THE REPRODUCTION OF CYLINDER RECORDINGS

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Cylinder records in most cases were made of a relatively soft wax mixture. For this reason the grooves wear very rapidly with repeated playback. Thus, a cylinder recording is often irretrievably ruined by the time the speech or music recorded is transcribed. If the recording found on the cylinder is to be preserved for further study it must be transferred to another type of recording which is relatively more permanent as, for example, magnetic recording tape or some type of disk. The purpose of this article is to discuss the problems involved and the methods now available in making such a re-recording. However, it will first be useful to review the methods used in the past in reproducing phonograph cylinders.

The phonograph cylinder was the first type of record to come into widespread use. In the early period of the establishment of the recording industry, beginning in the middle 1880's (See: "A Short History of the Phonograph Cylinder," The Folklore and Folk Music Archivist, I, 2-3), no mechanical means of duplicating cylinder recordings was known. In making commercial cylinder records the artist was surrounded by as many cylinder recorders as his voice or instrument could activate. Perhaps as many as eight recordings might be produced simultaneously of this performance. A repeat of the performance would produce another set of eight and so on. This necessity of incessantly repeating the same performance was obviously rather trying and one can imagine the musical results secured upon the twenty-fifth repetition of the same composition.

One of the factors making for the superiority of the shellac disk recordings introduced towards the end of the nineteenth century was their easy and economical reproduction from a metal die or master. To meet this competition it was necessary that an efficient and economical method of duplicating cylinder records be found. The method first developed was the mechanical connection of two styli, each acting upon a different cylinder. The stylus playing back the cylinder already cut activates a series of levers and wires which cause the second stylus to duplicate the original cut on the blank cylinder. Although the results achieved seemed adequate this system of reproduction apparently never came into widespread use. The reasons for this lack of popularity seem fairly evident. The end result of the process was one other equally impermanent wax cylinder. And, of even greater importance, the number of playings of the original necessary to cut a stock of copies would soon impair the usefulness of the original.

The Phonogramm-Archiv established around the turn of the century at the Kaiserliche Akademie der Wissenschaften in Vienna developed its own phonograph which recorded on wax disks. Since many of the recordings received for deposit were found on the more widely used cylinders it was necessary as a matter of convenience in playback on their own phonograph that recordings found on wax cylinders be transferred to wax disks. An adaptation of the apparatus used for mechanical reproduction from cylinder to cylinder was therefore made for this purpose. The drawing below (reproduced from "Ein Apparat zur Kopierung phonographischer Schrift von Edison-Walzen auf die Platten des Archivphonographen," Fritz Hauser, Nr. VIII der Berichte der Phonogramm-Archivs-Kommission der Kaiserl Akademie der Wissenschaften in Wien, 1906) indicates the method by which the transfer is made. The stylus mounted on the lever A follows the grooves in the original wax cylinder and by means of the wire connection I impels the stylus mounted on the lever D to cut similar grooves in the vertically mounted wax disk blank. The larger part F controls the tension of the wire. Each part moves freely on its respective axle, B, E or H.

The method of duplication that came into common use was the so-called "galvano-plastic" process. Although this process produces permanent metal masters (negatives) comparable with the masters used in duplicating disks, it is more complex and time consuming. In the galvano-plastic process the original cylinder is covered with a material capable of conducting electricity, such as a graphite powder containing silver nitrate. It is then mounted on a mandrel and immersed in a copper plating solution. The cylinder is slowly rotated and the copper particles joined and deposited on the cylinder by galvanic action by sending an electrical current through the bath. A low current is used at first to produce a fineplating surface and then increased to produce proper thickness, the entire process taking some seventeen hours. The copper mold or die is then removed from the bath, the original cylinder usually disintegrating or being damaged past further usefulness. Since the copper die thus produced is soft and can easily be distorted and since it is adversely affected by the acid in the wax mixture used in making copies, the surface of the die carrying the negative reproduction of the cylinder grooving is plated with nickel. The completed die is then soldered to an especially constructed mold and copies are cast by pouring a
The Western Kentucky Folklore Archive is basically a manuscript collection brought together by D. K. Wilgus and housed in Cherry Hall at Western Kentucky State College. The archive was established in 1953 with a small nucleus of material collected by the students in the folklore classes of Gordon Wilson. The collection has grown through student contributions, field collection by its director, and deposits such as the manuscript collection of Josiah H. Combs and the songs collected by Herbert Halpert and his students at Murray State College. Though the materials represent a wide geographical area, the archive is important primarily as one of the two significant repositories of the collected folklore of western Kentucky.

The archive contains at present somewhat over 11,000 items in approximately the following proportions: songs—3500; rhymes—700; games—1100; tales—450; riddles—150; beliefs—5500; language and names—850; custom, food, industry—400. The material is not yet adequately indexed or organized. Items are generally preserved in duplicate (special collections in triplicate), one copy filed by area and one by type. The area section is organized by state, and Kentucky material is further broken down by county. (County organization aids study of cultural areas, stimulates collection, and facilitates following up leads of student collectors.) Only a small amount of follow-up work, especially in recording tunes not obtained by students, has been completed. Classification of items has barely begun. Ballads are filed according to Child and Laws numbers, and other songs are arranged in loose categories. Other classes of material are less well organized. Few tune recordings have been transcribed, but taped items are indexed by reel number in the main body of texts. After necessary duplication and preparation are completed, the material will be classified under a combination of systems, somewhat similar to that reported by John Ball in the Archivist, 1, 3.

An adjunct to the archive is a collection of approximately 2000 commercial recordings, largely hillbilly. These are arranged by singer and indexed by singer and title, with extensive cross reference.

The archive has the characteristics of most private collections. It is maintained, with a small amount of clerical help, in the spare time of its director. There are no assistants and no regular budget. Yet it is functioning as a depository and is available for consultation by students. Copies of texts and recordings can be and have been supplied, within limits of clerical help.