VIDEOTAPE: HARDWARE, HISTORY AND APPLICATIONS

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In recent years, folklorists have begun to recognize and utilize visual media as research and communicative tools. In 1967, Ralph Rinzler's film work was shown at the American Folklore Society meetings. Subsequently, films by Bess Lomax Hawes, William Ferris and Carl Fleischhauer have demonstrated the applicability and importance of visual communication to the study of folklore. In general, however, folklorists have been reluctant to adopt this form of communication. They admire the research footage or finished filmic products of their colleagues, but ignore the implications of such work for future research into various aspects of traditional human behavior. Videotape, a relatively new visual medium, has contributed to an increasing sense of urgency among visually-oriented social scientists. Technical improvements in recent years allow its consideration as an invaluable tool for folklore research.

Portable videotape equipment was widely available by 1970, the year when standardization of this hardware became a reality. Greater numbers of people began to handle the equipment and to share with one another the results of their efforts. With the increasing availability of videotape recording systems came the inevitable comparisons with film. Both are multi-media systems utilizing two channels of transmission and reception of information, hopefully in an integrated manner. Yet, they are not the same. The initial distinction is the quality of realness which video displays. Somehow, it is easier to respond to the image captured on videotape; the content of the tape seems less removed from the present than that of film. Yet the value placed on tape reality creates a problem which those using videotape must take into account. Its <u>constructed</u> reality--of chosen camera angles and movements, of edited shot sequences--may appear more real and more compelling than the reality of the actual event. It is important to be aware of the video technician's ability to shape, unavoidably, the tape's reality.

Other significant distinctions between videotape and film include feedback ability, portability, cost, reusability, ease of use, and definition of image. It is videotape's great advantage that, as with audio tape, what is recorded can be played back instantly. The technique of taping someone and then showing him the tape has been employed by many video users as a means of relaxing a person, satisfying his curiosity about what kind of a visual figure he cuts. Most of us are familiar with the instant replay used in live television broadcasts of athletic contests, replaying an action which has just taken place. The use of instant replay to aid in instruction or clarification of a specific point made on a tape is possible with portable videotape recorders (VTRs) as well. Instant replay has also been used to get immediate feedback on a tape just shown, serving as a springboard for discussion.

Another advantage of videotape recording is its portability. In the form of the portapac, using 3/4" cassette and 1/2" and 1/4" reel-to-reel videotape, it can literally go places a 16mm. portable film unit cannot. Only the Super-8 or Single-8 crystal-sync film units are of comparable portability. While Super-8 units may be more rugged for recording events in remote areas, the portapac is more versatile.

Videotape recording is considerably less expensive than filming. The initial cost outlay for a basic, black-and-white video portapac is approximately equivalent to that of a Super-8 crystal-sync system; and both are far less expensive than 16mm. film equipment. But videotape, like audio tape, has the capability of being erased and re-used--certainly an asset if your budget demands it. A recent development is a Super-8 deck which allows transfer of the film image to a video signal for viewing on a television monitor.

Video cameras are fairly easy to use, and it is not difficult to train people (even those not "visually oriented") to use them. Video workshops usually allot an hour or two for training in equipment use. Given sound situations and light levels which do not present extreme problems, the portapac can be operated without sophisticated microphones or lighting equipment. It must be recognized, however, that portable video equipment cannot achieve the quality or definition of image of 16mm. film; this may be a disadvantage for some potential video users.

Videotape recording is very similar to audio tape recording, in that the recording procedure occurs electronically. Film, on the other hand, records the picture, and generally the sound track, chemically. Video and audio images are electronically converted from light and sound to "video voltage" and magnetism.[1] Like an audio recorder, the VTR employs magnetic erase, record, and playback heads and adds one or more video heads to record and play back the picture. Simultaneously, a sync-control track is electronically placed on the tape.

Unlike film, all videotape editing is done electronically. Although one can physically edit videotape in much the same manner as one edits or splices audio tape, the results are less than satisfactory and this technique is used primarily as a maintenance procedure. Electronic editing, through the process of re-recording the original tape, is overwhelmingly preferable.

