generations. All the writers just mentioned had one great common difficulty to overcome. That was the difficulty of procuring material. The monuments of the musical art of past ages differed in several essential particulars from the material out of which general history or the history of the other arts is made. They were not the actual art objects themselves, but merely written signs of a reality which never had a material existence. They had never been carefully collected and systematically preserved for continued study, as other historical monuments and documents were frequently preserved. Only too often, when once they had served their immediate practical purpose, they were utterly neglected or even destroyed. Our early musical history writers had had no forerunners who in special historical research studies in carefully limited fields had collected and sifted the material, making it accessible and usable for general survey or synthetic systematization.

As a result, some of the early historians of music never got beyond the first stages of a project which was intended to be general and all-inclusive. It is true that Hawkins and Burney both managed to cover the whole field almost up to their own day. But Martini’s three volumes treat only of antiquity. Forkel reaches the middle of the sixteenth century. And this is still true of later historians. Ambros in four volumes (1862-1878) goes only as far as Palestrina. Fétis, in five volumes, (1869-1876), does not go beyond the fourteenth century. It is evident that a change in the nature of the historian’s problems could not come until we had secured a greater mastery of the material, and the process of mastering the material was comparatively slow. Perhaps I should say is comparatively slow, for the process is not ended — in fact, it never will end. This characteristic, troublesome as it is, research in musical history shares with all other lines of historical study.

The significance of the special research study and its effect on the general outlook of the music historian and on the trend of historical writing can be illustrated with a few examples. Ambros acquired great merit by giving us a more minute and more reliable study of the works of the later Netherlanders than had ever been made before him. We thus became better acquainted with the music of the late fifteenth and early sixteenth centuries. But for the early Netherlanders and for the fourteenth century which preceded them, Ambros could do little more than Hawkins and Burney before him. We had to be content with a few biographical notes on the composers, general descriptions of musical practice, and a few general comments on the forms of musical compositions. Even the earnest endeavors of Fétis and Coussemaker in actual history writing did not advance matters greatly. It was not until the completion of Johannes Wolf’s epoch-making study of mensural notation and Friedrich Ludwig’s form studies of the earlier period, that we were able to make a real attack upon the problems of thirteenth, fourteenth, and fifteenth century musical history. The same might be said of the Benedictine researches and the studies of Peter Wagner in the nature of the monodic music written in neumes from the eighth or ninth century to the fifteenth.

With the accessibility of this great new body of actual musical material, a new phase of historical study is introduced. We are enabled to group the objects of our research in larger classes, to trace developments and make comparisons. A new type of style studies emerges, and the results of these studies and the principles upon which they rest are not confined to the investigation of the earlier material alone. They are carried on through the historical examination of music right down to our own day.

But the style studies in their turn have a corollary. Styles are more or less identified with historical epochs, and it becomes the business of the research scholar to delimit and describe these epochs. The political and economic historians and the historians of the other arts have long since entered this field and have settled their own problems of periodization and epoch delimitation with reasonable unanimity and agreement. Those who are
familiar with the uncertainty about the actual rise of the musical renaissance, or with the many discussions on musical baroque and rococo which abound in recent musical histories of scholarly calibre, will understand what is meant by style and epoch classification. It has all come up within the last twenty-five years.

Other changes in musical historiography have been or will be brought about by corresponding new orientations in the sister disciplines of musicology. The system and methods developed by the comparative musicologists will have to be taken into account in every new historical approach to the study of musical folk-lore. The new acoustics will influence our way of writing the history of musical instruments. The latest psychological developments will undoubtedly give a new turn to our history of musical theory.

Aside from changes of this nature, we must also take into consideration the innate desire of each new generation to arrange and interpret the facts of experience in its own way, according to its individual philosophy, so to speak. This desire is at the bottom of most variations in style, not merely in musical art. In the realm of musical history the trait is most easily observed in the field of biography. Each new generation has its own relation to the great figures of the past, and it is insistent in its demands upon its biographical writers, that they shall re-interpret the subjects of their biographies in new terms, consonant with the changed point of view of the age.

The source material stored up in such foundation biographies as Spitta's *Bach*, Thayer's *Beethoven*, and Glasenapp's *Wagner* will continue to be used over and over again. But there will have to be a steady succession of Paul Bekkers, Houston Stewart Chamberlains, Ernest Newmans to provide the absolutely necessary re-interpretations of the old heroes to a new and changing world.

Let me close with a brief reference to one species of musicological activity which has a uniform relation to every single branch of musicological study. I refer to the field of musical bibliography. Musical bibliography, like bibliography in general, does not exist for its own sake. It is and should be the handmaid of every general and every particular form of research. Its ancillary character should, instead of causing it to be reduced to some sort of Cinderella position, command the respect and call forth the welcoming recognition of all other types of intellectual activity. Its chief aim — to render more easily accessible the material of whatever kind, useful for any sort of scholarly activity — is permanent and unchanging. Changing viewpoints, as, for instance, in the matter of classification; or the invention of new mechanical techniques, as in the conventions of cataloguing, are of immediate practical significance only. The ultimate object, to reveal the existence of usable material, to chart the way and to pilot the research scholar along that way, will be the same in the future as it has been in the past.

We might almost hope, or at any rate wish, that this trait of the good and faithful servant, the untroubled pursuit of an even course and the steadfast adherence to a principle that is not shaken with every wind of change or every whim of human caprice, might have a steadying influence on the studies which the bibliographer aims to serve. The rational and inevitable changes in our intellectual activity in musicology would then be recognized more quickly and interpreted in their true light. Adjustments and new coordinations would be more easily accomplished. But the wholly arbitrary and unfounded departures from a sound norm or from a method proved safe by experience, departures often dictated by a perfectly human desire to be different or to startle the world by novelty, would also be more quickly recognized and relegated to their proper place before they had done great harm, and before they had confused the ideal which should inspire every true musicologist — the greater glory of the art of music.
SOME ANALYTICAL APPROACHES TO MUSICAL CRITICISM

CARL BRICKEN
University of Chicago

AN ANALYSIS such as the following is based on the elements of pure music— as contrasted with program music, religious music, theatre or dramatic music, or romantic music. All of these, excepting pure music, depend to a greater or less degree on extramusical means. Pure music depends entirely on tones and tonal relationships. The following machinery will be employed, and the following postulates proposed:

Machinery:

1. Descending scale — melodic ascending scale.
2. Triad — harmonic and melodic.
3. Measure grouping — rhythmic.

Postulates: that a composition is good if it clearly presents in the course of its evolution the components of (1) inevitability and (2) the unexpected. (Analogy with good play.)

This paper will be an attempt to show how these postulates may be proved in terms of the machinery of analysis. Since time is limited, only a part of a classical composition will be treated. The first thirty-five measures (or the statement of the first subject) of the Beethoven D Major String Quartet, Op. 18 No. 3, has been chosen.

First, I might say that as a medium the string quartet must justify itself as musical expression by means of four individual instruments, played ensemble. Clarity is essential.

