

# #12205

## AN INTERVIEW WITH DR. MALCOLM J. NORWOOD

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**RESOURCE GUIDE**

**BY BILL STARK**

### DESCRIPTION

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Figure 1: Malcolm Norwood

In December of 1979, as a project at the University of Maryland, Karen Brickett interviewed Dr. Malcolm (Mac) J. Norwood, the “Father of Closed Captioning.” Dr. Norwood relates how 10% of the general population would not accept captions on their TV screens, which necessitated the development of a closed-captioning system. He discusses the postponement of decoder sales until March of 1980, estimates of the number of potential viewers of closed-captioned TV, predicts 22 to 22½ hours of captioned programs will be available by the end of 1980, discusses the development of two captioning centers on the East Coast and West Coast, and addresses other exciting developments. This 25-minute production is the only known video of Dr. Norwood. Thanks to Karen Brickett Russell for sharing this record of captioning history.

### FOLLOW-UP ACTIVITIES

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1. Dr. Norwood discusses his dissertation “[Comparison of an Interpreted and Captioned Newscast Among Deaf High School and College Graduates.](#)” Note in his dissertation how “Mac” supports his statement made in the interview that “...very plainly, regardless of educational level, a deaf person received much more verbal information from captions than from an interpreter.”
2. Dr. Norwood also indicates on the video that there was early exploration of “...putting captions on TV screens by trying to find out if the hearing population or normal viewing population would accept it.” [Review his 1988 report](#) at Gallaudet University that provides a concise historical overview of captioning. In addition, [the captioning timeline](#) offers a different yet still concise perspective.
3. Dr. Norwood notes that captioning on television was “...an outgrowth of our Captioned Films for the Deaf [CFD] program, which began about 20 years ago.” In 1980 Dr. Edmund Boatner, a co-founder of CFD, overviewed [the origin of captioning](#). Note the names of the pioneers who resolved to create a mode of communication by which deaf audiences could enjoy films as well as the early methods of captioning they attempted.
4. Ms. Brickett asked Dr. Norwood, “What would happen to Captioned Films subscribers if they start to switch to TV with full access because of closed captioning?” Note that [social clubs](#) were created to show the borrowed CFD movies. In some areas of the country, weekly movie showings occurred in the auditoriums or meeting rooms of residential schools for the deaf.

5. Dr. Norwood notes that the decoder device is "...sold by Sears, but the chip that makes the whole thing work is made by Texas Instruments. The device itself is made by Sanyo in Japan." Learn the [history](#) of the development of this technology through the efforts of the Public Broadcasting Service and others.
6. Dr. Norwood discusses the closed-captioning symbol as a "...a picture of a— or a symbol of a TV set, and on the end, it's a little bit like a tail coming off the edge of the set." To learn more about this logo, click on the image.
7. Dr. Norwood left a body of work for captioning that most likely will never be duplicated. His [curriculum vitae](#), with an accompanying tribute, reveals much of his extensive training and experiences.



**Figure 2:**  
Closed-captioning  
symbol

## RELATED RESOURCES

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### ***WRITINGS AND SPEECHES BY DR. NORWOOD***

- 1970: [MEDIA SERVICES AND CAPTIONED FILMS](#)
- 1974: [FUTURE TRENDS](#)
- 1976: [CAPTIONED FILMS FOR THE DEAF](#)
- 1980: [JUST DON'T SCRAMBLE THE WRONG EGG](#)
- 1988: [CAPTIONING FOR DEAF PEOPLE: AN HISTORICAL OVERVIEW](#)