Videotape, like film, is the storage medium for an image. Videotape can store both picture and sound and will record either black and white or color. With film, the film stock that is chosen determines whether one will be shooting in color or black and white.

Videotape recording may employ one of two distinct processes of scanning the tape: quadraplex scanning or helical scan (slant track) recording. The quadraplex VTR system uses four video heads which rotate in a perpendicular direction to the tape. It requires a very wide (2") tape

format, is extremely expensive ($90,000 to $120,000), but produces the finest quality color video reproduction available. This system is used almost exclusively by broadcast television stations. Its high quality allows it to be sent over air waves without degeneration or loss of image stability.

The alternative scanning process, helical-scan recording, is much less expensive and is obviously used by everyone else. The tape reels are placed at different heights on the VTR so that the tape will travel across the heads on a diagonal. Since helical-scan systems generally use narrower tape (1/4" to 1" widths), this process allows more information to be placed on the tape, given a smaller area in which to do so. However, the narrower the tape, the less image stability can be achieved. Therefore, helical-scan recording and 1/4" to 1" tape formats do not meet broadcast quality standards, but they are significantly less expensive: $2,000 to $7,000 as compared to $100,000. They may be broadcast to a local audience, and have been used widely for cable television's community-access networks and for closed-circuit TV in educational institutions and industry. These helical-scan systems depend on wire or microwaves to carry the signal, maintaining acceptable- if not outstanding-quality and image stability. The programs shown are predominantly local in origination.

The components of a complete recording system include: the video electronic camera, the videotape recorder (or VTR), and the TV monitor. Editing can be done simply in the camera, or an extra VTR or editor can be added to the system for electronic editing. The VTR is geared to a specific tape format: the quad VTR, using only 2" tape, or the helical-scan VTRs, using 2", 1", 3/4", or 1/4" tape. Most systems are limited to use in studios as they are not very portable. Only the 3/4" to 1/4" helical-scan systems are sufficiently small and lightweight to have been developed into highly efficient field-model portapacs: the camera, VTR, tape, and battery pack weigh around 24-33 pounds. It is the portapac which is of interest to us in relation to field recording. These systems cost approximately $1500 to $2000 for black-and-white capability and $6500 to $7000 for color. The camera, unlike a studio camera, has a built-in instant replay monitor located behind the viewfinder. Tapes can be viewed on regular television sets, with an adaptor, standardized monitors, or the new video screens (for large audience viewing).

1/4" systems still face the problem of standardization, which has already been rectified for 1/2" systems. Until 1970, a tape recorded on one 1/2" VTR could not be played back on a different manufacturer's VTR. In that year, the Electronics Industries Association of Japan (EIAJ) insured: 1) interchangeability of all EIAJ 1/2" reel-to-reel VTRs, 2) resolution of 300 lines or better, and 3) light weight. Future improvements in the portapac will certainly include increased resolution and image stability.

Recently, the electronics industry has perfected a video disk system intended for the home entertainment market but with implications for both research and classroom use. The video disk player contains a turntable on which a pre-recorded disk is placed. The machine feeds the program to a television set. Brightness, color, sound, and image stability are controlled as with network broadcasts. The system offers such advantages as ease of operation, accessibility to a given program at any time, and the possibility of stopping, starting or replaying the program at will. Video disks, like phonograph records, can be stamped out at an average cost of forty to sixty cents per disk, in comparison with the $15.00 cost of a half-hour reel of blank magnetic tape. At present, however, one company's disks cannot be shown on another company's player. Thus, lack of standardization will delay the widespread use of a system with seemingly limitless possibilities.

The history of the development of videotape recording as a social and political tool is a complex study of the interaction of conflicting as well as compatible forces. In 1947, the American upper-middle class acquired a new status symbol--the talking picture box. This was the year that the major television networks began to broadcast those old, familiar programs: Howdy Doody, Ed Sullivan, The Show of Shows. We became accustomed to the "realness" of the image on our television screens. This was the first practical use of black-and-white videotape recording. In the 1950's we could scream while Elvin wiggled and thrill to the aerial gymnastics of European circus performers. Edward R. Murrow encouraged socio-political awareness, and we were there at the Korean War--all courtesy of the growing videotape recording industry.