With reference to the machinery: the scale may ascend or descend. Its inevitability depends on its progression stepwise upwards or downwards from a given starting point to a point of rest. By means of melodic, rhythmic, or harmonic expansions or contractions the element of the unexpected may arise. Let us take, for example, the progression stepwise (in the key of D major) from a above the treble clef down to d, a perfect 5th below.
This is a natural scale progression from V to I. But this progression may be temporarily delayed, involving an element of surprise, or the unexpected. The stepwise progression may be extended likewise, a counterline may appear in another part or voice, starting from below and progressing stepwise upward. These two lines may meet on a common tone of rest. If this is so, one evidence of inevitability is certain.

The first motive of this work appears in the first violin in the first four measures. (See illustration.) There are two interval figures and two diatonic figures. The first two notes outline the limits of the dominant seventh chord in D major which resolves stepwise downward. In these first five tones we have the seed of the content.

In the first ten measures the subject is announced, arriving at a feminine cadence. The harmonic progression is I-V-I. The essential tones of the melodic line are:

Note the four tones of the dominant seventh chord, in prominent rhythmic positions.

The first sixteen measures are a statement of the first subject as thematic material, reiterated in different registers in the same tonality to measure 15 where the d in the viola (as root of the chord) leaps the minor thematic 7th to c-natural — the first unexpected melodic development. Inevitability is achieved by the use of the motive from d as a starting point and its resolution to b, the fifth tone of the II chord. Here is the first important harmonic progression from I to II. So far only simple thematic material has been expressed. At measure 17 the composer must meet the challenge of holding his listeners' interest. Inevitability must be maintained, and the unexpected must be achieved. But there is a hidden diatonic passage here, broken by an intermittent arpeggio figure (taken from measure 3) — and the scale passage itself broken between e and c-natural — proportionate to the first thematic break c-sharp to e. Furthermore d — the ultimate or inevitable tone — is here avoided.

At measure 20 the descending scale melodic line falls on the first beat of the measure and for its continuation the little figure of two eighth notes now moves without interruption. However, in measure 19 the arpeggio figure having completed the full E minor triad, leaves the last e in the measure by leap to be approached in measure 21 by another division of the melodic line — which utilizes the little two eighth-note figure d to c-natural in measure 21, and e to d in measure 22 to approach the e in measure 23. At measure 20 the under voices pick up the thread — the second violin stressing the lower section of the new double melodic line of the first violin. These two reach measure 23 together — at the dominant chord. Not yet have they met at a single line. The e at measure 19 has been resumed at measure 23. The a at measure 20 has been resumed in the 2nd violin at measure 23. These two ultimately join at measure 25 on a, and in measure 25 and 26 there is an expansion, through motive materials only, of the first four notes in measure 20, this time progressing to the d, which the ear has waited for as the inevitable rest tone.

Further, from measure 23 the following interesting treatment should be noted. On each beat of measure 23 there is a rising tetrachord from e to a, formed from the small two eighth-note motive figure. It continues downwards, after it has reached the high a, as a syncopated scale line on the 2nd and 4th beats of measure 24, and as a broken straight scale line on the 2nd and 3rd beats of measure 25. Meanwhile, there is the resumption of the chord figure interwoven throughout the passage — a direct presentation on beats 1 and 3 in measures 23, 24, 25, 26 of the dominant 7th chord — that outlined in the first two tones of the composition.
In following the melodic complications alone, we find that there are actually two lines of action and melodic play taking place, sometimes separately, at other times simultaneously. From the very beginning the promise is made by the leap of the minor 7th. The first tone a in measure 1 does not resume its own stepwise progress until it meets itself at measure 7, and then drops to f-sharp. Meanwhile the upper part of this melodic section drops from an understood a, line above the staff, to c-sharp; and from e, as an appoggiatura, to the f-sharp on the first space below. Meanwhile, the beginning tone a is resumed in the second violin, imitating the viola with the thematic strand, and carrying it to the first diversion, unexpected, to c-natural, a tone outside of the key of D major. As already stated, this progression is not only the first important melodic development, but the first harmonic shift. Its importance is signaled to the listener by the doubling at the octave above in the first violin. Also the upper register is necessary here to carry out the expansion through the next three measures. From the illustration below, the twofold melodic line is traced.

It will be seen that the imaginary high a does not begin to function until measure 15, where it moves to c-natural above and drops stepwise to measure 27 to the low d. Meanwhile the lower portion of the melodic line, though carrying the brunt of the motivic material, always falls back to the middle a (as noted in the illustration). The two lines do not meet until measure 25, where they descend as one to the cadence on d in measure 27. Not only is this common meeting of the twofold melodic line cadentially inevitable, but the culmination of the bass line is achieved at the same place, on the same identical tone, after a slightly interrupted progression from the first d stepwise upward to the octave above.

The next eight measures are a slight coda, in recapitulation of the first sixteen measures of the work, compressing the melodic material into four measures, repeated at the octave above.

Looking back, it seems that the chief harmonic changes come at measures 16-17, the II chord; at measure 23, the V chord; and at measure 27, the I chord. From measures 1 to 16, there is an expansion of the tonic chord; from measures 17 to 20 an expansion of the supertonic triad, moving to the dominant chord in measure 23, and an expansion of this dominant to measure 27.

From measure 1 to measure 10 the progression is from a to f-sharp. From measure 10 to measure 27 the progression is to the d below. These three tones outline the fundamental position of the tonic triad.

Rhythmically, the strong pulse falls on measure 3, where the lower instruments assert the tonic chord. The grouping of the measures seems to fall into groups of fours. (See large outline.) There is an elision at measures 9 and 10 on the tonic cadence, making measures 11 and 12 proportionate to measures 1 and 2. The next group of four (measures 13 to 17), still stressing the tonic harmony, achieves variety by means of a stretto device, or the accumulation of interest as a kind of melodic development, polyphonic in character, but with the harmonic and rhythmic components constant. The down-pulse falls on the change of harmony.

Six measures are spanned in the next grouping. But we find that the first three are a melodic and temporal expansion of a scale-wise melodic line progressing downward, interrupted at constantly spaced beats by the arpeggio figure drawn from the original motive. We might call these three measures an expanded one, picking up 2 at measure 20 (where the descending scale passage falls on the beginning of the measure and continues uninterrupted through e) and 3 and 4 through measures 21 and 22. These six measures contain the real element of surprise, for me at least, since the statement of the musical material has been made sufficiently clear in the first 16 measures. From measures 17 to 23, we not only get a change in harmonic background, but a temporal expansion of the melodic line, which relieves the expectation...
of regularity. Measures 23 to 27 are rhythmically regular as a group, but in detail complicated as to syncopations between the diatonic and interval components of the melodic line. (See large outline.)

With the two measures upbeat at the beginning, plus the two measure elision at 9 and 10, we have a balance between the first 16 (or 18 as this interpretation gives us) measures to the change of harmony, and the second half, measures 17 to 35. Further, the initial six measures are placed proportionately in the same position to the first section as the six (as expansion) at 17 to 23 are to the second. Each section contains four proportionate groups of measures.

Still further, the four large rhythmic down-pulses fall on the harmonic as well as the rhythmic stress-points of the whole structure. I hope it has been demonstrated that the melodic, harmonic, and rhythm components met at inevitable points; and that the unexpected is achieved between measures 16 and 27, by means of expansion, melodic and rhythmic, with the harmonic a constant.

