
Sound Scholarship: Scope, Purpose, Function and Potential of Phonorecord Archives

EDWARD E. COLBY

THE PHRASE "sound scholarship" originated with Robert A. Golter, Assistant Director, Stanford University Libraries; the explanatory portion of the title is paraphrased from the title of Guido Adler's lead article, "Umfang, Methode und Ziel der Musikwissenschaft," published in 1885 in the first number of the first volume of *Vierteljahrschrift für Musikwissenschaft*.¹

The rationale for the term "sound scholarship" is an appeal to scholars and students to give greater consideration to the value of sound recordings as research materials. Paraphrasing Adler's title of some ninety years ago provides the corollary thesis that the time has arrived for an assessment of the present status of sound archives and of their present and potential usefulness to scholarship and society; for an attempt to systematize description and location of materials; and to consider approaches to their function in education.

Beyond this basic similarity, the reader should not look for the type of organization or the firm conclusions that characterize the Adler article. The subject of recording and diffusion of sound involves an almost infinite variety of material and affects all but the most isolated peoples as either passive or active participants. Therefore, it is imperative that an effort be made to come to grips with the problem of preservation and organization, even if in the process the number of questions raised far exceeds the number of answers put forward.

Some sixteen years after Edison's invention of the phonograph, Philip G. Hubert, Jr., writing in *The Century Illustrated Monthly Magazine*, ventured the prediction: "Looking at the phonograph from the point of view of a person professionally interested in music, I cannot

Edward E. Colby is Head Librarian, Music Library, Lecturer in Music, and Archivist, Archive of Recorded Sound, Stanford University, Stanford, California.

see room for doubting the tremendous role which this extraordinary invention is to play in the future of music and musicians."²

In the intervening seven decades, the phonograph and other sound recording and reproducing devices have fulfilled Hubert's expectations many times over, in quantity and quality, in ways which could hardly have been foreseen in the early 1890s. Although recordings of music, the subject of Hubert's remarks, have captured the lion's share of interest of both the general public and of record collectors, the importance of preserving the spoken word and other unique historical sounds has been recognized from the earliest days of the art—witness the recordings of Gladstone, Tennyson, Browning, and the bugler who blew the Charge of the Light Brigade.³

Improvement and proliferation of recording and reproducing devices have brought to the listener within a single lifetime—at least for octogenarians, nonagenarians, and centenarians—the cylinder, the acoustical and electrical "standard" groove disc, the reproducing piano (and organ) roll, the wire and tape recorder, the long-play monophonic, stereophonic and quadraphonic disc, and the tape cartridge and cassette. With the added dimensions of live and recorded music and speech on radio and television, and the omnipresent portable transistor, society has accumulated and continues to accumulate an incalculable store of auditory and visual data together with almost unlimited means of diffusion. The primary means of exposure are, of course, through sales for home and mobile use, broadcasting, and "environmental" use—in factories, offices, reception rooms, shopping and recreational areas, and in public conveyances. Sources of environmental sound are most frequently broadcasts—some specially programmed for the purpose—from internal tape systems located in the headquarters of the complex.

People are thus surrounded by transmitted sound during most of their waking hours and in some instances throughout the night by means of a pillow speaker. In addition are the other sounds of everyday life in a technological age—vacuum cleaners, washers, driers and mixers within the house; automobiles, police and fire vehicles, and aircraft from without. The sounds of nature—birds, rain, wind, the ocean—are generally obscured or require special attention, unless one makes trips to isolated areas without benefit of a transistor radio.

What are the implications of this sonic saturation for the learning process? Effective instruction, as traditionally understood, requires a reasonably high level of attention prompted by adequate motivation. With sound a familiar background element, a review of motivation-

Sound Scholarship

attention levels may be in order. In music, the following high-to-low level list is offered provisionally, subject to investigation:

- Silent reading of a score
- Conducting and solo or ensemble performance
- Member of audience—house music
- Member of audience—recital or concert
- Playing 78 rpm recordings
- Playing long-play recordings
- Playing tapes
- Watching and listening to television
- Listening to television without watching
- Listening to radio
- Background music in homes, automobiles, factories, offices, stores, airports, public conveyances

Levels of attention may vary, of course, with the individual and with the volume or profile of sound. Studies dealing with hearing loss from overamplified music in confined spaces must be taken into account. Another problem is the fragmentary presentation of classical masterpieces and the association of breakfast foods and the like with these fragments in radio and television commercials.

In contrast to the negative aspects of the auditory ambience described above, one must in all fairness consider the overwhelming gains, actual and potential, that the development of sound recording has brought to the culture of the twentieth century. An astonishing variety of music ranging from ancient Greek to electronic compositions of the 1970s is available in a large number of phonorecord collections. Less obvious, but of considerable importance, is the number of social levels and "life styles" indicated by recordings.

Speech recordings, although issued commercially in smaller numbers, exhibit a similar coverage of historical time and geographical space. Sounds of nature and technology—birds, insects, heartbeats, railroad whistles—are representative of the third group of documents on disc and tape.

Recordings of music and speech, whatever the date of the score or literary work performed, are, of course, products of approximately the last eighty years, although efforts in the direction of re-creation of earlier music and speech practices are not to be discounted. These recordings constitute the documentation in sound of music and speech practices of the twentieth century (and the last decade of the nineteenth) and as such are a primary resource for the study of a major aspect of the culture of this period.

In spite of the vast wealth of sound available on disc and tape and over the air waves⁴—and many programs of educational value are broadcast by both commercial and subscriber-supported stations—optimal use of sound recordings is unlikely to be realized until the organization, listing and location of the materials achieves a condition of universality approaching that, for example, of the written and printed materials in the field of music.