By 1956, a practical, black-and-white videotape recorder was available, and in the early 1960's, an underground video movement began. The earliest experiments were an effort to test the boundaries of routine television production. For example, the effects of deliberately starving the camera's scanning beam of electrical current were tested and found to create a new dimension of imagery, such as ghost images that seemed to stick to the screen as a figure moved. Other techniques included video synthesis, computer graphics, and video as an element in live theatre and dance productions. These techniques "invited a sensual and participatory perception on the part of the viewer."[2] Through the use of video, artists sought to alter the role of an audience, transforming its members from passive observers to participants in an integrated electronic experience.

During 1967-68, with the advent of portable, battery-operated, 1/2" equipment, low cost television production groups sprang up all over the United States and Canada. The orientation of these so-called "video collectives" was more political than artistic. They consisted of individuals who either owned or had access to portable video equipment and who shared the belief that power is measured in terms of access to information and the means to disseminate it. In the words of Buckminster Fuller, " . . . whoever has the news <u>is</u> the authority."[3] From the collectives' point of view, videotape recording was a simple, relatively

inexpensive tool for spreading alternative information, with an ultimate goal of altering the existing socio-political structure. The programs produced by the collectives were regarded as alternative to the programming of network television. The movement employed a variety of non-broadcast techniques to distribute their initial productions, which consisted of artistic statements about television's unrealized potential or dealt with local issues and concerns. In the words of Neil Goldstein, an active member of Community Media, Inc., a St. Louis-based collective:

> Using much the same technique Alan Lomax used when he went into the back country of America with an audio tape recorder taping the songs of individuals unknown to the then growing record industry, one aspect of the Alternative Television Movement can be seen as using video tape as an intimate audio and visual record that both documents and stimulates local traditions of both urban and rural America.[4]

Among the activities of the video collectives today are: 1) community video centers where members of a local community are taught to use videotape to produce their own local television programs; 2) the development of a video consciousness--using videotape recording as a means of raising a community's consciousness about itself and increasing its ability to express itself; and 3) establishment of a communications network among collectives and other supporters of alternative uses of the television medium with the purpose of providing moral and financial support, facilities for tape exchange programs, distribution facilities, encouragement and inspiration.

Most productions of the collectives concern local responses to local issues. The programs are produced and directed by local (even novice) video users. As Neil Goldstein stresses, "part of what makes alternative television alternative is that it could involve and usually does involve the people that it affects and affects the people it involves."[5]

In Canada, the concept of community video was functioning as early as 1967, the date when the National Film Board of Canada undertook the Challenge for Change/Société Nouvelle program, with its stated objective, "to help eradicate the causes for poverty by provoking basic social change."[6] The program began experimenting with film as a means of bringing people's opinions and feelings to the attention of government officials, thus creating new concepts of communication. The initial project involved a group of fishermen who were to be evicted from their native Fogo Islands. Challenge for Change sent a resident film crew to the islands to "generate confidence in the inhabitants so they could formulate and express their problems as they see them--expression of problems being the first step towards solving them. This was recorded on film and later, in an unfinished form, screened by the islanders."[7] The object, of course, was to aid the islanders in clarifying their own positions prior to presenting the film to the appropriate governmental

departments. When George Stoney, an American, arrived to assume his duties as executive producer for the Challenge for Change program, he found that there were definite problems involved in the use of film for the so-called Fogo process. Stoney felt that the presence of a resident film unit could and did alter community response, pressuring residents into arranging events for the camera, rather than allowing the camera to follow day-to-day activities and record agreements and contradictions as they occurred. In addition, the time lapse between initial film production and feedback through the screening of the film for the community was too long to maintain peak interest. In Stoney's words, "by the time I got there it was all too obvious that if the people were to get involved in the production, it couldn't be film."[8]