This analysis does not intend to force, through the medium of words, an aesthetic proof of this work, since no words can evaluate the initial musical idea that is expressed. That must remain per se absolutely musical. It is, however, an attempt to show why, with given material, the work is good and well worth anybody's ears, and it is intended to help the performer, as an aid to interpretation.

THE BRAHMS VIOLIN CONCERTO
A STYLISTIC CRITICISM

BENJAMIN F. SWALIN
University of North Carolina, Chapel Hill

I. Introduction

IN THE following disquisition on the Brahms Violin Concerto, the aim will be to interest ourselves particularly in those technical features of the composer's work that contribute essentially to his compositional style. The question as to whether or not a writer's musical ideas are effectually formulated and developed is a point on which there can be some reasonable agreement; but the question as to whether or not a composition, or even a theme, is aesthetically attractive and beautiful is a matter on which even the most distinguished critics differ considerably. Therefore, it is a stylistic criticism that we desire: Le style est l’homme même.

Beethoven, with his symphonic fusion of the solo violin and orchestra (Concerto, opus 61); Spohr, with his free recitatives and other formal experiments; Paganini, Bohrer, Boehm, May-seder, Maurer, Lipinski, Kalliwoda, Molique, Ernst, and David, with their virtuoso concertos; and Mendelssohn, Joachim, Raff, Bruch, and Goldmark, with their diversely subjective concertos, were all significant precursors or contemporaries of Brahms.

Formally, Brahms stands close to Beethoven. "Show me any work of Beethoven," he said, "where the form is not strictly observed . . ."1 He contended, moreover, that formal restriction existed only for him who was not the master of it.2 In poly-

---

phonic style, his ideal was J. S. Bach. But in many other respects, the influence of Joseph Joachim was particularly vital and significant in the career of Brahms. "From him he was to find that which until now he had sought in vain: affectionate sympathy and understanding ... unselfish striving toward the high and lofty ideal that called to them both from afar."

Like Beethoven and Mendelssohn, Brahms composed but a single concerto for the violin. This work, dedicated to Joachim, towers aloft like a Gothic cathedral with its pinnacles, spires, pointed arches, and rich carvings. It is the truly masculine concerto for the violin.

The origin of the work is, perhaps, more clearly known to us than that of any other composition by Brahms. It was begun during the summer of 1878, while the composer was enjoying a holiday in Pörtschach, Lake Wörther, in Carinthia. As Brahms revealed in his correspondence with Joachim (dated August 22, 1878), the concerto was originally conceived in four movements. Joachim, after perusing the manuscript, was favorably impressed, but wrote "... whether or not it can be played with pleasure (mit Behagen) in a hot concert hall is something I should not like to say until I have heard it as a whole (im Fluss)."

Brahms again wrote the eminent violinist: "... The middle movements have been discarded ... of course they were the best! Now I am writing a feeble Adagio." Joachim informed Brahms, later, that he was seriously intent upon the composition of a cadenza. He studied the manuscript assiduously, suggesting various "ossias" as well as bowings and fingerings for the solo part; and reminded Brahms of the extraordinary difficulties of the work.

The concerto was performed for the first time at a Gewandhaus concert in Leipzig, on New Year’s day, 1879. Joachim was the soloist, and Brahms, the conductor. The auditors listened "with respect," but were moved to no enthusiasm. Hanslick regarded it as a composition of masterful form and assimilation, but somewhat harsh and brittle.

Neither Brahms nor Joachim was dismayed. Their correspondence about the work continued. Brahms insisted "you are not bold and severe enough. Only through many suggestions and alterations will you be able to impress me..." And then, eventually, he inquired if the piece were "good and practicable enough to be printed."

At the beginning of April, Joachim communicated with Brahms from London, and suggested that he again discuss the work with him in order to make it "behaglich"; moreover, he thought the accompaniment should be lighter.

In the meantime, Joachim had performed the concerto in Budapest, Vienna, and London. Despite the fact that Simrock in Berlin published it during the same year (1879), few musicians manifested any real interest in it.
II. Analysis

Allegro non troppo

The artistic creed of Brahms is revealed in the inexorable, serious quality of the first movement. The broad orchestral exposition is eighty-nine measures long. The principal theme is announced at the beginning by the bassoons, violas, and violoncellos, reinforced in the fourth measure by two horns. This ingenuous theme, constructed almost entirely out of the tonic chord, recalled to Hanslick the opening theme of Beethoven’s “Eroica” Symphony. Motive E, figure d, and numerous other motive constructions in this concerto make for the compact, concentrated use of material that characterizes Brahms’ composition.

The continuation of the theme (Ex. 2) merits some comment,

because Joachim complained that he “lost” the melody in the crescendo of the strings. He suggested, accordingly, that Brahms have the E horns (III and IV) play along with the solo oboe after the first two or three measures. This caused Brahms to add these horns for the crescendo in measures 15-16.

A sudden fp (bar 41) leads into a transparent phrase that we shall term Th. II A. It is but one of two subordinate themes in this movement. Motive X and figure y are important.

\[\text{Motive constructions in the violin concertos of Mendelssohn, Molique, David, Bruch, and Goldmark are also noteworthy.}\]

\[\text{\footnotesize Moser, A.—Johannes Brahms in Briefwechsel mit Joseph Joachim; Vol. II, p. 151. (The letter was written from Berlin on May 26, 1879.)}\]
The first appearance of the main theme in the solo, accompanied by derivative figures in the violas, is noted in measure 136:

The second subordinate theme (II B) is heard for the first time in measure 206:

It is a lyrical melody in the dominant, and must be given equal significance with the other subordinate theme. The strong emphasis upon the nonharmonic tone, g-sharp, is a rather familiar trait with Brahms. A similar example is found in the reprise:

The development has five sections, all set in a conservative key scheme: a...c...d...A...D. Here Brahms exhibits his consummate mastery in the manipulation and assimilation of his material. He invariably utilizes the best and most expressive elements of his themes. The solo part has a vital rôle in the dénouement.

In section III, there are agitated syncopes in the strings, that form the accompaniment to figure y. These, according to Riemann, reveal a Schumannesque treatment of syncopations. The meter might be designated 5/4 rather than 3/4.

The sextolet passages in measure 339 were the subject of some controversy between Joachim and Brahms. Joachim suggested the following arpeggios for that measure:

Brahms, however, decided on these:

---

1 The use of two subordinate themes in addition to principal and closing themes is somewhat anomalous in the violin concertos of the romantic period.

The reprise (meas. 381) begins with a climactic presentation of Th. I, accompanied by a new and potent counterpoint in the bassoons, violoncellos, and contrabasses. The reiteration of the material from the exposition is in accordance with the austere formal structure of the movement. Mention is made of the two subordinate themes: II A (meas. 419) modulates to the tonic, in the course of its announcement; while II B (meas. 445) appears in the mediant key, F-sharp major.

The violin cadenza was left to the discretion of the soloist—a practice that was common in the time of Mozart and Beethoven. Joachim wrote the fine original cadenza; later, however, others by Halir, Auer, Marteau, and Busoni were also especially favored.

In the masterly coda\(^1\) (meas. 527), we find some of the finest effects in the movement. The principal theme is transfigured melodically (from meas. 532) and harmonically, while the accompaniment moves in a chromatic succession of triads:

![Chromatic Triads](image)

Brahms was most adroit with such progressions.