The first steps in preservation for use are collecting and organizing. Collecting has in some cases preceded organizing by many years, since collecting requires space and transportation; organizing requires special knowledge and continuous labor. In the course of the history of sound recordings, archives have been established by educational institutions, private individuals and groups, and by commercial, industrial, scientific and governmental organizations. European archives go back to the beginning of the century, and are found in all the larger and in most of the smaller countries of that continent. In the United States the sound archive is a more recent development; the larger collections have been organized only in the last fifteen years.

Definition of the purpose of archives, or of a particular archive, may be a simple matter in general terms but in specific details it may offer complications. Broadly speaking, an archive of sound should collect rare and unique recordings on all common physical media: cylinders, discs, tapes. From the point of view of content, it may embrace many types of music and the spoken word, or it may restrict its collecting policy to a single category, such as "classical" vocal music.

Problems of establishing workable collecting policies arise most frequently in connection with certain gray areas. Should an archive keep only one, or should it keep two copies of every recording? Should an archive put all its disc recordings on tape and then put the discs in dead storage? Should long-play transfers of acoustic discs be collected? When a stereo performance—new or rechanneled—is issued, should the original monophonic recording be retained? To what extent, in an academic environment, should popular music be collected?

In order to place these problems in some kind of perspective, it is necessary to see the history of recorded sound as a longitudinal and latitudinal continuum, equating the longitudinal aspect with the chronological history of manufacturers, labels and numbers, and the latitudinal with the variety of content. Of itself the exhaustive documentation of the longitudinal aspect will presumably give us the complete history of the recording, but it is the latitudinal aspect that reveals the re-

Sound Scholarship

sources for instruction and research. Ideally, each new archive would base its acquisition policy on a consideration of avoiding areas cultivated by already established archives, and build up specialties of its own. To some extent this has occurred in practice; few archives would attempt to duplicate the collections of ethnic music at Indiana University and at the University of California, Los Angeles. But there are important justifications for some measure of duplication. Early vocal recordings (to 1909) are of such importance that all except the highly specialized archives will acquire everything within this category and period. Further, it is valuable for all archives to have at least a representative collection of early recordings as tangible or at least visible artifacts in the history of recorded sound. Even more compelling is the consideration that no copy of an out-of-print recording should be discarded until it has been ascertained that identical copies in good condition are held by other archives.

In general, the European archives enjoy public support, and therefore have been able to organize and catalog their collections, to offer services, and to produce publications. In the United States, archival conditions range from Yale University's Historical Sound Recordings Program, a well-organized and going concern, to collections of historical recordings placed in storage for an indefinite period awaiting the availability of funds. There are also "unrecognized archives," out-of-print long-play recordings interfiled with in-print discs in listening room or home-use collections. Libraries that "tape all the discs we buy" often set up archives (without acknowledging the fact) by using only the tapes and keeping the discs in dead storage, retrieving them only when new dubbings are required.

If carried out systematically, the building of archival collections implies both positive and negative controls. Positive control stems from the availability of adequate acquisition funds, of housing, and of personnel to sort, organize and catalog. Negative control has to do with declining unwanted materials, and preferably referring them to another archive. Both types of control are, of course, dependent on the formulation of an acquisition policy. Is the archive to be a general one, or is it to be restricted to several categories of material, or perhaps one category? Is the decision to be based on content or medium (disc, cylinder, tape)? Limitation to a given physical medium appears to be unduly restrictive, except where the content itself is recorded almost entirely on that medium, as with certain singers of the "Golden Age."

When an acquisition policy has been formed and acquisition funds

are available, the archivist may seek out collections and individual items that will implement this policy. If funds are not available, the archivist will be almost entirely dependent on gifts, only a small percentage of which may implement the acquisition policy. Donors of phonorecord collections to educational institutions usually prefer to present them intact, rather than have several librarians and archivists come in and make individual selections. The sound archivist, moreover is concerned with the preservation of recorded materials of all types, even though his or her own archive is a specialized one; he or she will therefore often accept materials outside the field of specialization to save them from discard, and in the expectation that they can be used for exchange or for a later outright transfer to another archive.

The weight, bulk and fragility of historical sound materials, the arrangements for transportation and storage, add to the problems of collection building. The second horn of the dilemma is represented by the number of duplicates that turn up with alarming regularity. As with sheet music, it appears that during the first half of the century almost everyone bought the top five hundred discs and albums.

When a collection is received, the recordings are ordinarily compared item by item with the archive's present holdings. The best one or two copies from among the new and former acquisitions are retained and the others put in storage for sale or exchange or as gifts. With each matching it must be determined that the recordings placed on the sale-exchange list are actual duplicates, the same label, the same take. The ultimate test is comparison by synchronized playback, but few archives have sufficient funds for this type of "searching."

As collection building proceeds, certain refinements are likely to develop in interpretation of policy. An archive, for example, may decide to retain only original issues and to offer re-issues for sale or exchange. Such changes in policy should receive adequate publicity through journals such as the *Journal of the Association for Recorded Sound Collections*, so that archivists may keep in touch with general changes in the location of resources.

A major step in the direction of a union list of sound recordings was taken a few years ago with the publication of *A Preliminary Directory of Sound Recordings Collections in the United States and Canada*.⁵ This directory lists some 1,700 institutional, commercial, industrial, governmental and private collections, with annotations concerning size and nature of collection, availability of catalog and conditions of access, exchange arrangements and other information. The variety of con-

Sound Scholarship

tent listed under the specialized archives provides significant insights into the penetration of sound recording into almost every aspect of human endeavor.