### ***ADDITIONAL ARTICLES AND SPEECHES ON CAPTIONING HISTORY***

- 1960: [REPORT OF A CONFERENCE ON THE UTILIZATION OF CAPTIONED FILMS FOR THE DEAF](#)  
By Patricia Cory
- 1960: [SCHOOL LIBRARY SERVICES FOR DEAF CHILDREN: AUDIO-VISUAL MATERIAL](#)  
By Patricia Cory
- 1968: [LESSON GUIDE FOR CAPTIONED FILMS: A TRAINING AND UTILIZATION GUIDE](#)  
Published by Educational Media Corporation
- 1977: [A BRIEF HISTORY OF CAPTIONED FILMS FOR THE DEAF](#)  
By The Special Office for Materials Distribution
- 1977: [FROM SOUND TO SUBTITLES: OPERATION OF THE EDUCATIONAL CAPTIONED FILMS PROGRAM](#)  
By The Special Office for Materials Distribution
- 1977: [LANGUAGE CONTROL IN CAPTIONED FILMS FOR THE DEAF](#)  
By The Special Office for Materials Distribution

- 1978: [CAPTIONING AT WGBH-TV: A PAPER PRESENTED AT THE 1978 SYMPOSIUM ON RESEARCH AND UTILIZATION OF EDUCATIONAL MEDIA FOR TEACHING THE DEAF](#)  
By Sharon Earley
- 1978: [AN INTRODUCTION TO THE 1978 SYMPOSIUM ON RESEARCH AND UTILIZATION OF EDUCATIONAL MEDIA FOR TEACHING THE DEAF](#)  
By Dr. Robert Stepp, Jr.
- 1978: [AN OVERVIEW OF PROGRESS IN UTILIZATION OF EDUCATIONAL TECHNOLOGY FOR EDUCATING THE HEARING IMPAIRED](#)  
By Dr. George Propp
- 1978: [LINE 21: CLOSED CAPTIONING OF TELEVISION PROGRAMS— A PROGRESS REPORT: A PAPER PRESENTED AT THE 1978 SYMPOSIUM ON RESEARCH AND UTILIZATION OF EDUCATIONAL MEDIA FOR TEACHING THE DEAF](#)  
By David Sillman
- 1980: [CLOSED-CAPTION TELEVISION: TODAY AND TOMORROW](#)  
By Barry Jay Cronin
- 1981: [CLOSED-CAPTIONED TELEVISION: EDUCATIONAL AND SOCIOLOGICAL IMPLICATIONS FOR HEARING-IMPAIRED LEARNERS](#)  
By Doris C. Caldwell
- 1981: [“REELIZING” THE FULL POTENTIAL OF CAPTIONING EDUCATIONAL FILMS FOR THE DEAF THROUGH LESSON GUIDE UTILIZATION](#)  
By Lester Graham and Garry J. Loysen
- 1983: [REAL-TIME CLOSED-CAPTIONED TELEVISION AS AN EDUCATIONAL TOOL](#)  
By Martin H. Block and Marc Okrand, Ph.D.
- 1998: [IN EDUCATION, TRANSITION, AND LIFE: TEACHERS MADE THE DIFFERENCE](#)  
By Dr. Ernest E. Hairston
- 2001: [DEAF CULTURE, LANGUAGE, AND HERITAGE](#)  
By Dr. Frank G. Bowe
- 2002: [DID YOU KNOW THAT CAPTIONING FOR TELEVISION STARTED WITH THE CAPTIONED FILMS FOR THE DEAF PROGRAM?](#)  
By Jo Ann McCann