\textit{Adagio}

This movement is a profound meditation. It is remarkable for its felicitous contrasts of mood, organic unity, masterful blending of motives, rhythmical subtleties, rich melodic and harmonic figuration, profuse and striking modulations,\(^2\) and expansive use of the wind instruments.\(^3\)

\(^1\) Brahms' codas are frequently development: see the formidable closing sections of the finale of this concerto and the \textit{Third Symphony}.  
\(^2\) There is an abrupt change from the dominant (C) to G-flat major (meas. 45-48). This, together with an enharmonic modulation (meas. 52), is an example of the key contrasts in the movement.  
\(^3\) Certainly the emphasis upon the wind instruments in the slow movement of a violin concerto was, up to that time, quite unusual.

The form is ternary: A — B — A — Coda. The theme (F major) is played by the oboe. It is of rare beauty and sublimity:

![Oboe Theme](image)

We proceed to F-sharp minor (meas. 56) for the presentation of the second theme, an impassioned expression:

![Second Theme](image)

Its polyphonic structure is formidable, and recalls to us the polyphonic\(^4\) setting of another passage:

![Polyphonic Setting](image)

Brahms, like his contemporaries, Bruch\(^5\) and Goldmark,\(^6\) contrived some of the most ingenious contrapuntal structures.

After a climactic section, the composer prepares us again for the key of F and the return of the theme. The harmony is coloristic. We have (meas. 76-77) a tonic pedal below an altered

\(^4\) Joachim spoke of the "Polyphone Textur" of Brahms' ear.  
\(^5\) Cf. Concerto, opus 26.  
\(^6\) Cf. Concerto, opus 28.
IV\textsuperscript{7} chord, and then a V\textsuperscript{9} (altered in the last pulse of meas. 77). There is, too, the cross relation between B-flat and B-natural. Similar chordal combinations were used by Spohr and Mendelssohn in their violin concertos.

*Allegro giocoso ma non troppo vivace*

The virile finale offers a great contrast with the temper of the preceding movement. Again we find a rich modulatory harmony and a large number of shifting and independent rhythms, among numerous other striking qualities.

The form is a rather conventional rondo: A — B — A — C — B — A — cadenza — coda. Th. I is conceived in the manner of a Hungarian folk dance.\footnote{The interest which Brahms evinced for Hungarian folk music was probably due, originally, to his contact with Reményi and Joachim.}

Motive H is employed frequently throughout the movement.

The *leggiero* passages (from meas. 37) are singular. In measures 43-48, they are lined up against involved rhythmic combinations:

\begin{figure}
\centering
\includegraphics[width=\textwidth]{leggiero_passages.png}
\caption{Leggiero passages from meas. 37.}
\end{figure}

Brahms "toils in Cyclopean workshops; mighty forces serve him, but they are sometimes refractory, and must be coerced by a strong and imperious will."\footnote{Spitta, Philipp, *Zur Musik*, Berlin: Paetel, 1892; p. 419.}

The coda, "Poco piu presto," re-states motives from the first two themes, in addition to displaying ingenious rhythmic effects.\footnote{Note the syncopations in measures 333-334.}

Th. II (dominant key) is pompous and defiant:

\begin{figure}
\centering
\includegraphics[width=\textwidth]{th_ii.png}
\caption{Th. II (dominant key) is pompous and defiant.}
\end{figure}

Note measure 59, with a fragment of the theme in contrary motion.

A trend toward the subdominant brings us a third theme with strong anacrystic effects (meas. 122-123):

\begin{figure}
\centering
\includegraphics[width=\textwidth]{th_iii.png}
\caption{A polyphonic cadenza with cumbrous double-stopping and conflicting linear effects is definitely Brahmsian.}
\end{figure}

A polyphonic cadenza with cumbrous double-stopping and conflicting linear effects is definitely Brahmsian:

\begin{figure}
\centering
\includegraphics[width=\textwidth]{cadenza.png}
\caption{A polyphonic cadenza with cumbrous double-stopping and conflicting linear effects.}
\end{figure}
After four measures, there is a sportive and humorous version of the first theme.\(^1\) It is enhanced by the grace-notes in the woodwinds and first violins. The rhythmic combinations near the conclusion are conspicuous because of their independence and vitality.

III. Conclusion

Although the Brahms Violin Concerto requires but a conservative instrumentation, the scoring is neither conventional nor effete. The *Selbstherrlichkeit* of the individual instruments is an outstanding quality of the orchestral setting. The orchestral parts are closely interwoven with the solo, and equally prominent.\(^2\) The soloist “maintains his hereditary and inalienable right, but renounces his once absolute rule and satisfies himself with constitutional government.”\(^3\)

In review, we submit these stylistic features of the concerto:

1. Organic unity
2. Masculine character
3. Marked contrasts of mood
4. Floridity (especially in the second movement)
5. Rhythmic vitality and sublety (syncopations, cross rhythms, etc.)
6. Motive constructions (moto contrario, overlapping technique, etc.)
7. Solid counterpoint
8. Profuse and facile modulations
9. Rather sparing use of enharmony and chromaticism (as compared, for example, with Spohr and Goldmark)
10. Pedal effects (see measures 255-266, third movement)
11. Use of symphonic dimensions for the solo concerto

It was said of John Ruskin that he believed Tintoretto to have possessed a combination of Michelangelo's draughtsmanship and Titian's color technique. One might say, too, that Brahms maintained much of the contrapuntal mastery of Bach, as well as the *Gestaltungskraft* of Beethoven.

The Brahms Violin Concerto was written in an age of romantic subjectivism — the era of Tennyson, Carlyle, the Pre-Raphaelites, Emerson, and Browning. It appears that the violin, with its profoundly human and emotional qualities, was *the instrument above all others* which truly expressed the soul of that period.

Editor's note: All translations of quotations are by the author.

---

\(^1\) Cf. Ex. 20.

\(^2\) This is also true of the instrumentation of Brahms' two concertos for pianoforte and orchestra, as well as that for violin, violoncello, and orchestra.

THE DISTINCTION BETWEEN CLAVICHORD AND HARPSICHORD MUSIC

LELAND A. COON
University of Wisconsin, Madison

A MUSICOLOGIST of international note, when asked recently where he thought one would be able to find authentic clavichord music, replied, "Is there any?" This cryptic answer only served to intensify the curiosity of the questioner; in fact, it further motivated a long-latent desire to at least attempt the formulation of a statement as to the actual distinction between clavichord and harpsichord music.

It is well known that a great deal of music was written for performance on any keyboard instrument, particularly the keyboard stringed instruments, whether or not a statement to this effect was included by the composer, editor, or publisher in the original title. The usually designated alternatives were: organ or virginal, spinet or harpsichord, harpsichord or fortepiano, occasionally clavichord or fortepiano, but very rarely clavichord or harpsichord. In several instances, certain pieces were intended for the one instrument and certain others for the other instrument. Hässler in the preface to his *Sechs neue Sonaten fürs Clavier oder Pianoforte* (1779) states that the difference between these two types is very slight. The difference was not slight, however, according to composers and commentators of the seventeenth and eighteenth centuries, in the case of the clavichord and harpsichord music, and we shall see that not only were these two instruments quite distinct in purpose and use, but that, in consequence, the music written for each was quite individual in character, although naturally the two types were not without influence one upon the other.