There are at least five general sound archives in the United States: the Library of Congress Recorded Sound Section, the Rodgers and Hammerstein Archives of Recorded Sound in the Lincoln Center for the Performing Arts (New York City), the Yale University Historical Sound Recordings Program, the Syracuse University Audio Archives, and the Stanford University Archive of Recorded Sound. Among special collections, the Archives of Traditional Music and Archives of Latin American Music at Indiana University are outstanding, as is the National Voice Library at Michigan State University. A number of smaller archives have recently come into existence.

Whereas the Yale archive and the National Voice Library were established with the acquisition of well-developed private collections, the Rodgers and Hammerstein and the Stanford archives are the results of years of collecting and storing. The Library of Congress Recorded Sound Section was set in motion with a program of recording American folk music, and developed further through its function as a semi-official depository for commercial recordings. At Indiana University the Archives of Traditional Music has been built up through a number of ethnomusicological programs of field recordings as well as commercial recordings.

Private collections have also followed diverse patterns of development: purchase from other collectors, purchase from secondhand shops, exchange, receipt of gifts. Some exhibit a high degree of specialization; in others the joys of random collecting are apparent. Some are well cataloged, others in a desultory manner. Some collectors make tapes of their recordings on request; others restrict playback to sessions for friends. Paradoxically, because they are not subject to institutional restrictions, private collectors are often better sources of needed dubbings than are university or public sound archives. Institutional archives are, in fact, greatly indebted to private collectors, most of whom carried the burden of preservation, particularly of older and rarer recordings, long before institutions became aware of responsibilities in this area.

In common with other humanistic disciplines, the field of historical recordings can be fully effective as a scholarly resource only when properly documented. Beyond this lies the necessity for the proper application of technological means, since the visual scanning which transmits

written and printed data to the scholar must be replaced, in scanning sound recordings, by devices which reconvert physical and magnetic configurations into intelligible auditory symbols.

One field in which considerable progress has been made is that of documentation. This term may be construed to include histories of the recording industry, the inventors and leaders, its technology and its products (phonorecords and recording and reproducing devices), its managerial and legal affairs, biographies of recording artists and organizations, and what is perhaps most familiar, audiographies. This latter term, coined by Walter Welch, Director of the Audio Archives, Syracuse University, is used here to encompass all listings, wherever found, of every type of phonorecord: disc, tape, wire, cylinder and player piano and organ rolls. For obvious reasons, it is more inclusive than the customary term "discography." As in other fields, documentation is augmented and updated in books and periodicals.

The history of recording has among its principal representatives the works of Gelatt,⁶ and Read and Welch.³ Special aspects of the artist and repertory executive have been described by Gaisberg⁷ and O'Connell.⁸ Biographies of recording artists, especially in the field of jazz, appear in a fairly steady flow, and these biographies are read both by those who know the artist through his live performances and by those who know him through recordings.

The field of audiography has been even more assiduously cultivated. The great number and variety of phonorecords that have appeared through commercial and non-commercial channels within the past eighty years provide an almost limitless resource for audiographers, and the results have been impressive in quantity and often in quality. Compilers have provided extensive coverage of large corpora of recorded materials using as source materials the recordings themselves, manufacturers' logs and catalogs, house organs and other publications (including advertisements), lists and reviews in periodicals and newspapers, biographies of and interviews with recording artists, catalogs of private and institutional record collections, and general and special audiographies, such as the *World's Encyclopaedia of Recorded Music*. Individual audiographies vary, of course, in completeness of the body of material to be covered, in format, and in completeness of individual entry. For early recordings there are the works of Bauer,⁹ Bennett,¹⁰ Hurst,¹¹ and Bescoby-Chambers.¹² Covering the electric 78 rpm era are the *Gramophone Shop Encyclopedia* and the *World's Encyclopaedia of Recorded Music*, the latter extending into the first years

Sound Scholarship

of long-play recordings. Since 1949 the *Schwann Catalog*, now the *Schwann Record & Tape Guide* has been the most durable of American listings of current recordings, though lacking the detail of the Library of Congress *Music and Phonorecords*. In the field of jazz, Delaunay,¹³ Panassié¹⁴ and Rust¹⁵ are representative, and for the spoken word the audiographies of Helen Roach¹⁶ and Milo Ryan.¹⁷

Indeed, the compiling of special audiographies—by performer, by composer, and by composition—is an expanding field. They are found regularly in such periodicals as *High Fidelity* and *Stereo Review* and are an important feature of such collectors' journals as *Record Collector* and *Recorded Sound*. They appear, too, as separate publications from countries as far away as Denmark, Brazil, and Nigeria, and few self-respecting biographers and historians in the field of music fail to include an audiography. Since quite early, recording companies have provided their own sometimes elaborate audiographies for educational and general use; the *Victrola Book of the Opera* and *What We Hear in Music*¹⁸ are well-known examples.

Here again the private collector has fulfilled an essential function in the documentation of recordings. An institutional type of catalog, such as the Library of Congress list, is generally inadequate for the collector of early recordings, since the types of information included do not cover such refinements as takes, and can hardly deal with the knotty problem of speeds. The catalog of Victor records now in preparation by W. R. Moran and others will include a great variety of detail, such as date and suggested speed.

