POSSIBILITY FOR AIRBORNE TELEVISION INSTRUCTION IN ETHIOPIA

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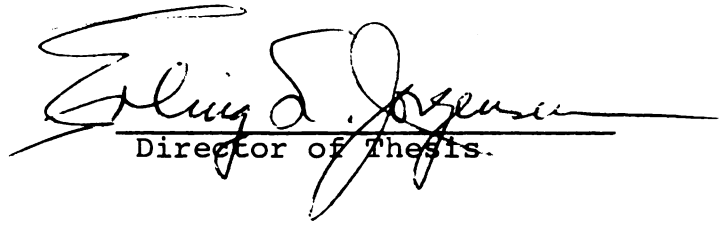

Director of Thesis.

This thesis is dedicated to the memory
of my brother

His Excellency
Mr. Nerayo Esayas (1926-1968)
BA-LLB-LLM
The late Vice Minister of Justice

An intellectual giant,
and
A truly dedicated civil servant

PREFACE

This thesis is an outgrowth of the writer's experience with the work in Mass Communication, particularly in the area of radio during the years 1964-1968.

It is not the object of this study to present the "ultimate proposal" on the subject. It suggests one way by which a problem of contemporary national interest in all its aspects including its socio-economic political constraints could be attacked. In the opinion of the writer, the proposed system is the best choice on the basis of effectiveness, cost, and simplicity. It meets, to a large extent, one of the most stringent requirements for successful communication in a developing country, that is, the nature of the medium of television is that it effects viewers very directly and is perceived as a very "personal" medium.

Ethiopia is a country with many development plans. As such it must find ways and means of accelerating the economic and social development in the country if it is to reap maximum dividends from such investments. In the implementation of programs of economic development and

technological change, many failures have shown that even well-conceived projects of modernization may fail to register with the people and to produce desired results if they are not supported by skillful and adequate communication.

Television cannot meet all these objectives. It can, nevertheless, if integrated within the system, achieve a desired uniformity in standards if aimed at:

1. Educating the ever-growing school population.
2. Maintaining the quality and standard of education in all areas of the country.
3. Developing and constantly searching for new and better ways of educating in the face of a crucial shortage of qualified teachers, of laboratories, and of demonstration aids.

Limitation of the Study

Because the study has been limited to a television plan for Ethiopia, the treatment of technical engineering, financing, and political aspects is limited to the situation in this country. Since production and utilization problems become matters of great concern after a systematic plan has been devised, they are discussed briefly and only in terms of broad policies.

Television, with its great potential for mass communication, quality schooling, continuing education, literacy, agricultural and extension training, and most

important, for promoting social change can be considered as the most effective and vital instrument which twentieth century technology has put at the disposal of countries in transition.

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The writer wishes to further thank Dr. John E. Ivey, Jr., Dean of the College of Education and Chairman of the Board of the Midwest Program on Airborne Television Instruction. His valuable assistance in making available documents and materials pertaining to the development of the airborne system in the United States and his personal advice and encouragement is greatly appreciated.

The writer is deeply indebted to the Reverend Ezra Gebremedhin for his valuable help in obtaining statistical data and other pertinent material related to the study.

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CHAPTER I

INTRODUCTION AND OVERVIEW

The main objective of this thesis will be to explore the possibility for the use of an airborne television system for the dissemination of education in Ethiopia.

To most people in the Western world education has long been taken for granted. To most Africans, however, education is the most revolutionary part of a revolutionary age. It represents a flying leap from the tenth to the twentieth century. It is a road map out of feudalism. It is the tangible proof of liberation and the first fruit of freedom. It is a certificate of self-respect. It is a promise that fewer babies will die in infancy. It is an admission ticket to the office of a qualified doctor and a lifetime away from leprosy. It is emancipation from witch doctors. It is better crops and enough food. It is a whole host of great expectations that come with self-government. It is what people think and talk about.

Education for What?

Education just for education's sake can be mere worship of archaic icons. There are many ways of defining

the purpose of education. A developing country, by looking to its past, can ask itself whether or not it should develop an educational system in the image of educated Frenchmen, Englishmen, Americans, or some other group or it can ask what the problems of the country are, what its needs are and how they are to be met. From such serious and honest investigations result curricula which are aimed at preparing the nation's children to shoulder the tremendous weight of tomorrow's national and international problems. The development of any nation, its advancement and raising of its standard of living, depends very heavily upon a universal fundamental education. Education, information, knowledge--as powers and strengths--should be put to work in such a way that the people are served sincerely. A report published by the Aid for International Development indicates that Ethiopia has a tremendous, but quasi-dormant agricultural potential; a serious paucity of skilled, and semi-skilled laborers; a dearth of skilled workers in the commercial field; an unnecessarily low life-expectancy and an unnecessarily high morbidity rate.[1] These are some of the very real national problems and symptoms of the need for education oriented toward the solution of them.

The molding of attitudes is one of the inevitable by-products of any educational program. Presently, the

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[1]U.S., Aid for International Development, Aid for International Development Data Book, Africa, "Ethiopia" (Washington, D.C.: Aid for International Development, 1968). (Mimeographed.)

major goal of Ethiopian education is to enable the student to pass increasingly difficult examinations in order that he may become a graduate of a college and eventually occupy a position in one of the government agencies. This goal is implicitly, if not explicitly, the trend followed throughout a student's schooling. Such a goal is not at all realistic for the vast majority of students. More important, for the country's future welfare and as a mass education objective, this goal is not related to Ethiopia's primary problems and needs.