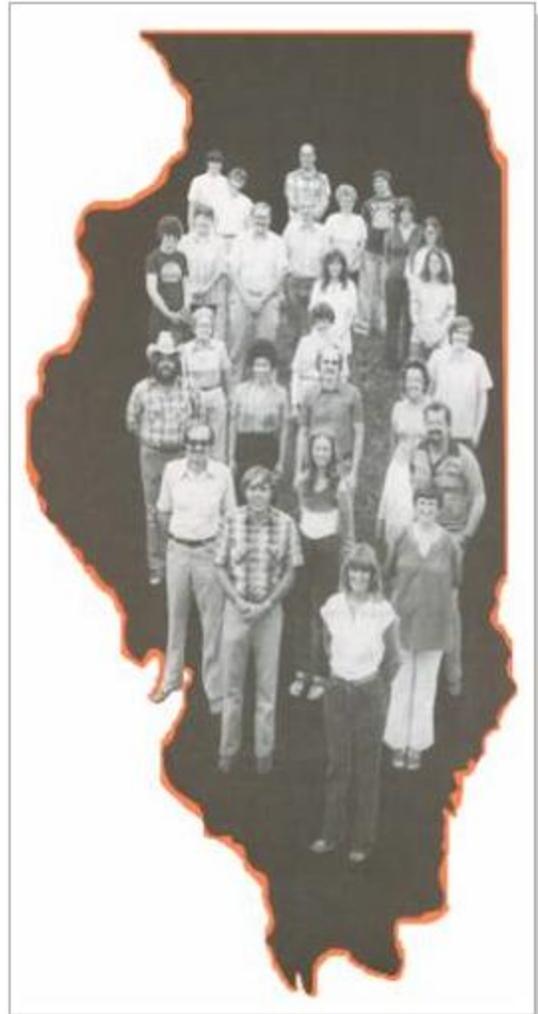


Figure 3: In 1980 selected individuals from across the United States gathered at the Illinois School for the Deaf to write captions and lesson guides. Dr. Norwood was often involved in training these teachers.

## CAPTION SCRIPT

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Ms. Brickett: Hello, my name is Karen Brickett. I would like to introduce Mac Norwood. He's the chief of the Captioned Films and Telecommunications Branch at the Bureau of Education for the Handicapped, United States Office of Education. He's a pioneer in the movement to make TV more accessible to the deaf. His doctoral dissertation involves the study of transmission of information through captions.

I would like you to explain your title and tell me of any results of your dissertation.

Dr. Norwood: The title of my dissertation was a "Comparison of an Interpreted and Captioned Newscast Among Deaf High School and College Graduates." The result of that comparison showed very plainly, regardless of educational level, that a deaf person received much more verbal information from captions than from an interpreter. However, the higher the educational level, the more information was received. But it showed very plainly that the captions are the best means of providing information.

Ms. Brickett: It would be very helpful for the deaf to read on TV screens in the near future. Does your dissertation help you to become a pioneer, and what is your exact job related to closed captioning?

Dr. Norwood: Well, actually, we became involved in trying to make TV accessible to the deaf long before I wrote that dissertation. We became involved in developing the hidden, or closed, captions for TV as an outgrowth of our Captioned Films for the Deaf program, which began about 20 years ago.

The expression of interest by deaf people and their enthusiasm with the captioned films led many of them to ask us about putting captioned films on television, which we cannot do because of restrictions of our agreements with Hollywood producers. However, we decided to explore the possibility of putting captions on TV screens by trying to find out if the hearing population or normal viewing population would accept them.

We did an experiment in Pennsylvania selecting a sample population of TV viewers. We did find, for example, that 10% of that population would not accept the captions on their TV screens at all. That 10%, in itself, if you extrapolate that into the total United States population, we're talking about more than 20 million people who refused to accept the captions. So we had to do—we had to find a different way of getting about. That was the beginning of our development of the closed-captioning system.

Ms. Brickett: In the past, deaf and hearing-impaired people weren't getting full access to TV, but in the future, if they're getting full access to TV, what would happen to the Captioned Films subscribers if they start to switch to TV with full access because of closed captioning?