EDUCATIONAL VALUE OF SOUND

It has become a commonplace that learning takes place not only in the formalized structure of the public and private school, but (especially in early years) as a result of all the sights and sounds that present themselves to the individual. And although most seeing and hearing is selective, the child has much less control over what he hears—since hearing is omni-directional—than over what he sees. One is reminded of the poem by Walt Whitman:

There was a child went forth every day;
And the first object he look'd upon, that object he became;
And that object became part of him for the day, or a certain
part of the day, or for many years, or stretching
cycles of years.

Although this poem, which in some ways anticipates the ideas of Marshall McLuhan, emphasizes visual images, it applies equally well to the auditory aspects of informal education.

The use of sound in formal education generally takes one or more of several forms:

1. A complement or supplement to a wide variety of courses in music appreciation, history, literature, theory, and orchestral conducting and performance.
2. A complement or supplement to courses in such other disciplines as: English, drama, foreign languages, history, political science, sociology, and anthropology. Foreign languages may be taught largely through recordings.
3. As basic study and research material in ethnomusicology and jazz, replacing written or printed transcriptions. Because of the problems of accurate representation of pitch and rhythm of ethnic music by means of Western notation, recordings have long been recognized as a necessity in the study of music other than European art music. Probably the earliest scholarly use of the phonograph was in the field of ethnic music, as indicated by Read and Welch³ and in the recently published letters of Béla Bartók.¹⁹
4. As material for special projects in specific disciplines and in interdisciplinary studies. Examples are background music for student films and music used by various peoples for hypnotic trances.
5. As the only auditory realization of a piece of electronic or computer-generated music, in which there is no score in the accepted sense of the word, but only a set of instructions or a program.

The increased flexibility in university course offerings, exemplified by freshmen seminars and undergraduate specials, has brought into being at Stanford University such courses as "Great Operatic Recordings of the Past," taught in the autumn quarter of 1970 by Phillip Petersen of the Department of Spanish and Portuguese, a private record collector, and "Survey of Twentieth Century Popular Music in the U.S." taught in the spring quarter of 1970 by Edward L. Linotti, former Assistant Archivist, Stanford Archive of Recorded Sound. Both courses were based on historical recordings played on historical phonographs.

The present use of phonorecords in educational institutions is extensive. It is based largely on currently or recently available commercial discs and tapes (including transfers of early discs, cylinders and player rolls) and on tapes especially prepared from various classroom, studio and laboratory sources for various curricular purposes. One common use of tape is that of replacing student attendance at lectures.

Sound Scholarship

A brief survey of some of the present uses of the larger archives will not only illustrate the services which they are currently rendering to the world of scholarship, but will also give some indication of the potential value these archives will have when their holdings have been completely cataloged and when they are more adequately staffed.

Yale University, Historical Sound Recordings Program—Use of this sound archive doubled during the period 1968-1970, reaching 1,200 instances of use during 1971. Special research projects using materials in this archive have included the following: a master's thesis on recorded performances of pupils of Franz Liszt; a study on the performance of the music of Karl Loewe; and a course initiated by five graduate students on the performance of works by Chopin, Schumann and Brahms.

Library of Congress, Recorded Sound Section—This archive was established in 1963, although special sound recordings collections, such as the Archive of American Folk Song, had been established there much earlier. The estimated total holdings of the Recorded Sound Section are 500,000 items. There is a catalog of selected long-play discs, and card indexes and finding lists for other collections. Far less than half the collection, however, is indexed in any of these ways. Listening is generally handled by appointment. There are four playback stations, so that four signals are available at any given time. Although 5,000 shellac discs, including all discs of the voice of Enrico Caruso, have been put on tape, the Library provides controlled listening of original shellacs when necessary. Typical projects are a study of performance styles in piano concertos and a study of castrato singing.

From July 1, 1970 through June 30, 1971 the Recorded Sound Section served 4,600 "readers" (independent of the listeners) of whom 3,400

TABLE 1
USE FIGURES FOR RECORDED SOUND SECTION 1968-1971

Year	Number of Listeners	Total Listening Time
1968	95	160 hours
1969	125	290 hours
1970	189	376 hours
1971*	ca. 212	ca. 530 hours

* Figures were projected from figures available through November 30, 1971.

required reference assistance. In addition, there were 5,400 telephone inquiries and 1,200 mail requests. Other figures are given in Table I.

Rogers and Hammerstein Archives of Recorded Sound, New York Public Library—This archive contains extensive holdings in all types of recorded music and speech. It serves students and faculty members from educational institutions in the New York City area as well as the general public. Among those using its services are actors who listen to dialect recordings to improve the reading of their roles on the stage.

Syracuse University, Audio Archives—This archive is used by music students and by students of drama. The adjoining laboratory is of special importance for the rerecording of early cylinders.

Michigan State University, National Voice Library—Here a special approach has been taken to the problem of providing archival materials to students and teachers. The director, G. Robert Vincent, has prepared thirty-nine taped programs of the speech material in which this archive specializes. These tapes may be used in the regular listening rooms of the university. When audition of other materials is desired, controlled listening is available in the archive.

Discussion of the current use of historical recordings raises certain questions concerning the reproduction of these recordings for listeners. The variety of types of historic reproducing devices is documented in Read and Welch,³ and current technological achievements form an important part of the subject matter of periodicals such as *Audio*, *High Fidelity*, *Stereo Review* and *Consumers Research Bulletin*. The published research paper of Pickett and Lemcoe²⁰ and the article by Welch in this number of *Library Trends* deal with the preservation of phonorecords. Library applications of reproducing technology have been treated by Colby and Johnson²¹ and by Currall.²² Added to these resources is, of course, the immediate advantage of the presence of sound technicians on campus or in the vicinity of the institution.