So, Stoney decided to give videotape recording equipment and minimal technical training to a militant group of low-income, French-Canadian residents of a Montreal slum, for nine months; he later filmed the results of this experiment. Stoney found that videotape was a far more flexible medium and "certainly more effective than film in terms of getting people involved; in terms of immediate playback . . . people don't take it (video) seriously because they can do it themselves. You've got the immediate playback which both de-mystifies it and makes it immediately apparent."[9] Today, the Challenge for Change Program receives an annual budget from the Canadian Government of over one million dollars. Videotape is used as an organizational tool, allowing community members to develop their own investigative and descriptive structure, as well as a springboard for discussion of issues pertinent to community desires and developments.

When George Stoney returned to the United States, he attempted to organize a video program similar to Challenge for Change. Using foundation funds, and more recently National Endowment for the Arts funds, he established the Alternate Media Center, in association with New York University. Early projects included community video involvement in a Greenwich Village school planning situation, taping and showing meetings and discussions to stimulate total community involvement. At present the Alternate Media Center's primary job is training community members in the use of videotape equipment and in program development, in order " . . . to create working models for citizens and community participation in cable television."[10] The community members use 1/2" video equipment to produce finished programs to be broadcast on public access channels. Community video workshops and centers in Reading, Pennsylvania, Bakersfield, California, New York City, and Bloomington, Indiana, have been established through the efforts of the Alternate Media Center.

Another recent project o f the Alternate Media Center is experimentation with a two-way videotape system which would actually allow viewers to talk back to their television from specific central locations. In Reading, Pennsylvania, this system is being set up in several Senior Citizens Centers to provide direct communication to social service and

governmental agencies. In Stockton, California, the University of the Pacific is planning to try out a two-way video classroom.[11]

It should be noted that the relationship between the community access center and the cable television networks which the Alternate Media Center's projects have supported is a unique one. Only twenty percent of the cable companies in the United States deal in direct origination programming. It is quite unusual for a cable company to allow community members to produce and tape their own programs. At best, the cable company will accept community members as volunteer labor, training them to work under cable company supervision rather than giving them free rein to conceive, direct, and broadcast whatever the community feels is important. The problems involved in this attitude are two-fold: 1) the Federal Communications Commission requires that all cable companies offer a public access channel no later than 1977, and 2) cable TV wires can accommodate so many simultaneous signals that the cable companies are beginning to wonder where they will get enough product.

Experiments in community video form the core experience of several American groups, particularly those in Appalachia. Combining facilities in Johnson City, Tennessee and Norton, Virginia, a unique experiment in local-origination/public-access television using portable video tape equipment has been in operation for several years under the direction of Ted Carpenter. Broadside T.V. was created to produce unique local programming for a specific, isolated area serviced by eight cable television systems. It is community based and information oriented, providing citizens of central Appalachia the opportunity to hear and respond to their own neighbors and their own institutions. Broadside represents a successful attempt to demonstrate that portable videotape recorders and cable television can be used as constructive tools in disseminating information involving local and regional development. As Ted Carpenter said, "we're not trying to do fancy programming or documentaries such as you might see on network television; we are trying to get closer to home about what the real interests and problems are within the District, but in a more informal way."[12]

Prior to the formation of Broadside T.V., Carpenter and a small group of associates experimented with various techniques for applying video as a medium for education and communication in rural and isolated area. Carpenter assumed that the people of Appalachia had ready access to experience, language, and ideas related to their own vital interests. What was needed was a means for mountain people to share their experience with others like themselves. It was important, not only for inter-community communication, but for increasing communication between generations--communication about mountain traditions. He began to use video in much the same way that oral tradition has functioned in the mountains for generations. In a sense, his tapes were a "living newsletter" for the preservation and communication of local experience.