First of all, we must define the various terms applied to the instruments under discussion. The term *clavier* is used by C. P. E. Bach to include all keyboard instruments and in this usage he was supported by Marpurg, Quantz, Adlung, Mattheson, Cramer, Schubart, and Junker. This same term is applied to the clavichord only by Kirnberger, Löhlein, Hässler, Türk, Rellstab, Benda, Merbach, Schmidtchen, Rigler, Neefe, and others. Verification of these statements can be made through definite statements in texts or forewords, through indirect evidence, or through the style of the music. In the general sense, Prosniz has used this term not only in the title of his *Handbuch der Klavier-Literatur* but in 123 of the works listed in his 1908 edition. *Clavicord* is found much more frequently in music texts than in titles of music and refers to the instrument on which the sound was produced by brass tangents striking the strings. *Clavicordio*, however, designates the harpsichord in the title of two sets of Domenico Scarlatti’s sonatas written while he was in Spain and published in London in 1746 and 1752 respectively. Tomas de Sancta Maria and others of the sixteenth century call the clavichord a *monacordio*. Adlung applies the term *instrumentum* to the spinet; Krebs and Scheidt take it to mean the clavicord; others think it synonymous with virginal, the four-cornered instrument. Praetorius tells us that *symphonia* includes the clavicymbalum, virginal, and spinet.

One encounters the greatest variety of terms when considering the harpsichord, variously known as the *gravecymbalum* (Praetorius), *clavicymbal, clavicornymbal* (J. S. Bach), *clavecin, cembalo* (the *cembal d’amour* was a certain type of clavichord), *gravicembalo, klavicimbal, kielflügel, flügel, and arpicordo*. This last term, however, would be more accurately applied to the virginal type, and, judging by the style of the music, was thus employed in the "Libro de Intavoladura di Arpicordio" (1586), listed as Mss. No. 2088 in the library of the Royal College of Music, London. Since such a multiplicity of designations is encountered in the study of this type of keyboard literature, great care must be exercised to determine if possible the exact instrument for which the music was written, if one is seeking to establish a workable distinction between the literature written for the instruments. The exact usage of the period, the country, and the individual must be accurately determined. In this discussion we shall be dealing chiefly with music written in the
seventeenth and eighteenth centuries, since most of the music originally intended for the clavichord and harpsichord was produced during that time-span. Sixteenth century music for keyboard stringed instruments was still too much of a parasitic growth on theoretical texts and organ literature to have assumed much individuality of its own.

In view of the fact that the word clavichord is found so infrequently in the original titles of compositions, and since clavier is subject to varying interpretations, the greatest difficulty in a study of this nature lies in the determination of just which is clavichord music. The normal point of departure will be such compositions as Neefe's Zwölf Klavier-Sonaten (1773), Löhlein's Clavier-Schule (1765), or Forkel's Twenty-four Variations on "God Save the King" (1791), which in each case, according to the composer, is intended for the clavichord. Furthermore, when we find the Bebung indicated in No. 59 of the fourth book of Türk's Kurze und sehr leichte bloß zweystimmmige Handstücke (1792), Hässler's Second Sonata fürs Clavier (1776), or No. 54 and No. 55 of the 1795 edition of Türk's Sechzig Handstücke für angenhende Klavierspieler, we may consider ourselves on quite solid ground, since the Bebung was never indicated in harpsichord music for the simple reason that it could not be executed on the latter instrument. Starting from these focal points and proceeding to music chiefly of the late eighteenth-century German school will enable us to prove with a reasonable degree of certainty our initial generalizations.

As early as 1511, Virdung in his Musica getutscht states that he considers the clavichord of basic importance and that whatever one has learned to play on it can be that much more easily and correctly played on the organ, clavizymell, virginal, and other keyboard instruments. C. P. E. Bach's Versuch, in the 1762 section, says that the greatest refinement of taste is needed to play the clavichord. Schubart (1786) is most emphatic in his opinion that whoever prefers the harpsichord to the clavichord has no heart and is simply an ugly bungler, not attuned to the delicate effects possible on the clavichord through the Tragen der Töne, the Bebung, pleasing Vorschlage, and the pizzicato and vibrato. It was generally agreed that the clavichord was the best instrument for beginners because the action was easy and responsive, it remained in tune for long periods at a time, and developed the tactile and aural senses to an extraordinary degree. Due to its limitation as to tonal amount, it was intended for Hausmusik, for solos to be heard by small groups, to accompany the voice or the violin, and, in spite of the statement made by Löhlein that ten or twelve years were often devoted to the study of the clavichord, it was considered an instrument for amateurs. As late as Mozart, one was expected to study the clavichord thoroughly before even attempting the harpsichord. Türk published a quite extensive graded list of clavichord music for students which includes compositions of C. P. E. Bach, Reichardt, Hiller, Schulzens, Witthauer, Hässler, Fleischer, Wolf, Sander, Gassler, Gruner, Benda, Blum, Zinck, and others. In a majority of instances the right-hand part is written with the soprano clef and the left-hand part with the bass or soprano clef.

As to style, clavichord literature owes much more to vocal than to organ music. In fact, its melodies are usually singable and its compass comparatively limited. This indebtedness is further indicated in the titles, such as Eschstruth's Lieder, Oden und Chöre; Benda's Vermischte Clavier und Gesangstäcke; as well as innumerable variations on songs of the period such as Lasst uns das Kindlein wiegen, and Gegrüsset seist du, o Jesulein. The music is made up of few voices, any one of which may predominate. There is a lightness, a beautiful and intelligent melody of placid character, a predominant transparency of theme, expressed by narrow chromatic intervals. Parts answer back and forth, not for the sake of polyphony but to produce gradual contrasts as opposed to the sudden contrasts of harpsichord music. Themes are rich in tone-repetition and sequence, in solid or broken thirds or sixths. Bass notes are long held or repeated; long notes are the basis of the Bebung. When arpeggiated figures do occur, they lie well within the hand span. When hands are to be crossed, each hand plays a group of notes. Many passages are in the nature of cadenzas played by one hand or alternate hands. Cramer states that clavichord music is marked by a flow of in-
terrelated themes, by light and shadow, the use of a certain musical chiaroscuro, and an almost complete avoidance of arpeggio and leaping passages in broken harmony. A single melodic line in the right hand is often accompanied by a simple series of thirds, sixths, or simple chords in the left hand. Scale passages abound. Comparatively few ornaments are used, and many of them are written out rather than indicated. Particularly in slow movements, there is frequent use of such terms as piano, forte, fortepiano, pianissimo, fortissimo, tenuto. There is far more modulation than in harpsichord literature.

Practically all of the various sorts of *Handstücke* are brief and contain little development. The sonata of late eighteenth century clavichord literature usually consists of three short movements designated by tempo indications which also give hints as to the mood of the movements through the use of such terms as moderato assai e grazioso, allegretto con tenerezza, allegretto con afflizione, allegro moderato e cantabile, the word cantabile being found fully as frequently as any other in connection with clavichord music. The sonata form itself, still in a transitional stage, in a comparatively few instances approaches the form of Mozart, and with much greater frequency is the early intimate binary type with the second half beginning and ending with much the same thematic material as the first half. When there is a development section, the first theme is so thoroughly developed that the recapitulation begins immediately with the return of the second theme.