Given the options, should historic discs, which form the larger part of most archives, be played on phonographs with which they are contemporary or on the most sophisticated high fidelity equipment? Several possibilities exist for reproduction of acoustic discs and electric 78 rpm discs: one may use antique machines of the period, antique machines of later periods, standard current high fidelity equipment, or special high-fidelity equipment with variable speed turntables, filters, and styli of

Sound Scholarship

various sizes and configurations. It is also possible to use various styli on the same disc synchronously, superimposing the signals on tape, in order to extract the maximum amount of information from the grooves. The decision as to speed is a knotty one, because even with score in hand, one cannot be certain that a given piece of music was not transposed for a particular recording session.

Perhaps the problem of reproduction may be viewed in terms of the "sound ideal" of the present high fidelity era versus the "sound reality" of, for example, 1907. In other words, should one attempt to extract the signal from the disc in its "pure" form, freed from the ambience of surface noise, or try to recreate the sound as the original purchaser heard it? This is manifestly difficult, even with antique machines, unless one has in hand a mint or nearly mint copy of the recording. A related consideration is whether to accept the limitations of frequency response and volume imposed by early recording and reproducing devices or to accept the modifications brought about by any kind of electronic processing. The strictly historical approach (playing early discs on early machines) is somewhat analogous to the performance of Baroque music on Baroque instruments. But a strong case can be made for using highly sophisticated filtering equipment if the original signal (minus surface noise) can be preserved intact without the emasculation typical of early attempts to "clean up" acoustic discs.

An answer to this, as to other problems connected with sound archives, is that there is room in the world of sound for a variety of approaches, and for broad experimentation. What is important is that all technical resources be taken into consideration and that the results of experimentation be known and evaluated.

LEGAL ASPECTS

Legal aspects of accessibility to archive resources are still subject to various interpretations, dependent not only on federal laws, but also on state laws. While the new copyright law protects recordings issued on or after February 22, 1972, the legality of dubbing still involves the rights not only of manufacturers, but of publishers, composers and performers and their heirs. Most archive materials are by definition—because of fragility and irreplaceability—not to be used outside the archive; tapes must often be made even for use within the institution.

One procedure which appears to have some merit in meeting requests while observing principles of fair use, is to make an archival copy

of a disc, a disc set, or of certain parts thereof, and issue it to the requestor on a loan basis, with the stipulation that the tape must be returned to the archive after a certain period. In-house playbacks may use the original recordings (controlled by the archivist), but even here care must be exercised to avoid playing the same recording too often. It is much safer to make a tape the first time a rare recording is requested.

POTENTIAL USES OF ARCHIVAL MATERIALS

Sound recording resources may be divided into three general categories: (1) those now available in institutional and other archives and in private collection, (2) those known or presumed to exist but not now available (this would include a large percentage of the "underground" recorded material and material in large corporation holdings), and (3) materials yet to be recorded through the initiation of special recording projects.

Except in the fields of jazz and ethnomusicology, the use of recordings in research and as a basis for research has been minimal. Examples of books that are based on recordings are those by Hughes on Toscanini,²³ by Culshaw on *The Ring*²⁴ and by Taranow on Sarah Bernhardt.²⁵ This last book contains a chapter on the voice of Bernhardt that depends almost exclusively on recordings of her voice, many of them reprocessed by Walter Welch at the Audio Archives of Syracuse University. It is an excellent example of what can be achieved in the history of the spoken word through the use of recordings and in cooperation with an archivist possessing the necessary technical expertise.

Within the field of music, which ordinarily has the largest representation in a general archive, there are almost unlimited potential research uses for sound recordings. Some of these have been described by the present writer in an article published in *Library Trends* over a decade ago,²⁶ and from a somewhat different point of view in a paper presented to a joint meeting of musicologists and music librarians in 1970.²⁷

Considered in their totality, the combined holdings of all sound archives throughout the world, whether or not designated by an appropriate name (such as archive, *discoteca*, or *phonotheque*), constitute the essential and ultimately irreplaceable resource for the performance practice of music and speech in the late nineteenth and in all of the twentieth century to date. As Bescoby-Chambers has pointed out,¹² the recordings of the pupils of nineteenth century masters, such as pianists Liszt and Thalberg, who died too early to record, undoubtedly reflect

Sound Scholarship

some characteristics of the practice of their teachers. By extrapolation the historical value of the recording may therefore be extended back in time to at least the 1830s and 1840s.

The authenticity of the data contained on a recording is, of course, dependent to some extent on the methods used in recording and reproduction. Whereas the earliest recordings suffer from the technical limitations of the recording process, the most recent new recordings are a composite of a number of takes, with the "best" passages from each spliced together to synthesize a performance that has never previously existed as a continuous phenomenon. The scholar, therefore, must take into account, along with such primary factors as the authenticity of the printed edition used by the performer, all the details of technology which bear upon the music as he hears it on the phonorecord.

Study of the performance practices of music of earlier periods, especially Renaissance and Baroque, is intensively and extensively cultivated at a number of universities (including Stanford, Illinois, California at Berkeley) and by private organizations such as the Pro Musica Antiqua, the New York Pro Musica, the Studio für Frühen Musik and the Concentus Musicus. The indispensable elements for reconstructing the performance styles and techniques are, of course, reliability of the scores, analytic and artistic intelligence of the transcriber and performer, existence of early instruments and replicas, with some dependence on iconography, manuals of performance both early and recent, dictionaries of terms, and descriptions of concerts and recitals, such as those of Charles Burney. *Performance Practice; A Bibliography* by Vinquist and Zaslav is witness to the number and quality of research studies in this field.²⁸

Study based on the performance of music in the twentieth century, on the other hand, has scarcely been touched in academic circles, except as noted before, in the fields of ethnomusicology and jazz, where recordings, rather than scores, are accepted as source material. To a certain extent this is not surprising, because phonorecord resources have only recently been well organized, and then in only a few institutions. But as Leonard Ratner has pointed out in a talk on historical recordings,²⁹ music is an art of sound, and the written and printed notes are basically signs to be externalized in performance.