Dr. Norwood: I'd like to answer that question this way because the very same question was asked of me by one of my superiors many years ago when we—I started pushing for funding to develop this present system.  
That question was, "Mac, if we succeed in getting captioned television, what is the trade-off?"  
And I asked, "You mean, with the films?"  
"Yes."  
I said, "Well, if you are a good husband, when you are home at night, you frequently help your wife out by drying dishes. Is that right?"  
"Yes."  
And I said, "Let us suppose that tonight you are home and drying dishes and your good wife says to you, 'Bob, I don't want to watch television tonight. There's a very good, in fact, a fantastic movie that I want to see at the neighborhood theater.' Does she ask you that question sometimes?"  
"Yes."  
"Well, we got people who want the same choice."  
[chuckling]

Ms. Brickett: Heh. What does this tell you about the hearing people's reaction to the captioning? And for how many deaf people will you expect to receive these decoders?

Dr. Norwood: Well, I know that according to the 1970 census there were 13.4 million people in this country with hearing impairments. Of that 13.4, somewhere between 2 and 3 million people are deaf. Perhaps another 6 to 7 million are people who have hearing losses in both ears. That gives us a population somewhere in the neighborhood of 8 to 9 million people. And I believe that is a good estimate of the total population that would be interested in buying decoders. I'm not sure about the other 4 or 5 million because their hearing loss is only in one ear. But 8 to 9 million is a good market, I think.

Ms. Brickett: And so you say the future number of potential users would be?

Dr. Norwood: About 9 million.

Ms. Brickett: But what would happen if some people decide to wait and see how the decoder system works? Some say... that they'd rather wait and see what happens, in about one year, after the decoders start selling. Will that affect the manufacturing industry?

Dr. Norwood: It would depend on how many people decide to wait. If too many decided they're going to wait and see what happens, then we won't have a good market. It will weaken our position. If there are only a few who decide to wait and most people go out and get them, it will mean that our project will succeed. It will also mean that the market we said is there, is there. Therefore, the networks will naturally be more enthusiastic about increasing the number of programs that will be captioned.

Ms. Brickett: The more people buy the decoders, the more programs the networks will provide.

Dr. Norwood: I am sure of that.

Ms. Brickett: How do you determine the price of \$225 to \$250 for purchase of add-on decoders be an acceptable cost?

Dr. Norwood: [coughing] Well, among the many new things that we had to do to get where we are today is investigate the market and the service that we'll make among deaf people, among parents of deaf children, and so on. All indicated that they didn't feel \$225 to \$250 was too much, particularly if you stop to think, if you buy a telecommunications device like an MCM or a reporter or any of those other machines, they cost \$600 or more— two to three times more than a decoder would.

Ms. Brickett: You said at the meeting of FCC hearing on April 5<sup>th</sup>— you said that people won't have to pay \$225 out of their pockets. While there are some arrangements with Sears, how can this be done?

Dr. Norwood: For one, I don't mean that you don't pay \$225 or \$250. You will have to, but normally not all at once since this device is being sold by Sears. Instead, it stands to reason that if you have a Sears account or a Sears credit card that you can purchase it and make monthly payments, just like you would for a TV set or with any other thing that you wanted to buy.

Ms. Brickett: What about the tax-deductible?

Dr. Norwood: Well, my guess right now is that the decoder would be tax-deductible, much in the same sense that a TTD is. But on the other hand, I am aware of a bill that has been developed by Congresswoman Barbara Mikulski of Baltimore. Her bill, if it is successful and if it goes through Congress, will give deaf persons tax credit, so it won't be tax-deductible but a full credit against your taxes.

Ms. Brickett: Oh, okay. Can you explain the two places of captioning centers and what are their functions and who are working?

Dr. Norwood: You mean the center on the East Coast and the center on the West Coast?

The reason that we have two centers is that they must be near the center of production activity. Most TV programs are produced on the West Coast, so that facility on the West Coast will be very close to the production centers. We get the programs and caption them there.

Now, on the East Coast, there are two reasons. One is that many of the PBS production centers are located in the East, like New York, Boston, Philadelphia, Pittsburgh, places like that. So we must have a center near them too.