Other forms found in clavichord music include the fantasia, rondo, overture, suite, menuet, polonaise, lied, theme with variations, partita, invention, and even the toccata, a form far more suitable for the harpsichord. Many of these were only sixteen measures in length. The fantasia, however, was best suited to the clavichord, since it was lyric and called for frequent changes in theme, tempo, and expression. One might cite as one of the rare instances of program music in clavichord literature the Biblical Sonatas of Kuhnau, but they were written at least seventy-five years previous to the sonatas of Neefe and Türk.

In drawing a distinction between clavichord and harpsichord music, the factor of fingering is somewhat unreliable. We are not warranted in stating either that the thumb was first used by Bach for either type of instrument or that its use was first systematically established in harpsichord music, for the reason that we find the thumb included under certain conditions in a scale passage as early as 1565 by Tomas de Sancta Maria in the section of his *Arte de toñer fantasia* devoted to clavichord playing. Perfection of fingering was sought for during the late eighteenth century as a natural result of a changing style of writing for both harpsichord and clavichord which demanded a more fluent fingering and also because of the impetus launched by Pasquali's *Art of Fingering* in 1760.

Perhaps we might best proceed to a consideration of harpsichord style by referring to the controversy carried on some thirty years by Landowska, Nef, Buchmayer, Roethlisberger, and others as to whether J. S. Bach wrote the forty-eight preludes and fugues of the "Well-tempered Clavier" for the clavichord or for the harpsichord. Arnold Dolmetsch still insists that they were intended for the clavichord. Wanda Landowska's chief thesis is that since the *bundfreie* clavichord had barely been invented in 1722 and was not in very general use until after the second book was published in 1744, it was impossible to execute many of the fugues, in particular, on a *gebunden* clavichord. A thorough study of this point will lead one to the inevitable conclusion that the harpsichord played a much more important rôle in John Sebastian's keyboard literature than was once our wont to believe. We can be quite certain that something at least approximating equal temperament must have been in use about the year 1600 when the expositions of the hexachord included in the Fitzwilliam Virginal Book were written. This temperament was possible on the harpsichord and only partially on the *gebunden* clavichord.

May we quote the publisher's introduction to *A Choice Collection of Ayres for the Harpsichord or Spinett*, by several English masters, published in 1700: "The Harpsichord is an Instru-
ment of larger Extent than any Other, as being Furnished with a
greater Variety of Sounds by reason of the Number of Keys,
which makes it justly Esteemed the Most Useful & Compleatest
Instrument of Musik, and therefore always made use of in the
most exquisite compositions. And as its Excellence has made this
the Favourite Instrument of the best Masters, So its neatness &
easiness in Playing on hath so particularly Recommended it to
the Fair Sex, that few Lady's of Quality Omit to Learn on it.
And for their Sake it is that ye Masters from time to time
Comunicate Their Compositions.”

C. P. E. Bach writes in his Versuch that the harpsichord was
to be used for accompanying the recitatives and airs in church,
theatre, and salon. His contemporaries state that it is indispens­
able as an accompanying instrument in the opera, orchestral suite,
concerto grosso, and trio, and that as a solo instrument it is most
satisfying. Marpurg even recommends its use for beginners, but
Couperin adds the caution that under such circumstances a
weakly-quilled harpsichord of one manual should be employed.
Through later transfer to a regularly quilled two-manual instru­
ment great strength of finger would be effected. Because of its
greater size, longer strings, more extensive sounding board, and
more insistent tone, the harpsichord was better suited for use
with other instruments and in larger rooms than was the clavi­
chod. Whereas the clavichordist was expected to possess a most
refined musical sense in order to bring out the innate expressiv­
ess of the music, the harpsichordist must add to an equal musical
sensitivity a dexterous mastery of key, manuals, and pedals (or
stops) while accurately and in good taste he interprets the figured
bass. The harpsichord is a dynamic instrument, producing con­
trasting effects, not through gradations of tone but by means of
manual change and pedal manipulation.

But how is one to detect harpsichord music? It would be a
very simple matter if the stop changes were indicated in the
music. This was done, however, in very few instances, among
them the Fitzwilliam Museum manuscript No. 32F14, consisting
in part of compositions edited by John Burton, which may have
been thus annotated for the benefit of a pupil. A large propor­
tion of the literature written for the harpsichord was so indicated
in the title by the composer. If the title states that the composi­
tion was intended for harpsichord or piano, this will not usually
imperil our conclusion that the music is in harpsichord style, since
piano literature of distinct individuality did not appear until
much later than the period we are discussing. Naturally, piano
music of the nineteenth century was deeply indebted to the harpsi­
chod as well as to the clavichord, virginal, and lute for its figu­
ration and style.

The first characteristic which points to the presence of harpsi­
chod music is the use of contrasting phrases which would be
played either first on one manual and then on the other or, in
the case of the one-manual instrument, first without stops or
pedals and then with the appropriate ones, or vice versa. The
matter of manual change could not have been quite so important
a determining factor as we have been led to believe, if we con­
sider the fact that only 22 of the extant 195 harpsichords have
two manuals. Having noted these contrasting phrases, one must
then study the cadence measures to locate the logical transition
points, and finally see whether the composition curve can be
brought into agreement with the stop curve. Phrases, themes,
sections, and movements are usually much longer than in clavi­
chod music, but there is much less modulation. Couperin em­
loys modulation to a greater extent in his works for the organ
than in what he wrote for the harpsichord. Contrast and variety
were evidently expected to be obtained, not so much through har­
monic means as through the mechanical devices of manual and
stop.

In harpsichord notation we find many rapid passages, chords
arpeggiated either up or down, wide leaps, crossing of hands, re­
peated notes, and extensive ornamentation. All these various
devices were adopted so as to compensate for the comparative
dryness of the harpsichord tone and the impossibility of swelling
or prolonging the tone, but they can also be accounted for by the
fact that the music itself and the period when it flourished de-
manded the very sort of ornateness so prevalent in contemporary customs, architecture, and painting.

Mereaux has given an excellent analysis and classification of harpsichord literature: (1) The scientific element, exemplified by contrapuntal and fugal writing, the development of ideas, and unity of thought and structure. (2) The rhythmic element, encountered in the grace and elegance of the dance forms of the suite. (3) The thought element, found in the expressive pieces and psychological types such as Couperin’s *Soeur Monique*, and descriptive pieces such as Couperin’s *Les Bergeries*, programmatic pieces such as Couperin’s *Les Fêtes de la grande et ancienne Ménestrandie*. (4) The bravura element of the toccatas.

The harpsichordist used many of the same forms as did his clavichordist contemporary but with certain differences. The fantasy is of a confirmed virtuoso genre, full of extended leaps and arpeggiations. Variations on a theme are more florid and flashy and the themes themselves are less apt to be taken from song literature. The sonatas differ not so much in form as in musical content, although in the sonatas of Armand-Louis Couperin and in some of those of C. P. E. Bach, we do find a first trace of the modern form containing a definite first and second theme, development, and complete return. Through its fit and frequent use with orchestral instruments, the harpsichord was also responsible for such attempts to further enlarge the sonata form as are typified by the *Sonades et Suites de Symphonies* of François Couperin le Grand. Harpsichordists played an important rôle in popularizing and standardizing the suite and particularly the rondo, which could be made more endurable by means of the use of stops and pedals, varying in number from three or four to as many as twenty, most of them being purely imitative such as harp, lute, mandolin, bassoon, flageolet, hautbois, and violin stops.