Indeed, the evaluation of art music through its performance has been limited largely to record reviewers and record collectors, writing in periodicals such as *The Gramophone* and *High Fidelity* and in books such as *The Record Book*,³⁰ and *The Guide to Long-Playing Records*

series.³¹ Published comparisons of recordings of Beethoven symphonies or of the recordings of a given performer or conductor are left chiefly to those writing for the lay audience.

The proposed entrance of the musicologist into the field of research based on sound recording should bring to bear on the study of performance the knowledge and judgment of a trained style analyst. Further, the detailed description of the differences among performances of the same work by Szell, Toscanini, and Klemperer, for example, should afford new insights into the music itself. In this type of research it is the performance that occupies the center of the stage, while the musical score, retaining its position of authority, changes its function to that of reference point. This type of research usually requires also a change in attitude on the part of the researcher, since value judgments come at the end of a long chain of comparisons.

Several research papers have been completed at Stanford University that involve the use of early recordings as basic source materials. Among these are a study on Debussy by Tollefson³² and a study on Haydn by Hill.³³ But the Hewitt and Adkins lists of dissertations are remarkably innocent of topics which indicate use of these resources.³⁴

In earlier recordings of music of the Middle Ages, and the Renaissance and Baroque periods, performances are admittedly hampered by the use of inflexible transcriptions, modern instruments and by incomplete understanding or disregard of performance styles. Even these recordings are valuable, however, as documents of the practice of "early" music in our own century, just as earlier histories of music are indicators of the state of scholarship in earlier centuries.

A word should be added here about radio programs of recordings by individual performers, orchestras and conductors. While valuable, these programs are necessarily selective and ordinarily not subject to repeated hearings.

SPEECH RECORDINGS

Prose and poetry, unlike music, are not generally regarded as requiring the transmutation of a written or printed text into sound, although reflection will reveal an element of similarity. A poem or dramatic role, public address or essay, may be read in as many different ways as there are readers. Writers in two fields, psycholinguistics and phenomenological hermeneutics, have emphasized the distinctions between speech and writing. "Among the most obvious characteristics of speech not

Sound Scholarship

present in writing," says Joseph DeVito, "are silence or pause, pitch, volume and stress."³⁵ In a different vein Richard Palmer asserts that "all written language calls for retransformation into its spoken form; it calls for its lost power. Writing language down is an 'alienation of language' from its living power—a *Selbstentfremdung der Sprache*, a self-estrangement from speaking."³⁶

As in music the sum of the playing of individual notes and groups of notes constitutes a performance style, so in speech the inflections, stress and groupings of words add up to a rhetorical style. Interpolations and more extensive departures from the printed text of a speech have their counterparts in troping in music, and what is totally improvised in music is considered extempore in speech.

In the broad sense, recorded speech may be regarded as a complement to the written or printed word. But it is more than that. Although Marshall McLuhan has taken an over-assured view of the demise of the printed word, the very pace of communication has brought about a revival of the oral tradition of antiquity and folklore, though at an accelerated tempo. People are undoubtedly hearing—with or without understanding—a larger percentage of information from radio and television, while perhaps spending smaller amounts of time with books, periodicals and newspapers.

Further concrete recognition of the importance of the spoken word is found in the series of recordings of poets reading their own works in the Harvard Vocarium and Library of Congress series, and in the work of the National Voice Library.

Radio and television programs are, of course, a rich resource for the documentation of our cultural, social and political life. News broadcasts and interpretations, interviews, panel discussions, dramatic presentations, documentaries, concerts, church services—all qualify as research material. It would require a special study to determine to what extent these resources are available to scholars and to what extent they are being used by scholars. Until these factors have been determined, it is to be supposed that radio and television programs remain largely untapped as scholarly material, although film clips and sections of videotape, as well as historical voice recordings, frequently appear in special documentaries.

The most complete audiovisual documentations of the recent explorations of geological and political terra incognita—on the moon and in Peking respectively—are without doubt those in government and network archives. Portions of such recordings may appear in packages prepared

by producers of educational media, but here, as in similar packages, the selection is that of the manufacturer, and generally more suitable to high school and undergraduate use than for advanced study.

A recent development in radio, and to a lesser extent in television, has been the talk show. The usual format is a dialog between the communicaster (a staff member of the radio station with some skill as a conversationalist) and an unseen, usually anonymous caller on the telephone. Each caller is generally limited to a period of a few minutes and other callers may comment on previous remarks. There is generally a seven-second delay between phone conversation and transmission to permit the obliteration of obscene and slanderous remarks.

The talk show may be regarded as a broadcast counterpart of the old town meeting, with tens of thousands of unseen participants representing thousands of miles and diverse cultural, political, social and economic spectra. Making allowances for cranks, purveyors of trivia and inebriates, some of whom are screened out by the producer, and for the prejudices of the communicaster and interruptions by commercials, the talk show probably represents the most open expression of public opinion to date.