At the same time, frequently, when a program is finished and delivered from the West to the East Coast, where the broadcast usually originates, sometimes there are last-minute changes. We need a center to take care of those last-minute changes, if necessary, close to the originating place. So because it originates in New York— there's a last-minute change— it would be foolish to have to send it all the way back to the West Coast and then back East again. We have a center right here in the East to take

care of that.

Ms. Brickett: What about the people working there? Would there be some job openings available for the deaf?

Dr. Norwood: Yes, in fact, I know that two of the caption writers that have already been hired are deaf persons.

The hiring on the West Coast is not finished yet, but the librarian on the East Coast center is a deaf person. The director of research is a deaf person, and the girl who handles the mailroom is a deaf person.

I guess the best way to put it is that a deaf person who is qualified and can meet the requirements of the job has as much chance of being hired as anyone else.

Ms. Brickett: There are two types of decoding systems. One is add-on decoder device, and another is just equipped with an adapter built inside. Could you explain the disadvantage and advantage of each type of device?

Dr. Norwood: Well, I guess that almost has to be an individual decision. But the built-in decoder is cheaper because it adds only about \$75 to \$100 to the cost of that TV set. For example, if a color TV set costs us about \$425, with the TV built-in adapter, add \$75. It costs about \$500.



**Figure 4: The TeleCaption Decoder I, the first captioning decoder, originally appeared in the 1980 spring Sears catalog and cost \$250.**

But the add-on one costs us \$225 to \$250 because it is a receiver almost in itself. It has complete tuning devices. It has all the channels and so on.

You see, that add-on must be attached to the set. For example, here in Washington, D.C., there's no channel 3, so you would set your TV set on channel 3. From that point on, all of your tuning, channel changing, so forth, will be done through the add-on. So it's a much more expensive device.

One other difference is that the captions that are showing on the TV screen with the add-on will always be white on a black background. The captions that appear on the screen of a set that has a built-in adapter will be color-coded. But some people think one advantage of the add-on is that you can take it with you. It's much easier to carry—much easier than carrying a TV set with you.

Ms. Brickett: What about the repair service if something happens to a TV with built-in and you have

to take the whole thing out?

Dr. Norwood: I guess I actually can't answer the question except to say that Sears already now is training people to repair and service those decoders. Whether they're an add-on or a built-in, they are training people now to take care of that. And they will come with a one-year warranty.

Ms. Brickett: Who is manufacturing?

Dr. Norwood: Well, actually, they're sold by Sears, but the chip that makes the whole thing work is made by Texas Instruments. The device itself is made by Sanyo in Japan. That should not surprise anyone, because, if you stop to think, almost all TVs now are really made in places like Japan, Korea, Taiwan, and so on.

Ms. Brickett: Go Oriental!

Dr. Norwood: I guess so.

Ms. Brickett: Why has the selling of the decoder been postponed to March 15, 1980?

Dr. Norwood: Well, our goal at one time was January 1, 1980, but this is a very complex thing. All the arrangements were very complicated and complex if you stop to think of all the different people that are involved, like the agreement with Texas Instruments to make that chip, the agreement with Sanyo to produce, the agreement with Sears to sell, the arrangements for warranties, repairs, the agreements with the NBC and ABC and PBS networks, and many other things I could add.

But I think you can see very plainly that this was very complex and difficult and took a lot of time. We slipped only three months. That's not bad.

Ms. Brickett: Won't hurt. But will the networks start using the closed-captioning while not shown on TV screen on January 1, 1980?

Dr. Norwood: Yes, I think you will find that the closed captions will already be on TVs before March 15th when you can buy your add-on adapter. But I don't think that we will really miss anything because, remember, that shows that appear in January, February, and March will have their reruns later in the year, probably in the summertime, and they will already be captioned. So there'll be no problem.

Ms. Brickett: Good and ready. How can—will these two networks share the programs at the same time with closed captioning?