Some may be questioning the practical value of studying the distinction between clavichord and harpsichord music, and their doubts are entitled to an answer. Certainly the musicologist is interested in establishing facts, events, and stylistic characteristics on an historically accurate basis. Furthermore, in view of the returning use of these old keyboard instruments in salon and concert room, all alike should want to hear the music of preceding centuries performed on the exact instruments for which it was intended, unless they are of the hopeless yet fortunately limited class wishing to have everything played on the piano — Mozart like Beethoven, Couperin and Bach like Strauss. Our modern ears are so surfeited with large tones from large groups with maximum resonance that we are apt to lose the ability to detect and enjoy intelligently and esthetically the smaller tones, the finer and more delicate differentiations of clavichord and harpsichord music. We are called upon to readjust our sense of hearing and our standards of judgment as well.
A feature particularly significant in early opera, especially of the 17th century, but almost entirely absent from later opera, is the so-called Prologue. None of the large dictionaries of music even mention the term, and in the books dealing with Italian and French opera the prologue is always treated as something negligible, something especially antiquated and hardly worth closer investigation. In the entire extended literature on opera, nobody has, so far as I am aware, paid special attention to the study of the prologue. It is not even known when and for what reasons the prologue was abolished, and its raison d’être, its theatrical, poetic, and musical qualities have never been the object of special and systematic research, though here and there one may find some casual mention of the prologue in opera. This neglect of so important a feature of the musical drama demands rectification and justifies the attempt to elucidate an interesting problem. The short time at my disposal for today’s address permits nothing more than a very superficial discussion of a few items, and what I state here cannot of course claim to be a thorough and exhaustive treatment of the matter, but is just a first glance at it.

The prologue is derived from ancient Greek drama. Its purpose there is to inform the listening public concerning details of the legend: its antecedents, necessary to the understanding of the drama proper. The ancient prologue is generally a direct address to the public—a plain story, briefly told, not in dramatic circum- scription. The story-teller, testo, or evangelist of oratorio is derived from the ancient dramatic prologue. Though the Greek prologue is not a part of the drama proper, it still has close reference to it, and is meant as an introduction to the drama.

In Italian opera the tendency of the prologue was rather quickly changed fundamentally. In the earliest Florentine operas of Caccini, Peri, Marco da Gagliano, and also Monteverdi there is still manifest an approach to the Greek system, but as opera becomes a well-established institution the prologue is changed into an homage to the royal or princely patron of the opera. It finally loses, apparently, all connection with the opera and becomes an elaborate piece of brilliant theatrical display, with a separate fable and character of its own. Being not an organic part of the drama and being filled with phrases of flattery—being, in short, merely an apotheosis of the ruler, it seems of little interest to us at first sight, and the impression is produced that it might be entirely omitted without damage to the drama. Nevertheless, a closer inspection of the prologue reveals the fact that often considerable ingenuity, inventiveness, and art have been spent on the prologue, and that even our modern music drama might derive some profit from a closer acquaintance with the old prologue methods.

In the earliest operas the prologue has not yet the character of fanciful flattery and homage. In Peri’s and Caccini’s setting of the poet Rinuccini’s Euridice, the prologue is plain, but solemn—a model for a number of the early operas. “Tragedy” sings the seven stanzas of the prologue, all seven with the same melody, a ritornello finishing each stanza.

The personal self-introduction of Tragedia: “I am Tragedy, fond of deep sighs and complaint...” remains for years the formula of the beginning, down to Monteverdi’s Orfeo.

The prologue is used for the first time with impressive artistic effect by Monteverdi in his Orfeo of 1607. The poet Striggio as well as the composer Monteverdi have made the prologue here an homage, not, however, to a princely patron, but to the art of music. Never, perhaps, has a more touching, beautiful, and sincere introduction to a musical tragedy been found than in this prologue, sung by La Musica. With great and refined art the prologue, in itself the introduction to the tragedy, is prepared by a special, second introduction: a festive, brilliant toccata, as instrumental overture. After this decorative piece with its trumpet fanfares, its flourishes calling the spectators to attention, the cur-
tain rises and La Musica is seen; her aria is introduced by a famous ritornello of a solemn, severe character, in a strange mixture of heroic and elegiac mood. When, after this preparation, La Musica finally begins to sing: “Dal mio promesso amato a voi ne vengo,” and a minute later: “Io la musica son, ch’ai dolci accenti so far tranquillo ogni turbato core,” (I am music, who with soft accents know how to calm every troubled heart)—when this phrase is reached, one of the really great moments of musical art has arrived. Nothing comparable to the heartfelt accents, the lyric beauty of these stanzas can be found in any earlier music, and even in later dramatic music up to 1900, very few equally touching and enchanting phrases are present, considering the simplicity of the means employed by Monteverdi. Certainly this prologue has nothing to do with the drama proper, and it might be left out entirely without obscuring the drama. But its presence gives us a most impressive lesson regarding the connection of music and drama. Music here does not improve the dramatic construction in any manner, but it paints the lyric atmosphere, utters the emotional, soulful content of the entire scene with a poetic charm, a loveliness of melodic accent unattainable by words alone. Leaving out this prologue as dramatically unessential would be an aesthetic barbarism, comparable to leaving out the orchestral prelude to Tristan and Isolde.

Coming to Monteverdi’s late operas, written some thirty years after Orfeo, we see a different treatment of the prologue. The complication of intrigue in Busenello’s otherwise dramatically effective libretto of L’incoronazione di Poppea does not admit of that plain, straightforward lyricism in the prologue which is so admirable a feature in Orfeo. The poet makes clever use of a new type of prologue, a semi-allegorical scene between Fortuna, Virtù, and Amor, at the close surprisingly brought into connection with the following drama, which is here presented as an elaborate illustration of a maxim stated in the prologue. Allegory becomes customary for the prologue all through the 17th century. As is well known, allegory is always in danger of becoming tiresome, lifeless, dry. Busenello and Monteverdi meet this danger by mixing realistic episodes into the abstract rhetorical display of allegory. An amusing little scene is enacted: The two goddesses, Fortuna and Virtù, scold each other realistically and vehemently. Both of them claim the greater power. Amor, however, interrupts their quarrel, saying to them: “How can you think of dividing the rulership over the whole world among yourselves, and of excluding Amor, who is more powerful than either of you? I teach virtue, I grant fortune.” . . . Both finally confess their weakness as rivals to Amor. The God of Love, pointing to the beginning drama, promises to show them how everything in this world is dependent on love. Monteverdi the composer has vied with the librettist by clever musical treatment, introducing novel use of the basso continuo; by constant motion and rapid change of chords providing a rich and dense harmonic effect in Fortuna’s first arioso.

One of the earliest, most fully worked out passacaglias is found in the elaborate, masterly written duet of Fortuna and Virtù. The various pieces of the prologue indulge in brilliant ornamental coloratura to an extent otherwise rarely found in Monteverdi’s operas, where coloratura is used as a means of emotional expression.