While the talk show in its standard format is an example of widespread grassroots expression, it acquires special significance when guests (writers, public figures, and others) appear with the communicaster, and in answer to questions or "off the cuff" give statements which are not included in their writings or press reports. One program on the Pacific Coast is devoted to religious questions; there are three moderators, one Jewish, one Catholic and one Protestant. Although other beliefs, including atheism, have no representatives on the panel, their spokesmen are sometimes heard as callers. This same radio station reports on the basis of the *ARB* for October-November 1971, 88,600 adult listeners (eighteen years old or over) Monday through Friday during the peak talk show hours of 6 to 10 A.M.

Radio stations customarily tape these talk programs and retain them for three months, in accordance with FCC regulations. A few programs of special merit are placed in the station archives. It is probable that private individuals make recordings of these programs selectively, but the existence of these "underground" recordings is not known until brought to the attention of an interested party. In these talk programs students in the field of history, sociology, anthropology and communications have the raw materials—the word is used advisedly—for following trends of public opinion and gaining insight into the everyday life

Sound Scholarship

of large numbers of people, including those who are normally silent, but become vocal under the pressure of events and the cloak of anonymity. It is obvious, of course, that unless unlimited storage and retrieval facilities are available, some selective editing is in order. As files of newspapers are stored on microfilm, however, it should become possible, with advances in technology, to store sound data in economical form.

Oral history, in contrast to the talk show, represents a deliberate and formal approach to the preservation of speech, generally on an individual basis. Here the importance of retaining the original tapes, rather than erasing them when typescripts have been made, should be stressed. Another means of building up speech collections is preserving talks and other programs taped for broadcast by local commercial and non-commercial radio stations. Some educational stations have their own archives, and make copies of recordings from these archives available for sale.

Of sounds that are neither music nor speech in the accepted sense, sounds of nature, human activity, transportation, industry, and so forth, it may be said that the commercial recordings on the market point the way to opportunities for collecting and research comparable to those in music and speech.

The traditional and still basic concept of a sound archive is that of a "classical" vocal collection preferably of the type and period circumscribed by Bauer⁹ and Hurst¹¹ in their historical catalogs. The categories listed in Bescoby-Chambers¹² and in jazz audiographies represent other favorite fields and periods of collecting. It is natural, as with rare book collection, that emphasis should be placed on the hard-to-get and the monetarily and artistically valuable recordings. But a full-fledged sound archive, like a full-fledged library, should cover, at least selectively, all periods of sound recording, including materials that are still fairly commonplace. Until there is some assurance that continuing responsibility will be assumed for certain categories of recordings, that union lists will be developed, and that tapes will be available under an inter-archive system, it is shortsighted to let recordings be dispersed. If space limitations preclude acquisition of recordings by one archive, a consortium arrangement may provide a solution.

Phonorecord archives have the responsibility of documenting the history of humanity and nature in sounds, as libraries have the responsibility of documentation in manuscripts and printed materials. In many instances sound will run parallel to the printed word or to the printed

musical notes; in other instances it will perform a function impossible for visual materials. Because sound has special temporal and spatial characteristics, it can further serve as a bridge between academic disciplines and popular culture. It can also illustrate the relationship of speech to music, and may one day bring about the realization of Mantle Hood's hope that all music study will embrace the principles of ethnomusicology in emphasizing the supremacy of performance and the necessity of considering the cultural context.³⁷

Problems of acquisition, preservation, documentation and educational use of sound materials are being solved gradually, sporadically, and selectively. Without a generously endowed national or international effort, this state of affairs will undoubtedly continue indefinitely with positive steps dependent on a few individuals and organizations. The long-range objectives, based firmly on the work already accomplished in the above fields, must be:

1. an audiographic equivalent of the *International Inventory of Musical Sources*, providing identification and location of all out-of-print phonorecords and where possible non-commercial recordings;
2. availability of sound recordings through inter-archive loan or by electrical transmission;
3. development of standards for description of phonorecords;
4. specialization by archives in various types of recorded music and speech, with the purpose of filling gaps and developing expertise in special fields; and
5. encouragement of the use of sound recordings in research, and exploration of possibilities for historical research in the newer disciplines of psycholinguistics and psychoacoustics.

During the last decade two organizations, the Association for Recorded Sound Collections and the International Association of Sound Archives, have come into being. It is hoped that these organizations will address themselves to the achievement of these and related objectives, so that the world of sound will take its place alongside the world of print as a fully utilizable resource in formal and informal education.

References

1. Adler, Guido. "Umfang, Methode und Ziel der Musikwissenschaft," *Vierteljahrsschrift für Musikwissenschaft*, 1:6-20, 1885.
2. Hubert, Philip G., Jr. "What the Phonograph Will Do for Music and Music Lovers," *The Century Illustrated Monthly Magazine*, 46:152-54, May 1893.