Using portapacs, Carpenter and other Broadside personnel often make an initial tape on a specific informant. The tape is played back to the informant who then has a chance to criticize and evaluate his own performance and, presumably, to re-do that which he may find objectionable. Then the tape is carried to another portion of the community where it is shown to other concerned individuals who make their own tapes, in response to the original. The process is cumulative and the emphasis is on a problem-oriented dialogue. The quality or professionalism of the tapes is generally irrelevant, as compared to the communication that transpires. For example, Carpenter tapes a local farmer who is distressed by the carelessness of strip miners who leave the land unfit for productive use. First, the farmer is shown tapes made by other mountain people concerned about strip mining. After watching these, he makes his own eloquent plea. Next, Carpenter tapes a meeting between Tennessee Valley Authority officials and local residents to discuss TVA's policies toward strip mining. Later that day the mountain people meet to share their views. Both the tape of the earlier meeting and the tape of the farmer are shown. Such intimate video exchanges are sometimes sent to Washington to be viewed by Congressmen of the area or are shown on the cable T.V. system. In addition, Carpenter makes the portable videotape recording equipment and essential training available to anyone with an idea or problem to share. The essential focus of Broadside has been educational and informational. The portability of video equipment allows tapes to be made where the problem is and where the people live. Instant playback allows people to see themselves immediately and, in Carpenter's words, "they get a greater sense of their own and other people's involvement."[13]

At present, Broadside T.V. is undergoing a conceptual crisis. As long as they were local in orientation and experience, the technical quality of the tapes produced was secondary to the information they contained. Now, however, their tapes are in demand. They exchange tapes with other video groups and cable networks and even network TV is becoming interested. Ted Carpenter is now concerned with bringing in trained social scientists to acquaint his community workers with the techniques of interviewing and research. This will produce more polished and organized tapes with a broader market, but what will it mean for the Appalachian community?

Another approach to visual studies in Appalachia is that of the Appalachian Film Workshop, begun in 1969 under the direction of the American Film Institute with funding from the Office of Economic Opportunity. Working from a rented tire shop in Whitesburg, Kentucky, Director William Richardson set out to train local young people in the art of movie-making and to produce films about Appalachia. Initially, Richardson employed videotape as a teaching device. He sent local students out with video cameras to practice composition and sound recording techniques. Then, they would play back their efforts to be criticized by their fellow students. As Richardson himself says, "video tape is a great teacher. It's cheap because you can erase the tapes and use them over and over again. But most important, the students can see exactly what they have produced right away, and more often than not, recognize their own mistakes, short-comings and strong points."[14]

In the past year, Appalshop, Inc. has expanded its conceptions and begun use of 1/2" videotape technology. They now have a library of tapes, dealing with mountain and Appalachian traditions, available for rental or tape exchange. Appalshop is also experimenting with cable casting and is participating in a tape-exchange program in association with Broadside T.V.

In the basement of the Monroe County Public Library in Bloomington, Indiana are the facilities of an operating community access television station which broadcasts on an existing cable system. Every Thursday night the library hosts a free two-hour seminar on the use of video tape equipment, open to all members of the community. Although Channel 7 broadcasts only one or two hours a day, five days a week, community members have produced, taped, edited, and cable-cast documentaries on poverty, consumerism, and the local Well-Baby Clinic, as well as City Council Meetings and puppet shows. The Bloomington cable channel is a working example of the Alternate Media Center's community video concept. Channel 7's original organizer-director was an "apprentice" of the Center. The Center's funds were matched by the Bloomington Cable Company, Monroe All-Channel Cablevision, and used to build a studio and purchase equipment; the community is doing the rest.

Recently, this library received a combined grant from the National Endowment for the Arts and the Indiana Arts Council to produce twelve one-hour videotape programs which will form a "Video Archive of Indiana Artisans." Essentially, the programs are intended to document the products and processes of the traditional arts through the medium of 1/2" videotape. Individual tapes explore the personal background and lifestyle of individual artists, document the process, techniques, tools, and equipment involved in the craft, and survey the community setting and local history of the art form. Emphasis is on allowing the craftsman, himself, to articulate the technical process as well as his feelings and attitudes in areas such as style, aesthetics, marketing and community response. The tapes consist of interviews and demonstrations with a view toward recording not only the traditional art form, but the individuality and ingenuity of the artisan, himself. We produced an original half-hour videotape dealing with a local stone carver in cooperation with the Video Center; it provided the stimulus for this grant.