Dr. Norwood: Well, there will not be any conflicts in programming. NBC, in selecting their five hours a

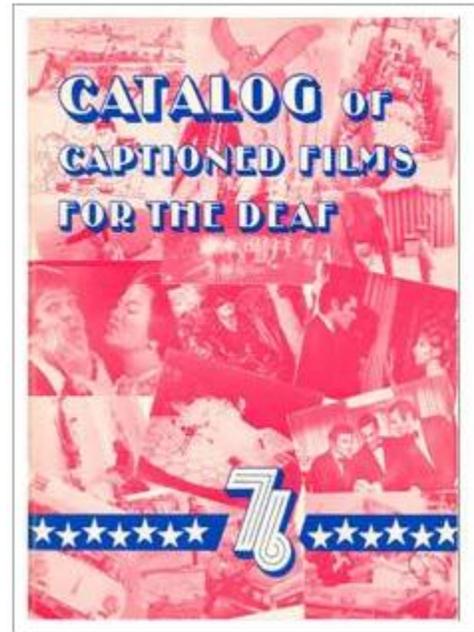


Figure 5: This 1976 CFD catalog was sent to all registered users. Movie titles, like *Ben Hur* and *Treasure Island*, could be borrowed in 16mm format.

week, and ABC, in selecting their five hours a week, made sure that their captioned programs will not have any time conflicts with each other.

I can't honestly say that about PBS. There may be some conflicts. But PBS, you have to remember, will be captioning by the end of 1980 12 1/2 hours a week, so 5 ABC, 5 NBC, 12 1/2 PBS. By the end of 1980, you will have 22 to 22 1/2 hours of captioned programs a week.

There may be some conflict but not between ABC and NBC.

Ms. Brickett: Is there any indication of the programs, first of all, that will be captioned like in "TV Guide" or newspapers?

Dr. Norwood: Yes, and I should have remembered, but I forgot to bring this symbol with me. I have a lapel pin. It is really a picture of a— or a symbol of a TV set, and on the end, it's a little bit like a tail coming off the edge of the set.

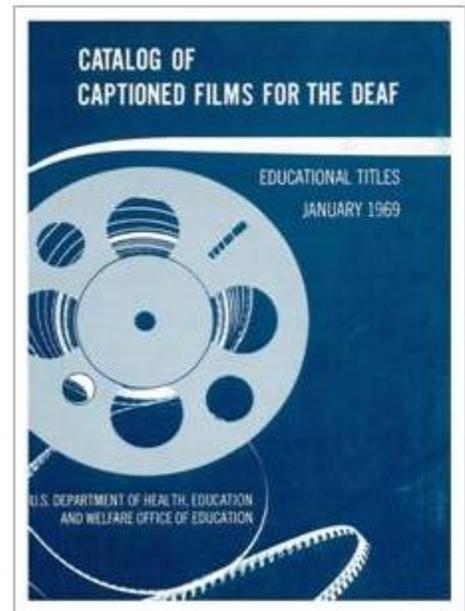
You know, it almost looks like the letter "Q," almost a capital letter "Q," but that symbol, we expect, will be used by "TV Guide," newspapers, and other publications that print TV schedules to indicate that program is captioned.

Ms. Brickett: I want to emphasize to deaf people and hearing-impaired people: The more you buy, the more programs that will be provided from the networks.

I want to thank you for talking with me on this subject, and I hope this will benefit the others too. I've received these questions from the deaf people. And closed TV captioning will be the turning point for all the deaf and hearing-impaired people.

Thank you.

Dr. Norwood: My pleasure.



**Figure 6: In this 1969 CFD educational catalog, teacher-training films and titles for the classroom were available to all registered users.**

## About the Author

*Bill Stark is the director of the Described and Captioned Media Program (DCMP). He was trained by Dr. Norwood during a summer workshop in the 1970s to caption films. Later he was also invited by "Mac" to become a film and video evaluator for the Captioned Films/Videos program (now DCMP).*