Sound Scholarship

3. Read, Oliver, and Welch, Walter L. *From Tin Foil to Stereo; Evolution of the Phonograph*. 1st ed. Indianapolis, Howard W. Sams, 1959.
4. Goslich, Siegfried. *Musik im Rundfunk*. Tutzing, Hans Schneider, 1971.
5. Association for Recorded Sound Collections. *A Preliminary Directory of Sound Recordings Collections in the United States and Canada*. Prepared by a Program Committee. New York, New York Public Library, 1967.
6. Gelatt, Roland. *The Fabulous Phonograph; From Edison to Stereo*. Rev. ed. New York, Appleton-Century, 1966.
7. Gaisberg, Frederick W. *The Music Goes Round*. New York, Macmillan, 1942.
8. O'Connell, Charles. *The Other Side of the Record*. 1st ed. New York, Knopf, 1947.
9. Bauer, Robert. *The New Catalogue of Historical Records, 1898-1908/09*. London, Sidgwick and Jackson, 1947.
10. Bennett, John R. *Voices of the Past; A Catalogue of Vocal Recordings from the English Catalogues of The Gramophone Company 1898-99, The Gramophone Company Limited 1899-1900, The Gramophone and Typewriter Company Limited 1901-1907, and the Gramophone Company Limited 1907-25*. Lingfield, Surrey, The Oakwood Press, 1957.
11. Hurst, P. G. *The Golden Age Recorded*. New and rev. ed. Lingfield, Surrey, The Oakwood Press, 1963.
12. Bescoby-Chambers, John. *The Archives of Sound; Including a Selective Catalogue of Historical Violin, Piano, Spoken, Documentary, Orchestral and Composer's Own Recordings*. Lingfield, Surrey, The Oakwood Press, 1966.
13. Delaunay, Charles. *New Hot Discography; The Standard Directory of Recorded Jazz*. New York, Criterion, 1948.
14. Panassié, Hugues. *The Real Jazz*. New York, Smith and Durrell, 1942.
15. Rust, Brian, comp. *Jazz Records, A-Z, 1897-1931*. 2d ed. Hatch End, Middlesex, Eng., 1962; and ———. *Jazz Records, A-Z, 1932-1942*. 1965.
16. Roach, Helen P. *Spoken Records*. 3d ed. Metuchen, N.J., Scarecrow Press, 1970.
17. Ryan, Milo. *History in Sound; A Descriptive Listing of the KIRO-CBS Collection of Broadcasts of the World War II Years and After in the Phonoarchive of the University of Washington*. Seattle, University of Washington Press, 1963.
18. Oberndorfer, Anne Shaw. *What We Hear in Music; A Course of Study in Music Appreciation and History, for Use in High Schools, Normal Schools, Colleges and Universities. Also for Special Courses in Conservatories, Music Clubs and the Home*. 11th rev. ed. Camden, RCA Manufacturing Co., 1939.
19. Bartók, Béla. *Béla Bartók Letters*. Collected, selected, edited and annotated by János Demény. London, Faber and Faber, 1971.
20. Pickett, Andrew G., and Lemcoe, Meyer M. *Preservation and Storage of Sound Recordings; A Study Supported by a Grant from the Rockefeller Foundation*. Washington, D.C., Library of Congress, 1959.
21. Colby, Edward E., and Johnson, Keith O. "Sound Reproduction and Recording Equipment." In *Music Library Association. Manual of Music Librarianship*. Carol J. Bradley, ed. Ann Arbor, 1966, pp. 76-98.
22. International Association of Music Libraries, United Kingdom Branch. *Phonograph Record Libraries; Their Organization and Practice*. 2d ed. Henry F. J.

Currall, ed. with a Preface by A. Hyatt King. Hamden, Conn., Archon Books, 1970. (A comprehensive work on phonorecord libraries, with several chapters on sound archives in England, France and the United States and a selective bibliography.)

23. Hughes, Patrick C. *The Toscanini Legacy; A Critical Study of Arturo Toscanini's Performances of Beethoven, Verdi and Other Composers*. 2d enl. ed. New York, Dover, 1969.

24. Culshaw, John. *Ring Resounding*. New York, Viking, 1967. (An account of the first recording of Wagner's *Der Ring des Nibelungen*, Vienna, 1958-65.)

25. Taranow, Gerda. *Sarah Bernhardt: The Art within the Legend*. Princeton, N.J., Princeton University Press, 1972.

26. Colby, Edward E. "Sound Recordings in the Music Library: With Special Reference to Record Archives," *Library Trends*, 8:556-65, April 1960.

27. Colby, Edward E. "Recorded Performance of Music: The Challenge of a New Field of Research." Unpublished paper presented at a joint meeting of the Northern and Southern California Chapters of the American Musicological Society and the Music Library Association, University of California, Davis, April 25, 1970.

28. Vinqvist, Mary, and Zaslav, Neal, eds. *Performance Practice; A Bibliography*. New York, W. W. Norton, 1971.

29. Ratner, Leonard G. "Sounds of the Past." Unpublished paper presented at the opening of an exhibition prepared by the Stanford Archive of Recorded Sound and private collectors, Oct. 7, 1970.

30. Hall, David. *The Record Book; A Guide to the World of the Phonograph*. International ed. New York, O. Durrell, 1948.

31. *The Guide to Long-Playing Records*. 1st ed. New York, Knopf, 1955.

32. Tollefson, Arthur R. "Pedal Technique in the Piano Works of Claude Debussy." Unpublished D.M.A. final project submitted to the Department of Music, Stanford University, 1968.

33. Hill, George R. "Haydn's Musical Clocks and Their Implications for Late Eighteenth Century Performance Practice." Unpublished senior honors project, Department of Music, Stanford University, 1965.

34. Adkins, Cecil, ed. *Doctoral Dissertations in Musicology*. 5th ed. Philadelphia, American Musicological Society, 1971. (First edition issued by the Joint Committee of the Music Teachers National Association and the American Musicological Society; 2d-4th editions compiled by Helen Hewitt.)

35. DeVito, Joseph A. *The Psychology of Speech and Language; An Introduction to Psycholinguistics*. New York, Random House, 1970, p. 10.

36. Palmer, Richard E. *Hermeneutics, Interpretation Theory in Schleiermacher, Dilthey, Heidegger and Gadamer*. Evanston, Ill., Northwestern University Press, 1969, pp. 15-16.

37. Hood, Mantle. *The Ethnomusicologist*. New York, McGraw-Hill, 1971.