Also in Monteverdi’s opera, Il ritorno d’Ulisse, libretto by Badoaro, the prologue is treated with especial art by both the poet and the composer. Again we meet allegorical figures: L’umana fragilità, Tempo, Fortuna, Amor. Also here, as in Incoronazione, Amor demonstrates his triumphant power as a handsome, willful, wicked little boy, the spoilt favorite of gods and human beings. But the entire ground tone of the prologue is solemn, serious, pensive: human frailty, time, and fortune in dialogue concerning their relations to humanity. One is reminded
of certain psalms, when *L'umana fragilità* sings in mysterious, almost tragic tones of the unstability and weakness of all things human. *Tempo* reminds us of the ceaseless flow of life; *Fortuna*, the goddess, sings in pure tones of perfect beauty about her enticing fickleness: blind fortune distributing joys and woe, by chance, by whim. *L’umana fragilità* re-enters no less than three times with her melancholy elegy: Michelangelo’s “Night” might appropriately have been given these tones of Monteverdi as motto. *Amor*, the wanton boy, is introduced as a welcome contrast to these almost sombre scenes. A terzetto ends this prologue, remarkable for its ideal content and musical quality rather than for theatrical display.

The prologue is an important and interesting feature in the operas of Monteverdi’s pupil and successor, Francesco Cavalli. His first opera, *Le nozze di Peleo e di Tetide* (1639), libretto by Persiani, shows us the allegorical manner combined with sensational theatrical display and ingenious discourse. *Fama* (Rumor, or Calumny), with wings, in a dress all covered with eyes, begins by spreading a lie, just the opposite of what the opera shows. This speech is pompously introduced by a trumpet fanfare. (By the way, the famous “Calumny aria” in Rossini’s *Barber of Seville* is a late descendant of this allegorical type, traditional for centuries in Italian opera.) *Tempo* considers it his duty to contradict *Fama*’s lies; a heated dispute arises, and finally *Tempo* swears to give a convincing proof of Time’s power, by overthrowing and consuming by fire “questo che fu teatro ampio e famoso.” *Fama*, hearing this threat, becomes afraid that even a lie might be conquered by the power of time. There is, however, not much leisure left for such meditations, for suddenly the entire theatre collapses and while the orchestra is playing the famous *Sinfonia infernale*, behind the ruins of the theatre the sombre scenery of *Tartarus*, of the inferno, becomes visible. The prologue here merges into the first act. It cannot be denied that such a conception of prologue grants great possibilities to music as well as to theatrical art, and that it may be a most impressive beginning of an opera.

In Cavalli’s *Egisto* (1642, Vienna) the prologue gains special musical excellence by the masterly manner in which night and dawn are characterized musically.

Egon Wellesz, in his essay on Cavalli, published the prologue to *Il Ciro* (1665, libretto by Sorrentino), which is a particularly clever and unconventional solution of the problem. *Curiosità* discusses the chances for success of the new opera about to be performed with the arts of Poetry, Painting, Architecture, and Music. Curiosity as uninvited guest inquires, like a modern newspaper interviewer, what is going on, whether the new opera will not disappoint the audience. Here is meant, of course, the voice of the impatient public, seated before the closed curtain. One hears the workmen hammering, in that characteristic rhythm well known from Wagner. We are now led onto the stage, behind the curtain, where all the arts are in a state of nervous tension, busy with the last preparations. Here the voices of the poet, composer, and theatrical people are personified. Poetry scolds Painting for her slowness in finishing the scenic pictures: “Listen to the murmuring of the crowd filling the vast theatre, eager for the beginning of the performance.” Painting excuses herself and asks what the others are doing. Poetry answers: “My poem is finished.” Music adds: “My notes are all written properly.” Architecture says: “All the machinery is ready, only the flight of *Amor* must be tried over.” Music answers: “Try it over, while I rehearse the aria to *Amor.*” The aria is sung, interrupted by Poetry with approving criticism. At last *Pittura* announces her work finished, and there follows a quartet of all the arts, before the real opera begins.

The musical treatment of this vivid prologue abounds in interesting traits of clever tone painting, brilliant coloratura, and melodic and constructive features of great interest. No symphonic overture, however skillfully written, could have been a better introduction than this prologue, which puts the listeners into an animated mood, entertains and amuses them. The idea of the “Vorspiel auf dem Theater” from Goethe’s *Faust* is anticipated here.

The pastoral play: *Les Fêtes de L’Amour et de Bacchus* by
Quinault and Lully (1672) has an especially elaborate, clever, and effective prologue. Three muses, some noble barons, a Gascon gentleman, and a whole crowd of bourgeois from various French provinces — shepherds, workmen, etc. — take part in this amusing burlesque. There is a display of splendid scenic effects: a magnificent hall in a palace, prepared for a brilliant celebration; a funny fellow distributes books to the actors, all the time dancing; the people around him demand books, he runs away, pursued by the crowd, etc. — a scene somewhat comparable to scenes from Stravinsky's *Petrouchka* ballet. Though there is not much sense in the dramatic proceedings, yet the agitation, variety, colour, splendour, and tempo of these ballet scenes cannot fail to afford an impressive spectacle, to which Lully's melodious, stately dance music adds many pleasing touches.

Often the prologue hints at some actual event well known to everybody in the audience and readily understood by all at the merest allusion. Thus, for instance, in Quinault's prologue to Lully's *Cadmus* and *Alciste*, both produced in 1674, the victory of King Louis XIV over the Dutch is made the central idea, around which the elaborate structure of the prologue is built. In *Cadmus et Hermione* the prologue treats the ancient Greek myth of the fight between Apollo and the serpent Python. Apollo, of course, is King Louis, and the serpent after the fight falls back conquered and exhausted into "son marais bourbeux," its dirty swamps — a reference to the Dutch lowlands in the Rhine delta. In *Alciste*, also produced in the same year (1674), the nymphs of the French rivers Seine and Marne complain of the sadness of their days, desiring "le retour des plaisirs," the return of the pleasures exiled during the Dutch war. "La Gloire" consoles the nymphs, telling them that the reverend hero, King Louis, will soon return to the Seine, after having subdued the Rhine:

"Sa valeur a soumis a la Seine
Le fleuve le plus fier qui soit dans l'univers."

The prologue here is a kind of passageway or bridge, connecting the generally faraway story of the opera with the present day at the time of the performance. Sometimes the prologue is as extended as an entire act, a little play in itself. Generally it has no direct connection with the play proper of the opera — as little as the Italian intermezzi had, which were interpolated between the single acts. The same aesthetic state of mind which permitted and organized the intermezzi also sanctioned the prologue, which is also a kind of intermezzo between the actuality of the present day and the fantastic story of the opera.

Generally the opera proper, in spite of the improbability of its ingeniously constructed action, pretends at least to present characters, an action of psychological interest. The prologue, however, sets aside every pretense at dramatic truth and psychology in the Shakespearean sense, or in the sense of Corneille, Racine, Molière. It is manifestly a fantastic play of the imagination, an artificial construction, reveling in marvel, pompous display, costumes, dance, cleverly pointed discourse, something decidedly *sui generis*, to which modern opera has nothing corresponding to show.