A similar project is the Southern Appalachian Ethnography Series, funded by the National Endowment for the Arts and directed by Richard Blaustein of Eastern Tennessee State University, in conjunction with Broadside T.V. The project provides academic credit as well as training in video technology for students interested in fieldwork in folklore and anthropology. In addition, high-quality videotapes preserve various aspects of Southern, Appalachian culture including snake handling, story telling and traditional crafts.

Certain problems are inherent in such projects. These problems are related directly to differing conceptions of what constitutes a

traditional art form, as well as different emphases in the minds of the folklorist-researcher, the artisan himself, and perhaps the technician or video coordinator. Only a few folklorists (or, for that matter, social scientists) have become concerned with visual communication, and even fewer have assumed the role of videotape maker. Social scientists remain restricted by their own training, which is generally oriented toward the translation of multi-sensory perceptions and observations of communicative behavior into a printed form.

It is important for folklorists to develop a visual orientation, if not to learn to use visual media--be it still photography, motion picture filmmaking, or videotape recording--and conceive of these processes as visual methodology. Then, some of the informational filters imposed by conventional visual languages can be recognized and compensated for. For the purpose of teaching, a visual orientation allows one to distinguish between traditional textbook-oriented visual presentations such as educational films with heavy instructional narrative sound tracks, and visual presentations which resemble monographs in their perspective and handling of data and analysis. During the last few years, folklorists and other social scientists have been called upon to offer their expertise as consultants on visual projects. To be effective, however, their position depends upon a highly developed visual orientation. For the folklorist who learns to manipulate the camera so that it records his individual perceptions, the footage which is generated reflects his intuitions of and responses to the recorded event, and not someone else's less sophisticated observations. The structure of the visual product is inherently closer to the structure of the event itself, rather than the artificially imposed structure of a conventional documentarian's style of communication. When the folklorist is the documentarian--the film maker, the videotape maker, the still photographer--the intimate connection between recorder and event is maintained; the rhythm and holistic nature of the event can be recorded with the least possible amount of manipulation.

NOTES

1. Charles Bensinger et al., Petersen's Guide to Video Tape Recording, (Los Angeles, 1973), 22. See also: Video Freex, The Spaghetti City Video Manual (New York, 1973); Grayson Mattingly and Welby Smith, Introducing the Single-Camera VTR System (New York, 1971); Ken Marsh, Independent Video (San Francisco, 1974); and Michael Murray, The Videotape Book (New York, 1975).

2. Kas Kalba, "The Video Implosion: Models for Reinventing Television," Aspen Institute Program on Communications and Society (Aspen, Colorado, 1974), 8.

3. R. Buckminster Fuller, lecture at Washington University as quoted in St. Louis Today, (December, 1974), 11.

4. Neil W. Goldstein, Alternative Television: Status, Trends and Issues, (St. Louis, May, 1974), 4.

5. Ibid., 14.

6. Hugo McPhearson, "A Challenge for NFB," Newsletter, Challenge for Change/Société Nouvelle, I, 1 (Spring, 1968), 2.

7. George Stoney, "Film, Videotape and Social Change," Journal of the University Film Association, XXIII, 4 (1971), 108 and Deborah Bennett, "George Cashel Stoney - An Interview," Journal of the University Film Association, XXV, 4 (1973), 67.

8. Bennett, Ibid., 67.

9. Ibid.

10. Alternate Media Center, Catalogue, (1972), 1.

11. Personal communication from Robert Pinto, Assistant Director of the Alternate Media Center, October 27, 1974, Bloomington, Indiana.

12. Charles W. Childs, "Portable Videotape and CATV in Appalachia," Educational & Industrial Television, V, 6, (June, 1973), 28.

13. Ibid., 29.

14. Appalachian Film Workshop, Appalbrochure (1973), 18.