The need for universal education in Ethiopia should be conceived in terms of raising the standard of living, economic and agricultural development, literacy and assurance of a decent living for its people. In these respects, Ethiopia is far from where it should be. Education in Ethiopia should aim at alleviating these national problems and affecting an Ethiopian industrial revolution.

The Industrial Revolution

The so-called "developed" countries of the world have experienced an industrial revolution, the developing countries have not except in a limited way or in a very limited sector of their population.

Ethiopia, like any other "developing" nation today, was far from the center of the industrial revolution when it reached its height during the nineteenth and early

twentieth centuries and was in poor shape to make use of it. Today it is anxious to make up for lost time.

No longer is Ethiopia willing to tolerate the ills of the past. Riches have always belonged to a very few, but why should the rich be the only ones to enjoy the benefits of education and a healthy life?

One reason for imminent change is that more people know about their problems now. This has been made clearer by the facilities of communication. The breath-taking advancement in transportation and technology and the outreach of mass media have made it possible for nations (and particularly for those living in villages) to compare their situation with that of people more economically developed.

Another consideration is that in an increasingly smaller world the stability of one nation depends on that of the others. A trouble spot in some remote part upsets a wide-reaching balance.

These and other circumstances have contributed to an awareness of a better life and thoughts of national development. Certainly, the destiny of man should not be poverty, disease, ignorance and war. Once only utopian dreams, visions of world peace, well-being, health, education and information are now within man's grasp.

If these ideals are to be realized in Ethiopia, the structured social order needs to give way to a smooth mobilization of its human resources. For this, the flow of information must be accelerated and education must be

offered to a much wider spectrum of the population. Through the intensive and organized use of the communication media, the way will be opened for modernization.

Modernization, unlike "Europeanization," "Americanization" and "Christianization," is the fusion of a traditionalistic and a positivistic spirit. Modernization in the Ethiopian society means a voluntary development in which many people will participate, the haves assisting the have-nots. It is a gradual development in constant availability of opportunity. It is an ongoing realization of specific needs, which are not satisfied by present conditions, and the invention and/or acquisition of means meeting those needs.

I
The Role of Education in National Development

The term "national development" is used here to denote a condition wherein a nation grows in its ability to select and fully utilize its human and material resources in the implementation of all its goals. This expression becomes useful from the standpoint of education since by direct implication it gives importance to education in its role toward national development. The growth of a nation in its ability to select and utilize its resources, obviously, requires that its nationals be so educated and trained as to be able to acquire this ability. Viewed, therefore, in this light, the role of education becomes tremendous.

The Extent of National Development

As indicated in the section "Industrial Revolution," some of the very tangible facets of national development are economic development and public health.

A third facet of national development is its social and cultural development. An absolute condition for a nation's social and cultural development is the extension of facilities for both formal and informal education, for it is through education that cultural heritage can be handed down from one generation to another. This "cultural heritage" includes such aspects as literature, art, music, dance, and folklore, expressed in such forms as beliefs, myths, customs and traditions. On the higher level of the cultural and social development is ethical and spiritual development based on religious and moral heritage. In a country like Ethiopia religion plays a very vital role in the cultural and moral development, and hence in the educational system.

A fourth facet of national development is political development. Political independence is only the beginning of national development for a country which has to strive for and achieve real "nation-hood," that is, a sense of unity or "national integration." One of the "political" characteristics of the developing countries is the growth of "fissiparous" tendencies resulting from communalism, regionalism or linguism--forces that can shake the very

foundations of national solidarity. And since national solidarity depends very much on the development in the minds of individual citizens of a spirit of patriotism and an attitude of tolerance towards those of their fellows who happen to differ from them in respect to language, creed, customs or traditions, the role of education in building up the forces conducive to national solidarity is beyond dispute.

Role of Education in the Promotion of National Development

In discussing the ways in which national development can be promoted by education, we shall first consider the aspect of economic development of a nation. In this respect education can be said to have a direct and an indirect contribution. A direct contribution is through the gearing of the school program as closely as possible to the needs of society. This is particularly true of the community-centered school, one of the important objectives of which is to help upgrade the economic status of the community in which it is located. Another consideration is to make the school provide the kind of training that will enhance "economic productivity" both in agriculture and industry. Industry here would include both heavy industry and the home-centered or small factories. It is very important to note at this point that training for economic productivity needs to be supported by a

basic program of science education which, at the higher levels, is developed into a program of technical or technological education. The foundations of such a program of science and technological education can and should be laid in the elementary school.

The deeply rooted cultural assets of a nation like Ethiopia cannot be left to be cultivated by such informal means of education as the press, radio, television, cinema, libraries, museums, etc. Formal education should address itself to nurturing the cultural heritage of the nation.

Education can do much to foster a consciousness of the dignity of manual work. Many developing societies find themselves plagued by an attitude of distaste for anything that involves the use of the hands and Ethiopia is no exception. This is a harmful attitude that education must deliberately seek to correct in the youth of a nation.

Another contributing factor which education helps to foster is what may be called a national ethos whereby one nation is distinguished from other nations. In this respect education's task is that of instilling in young people the moral and spiritual values which will enable them to contribute personally toward enhancing the quality of individual and social living as the essential basis not only for national development but even for national survival.

Finally, and supremely important, education can aid national development by promoting the emergence, among all socio-economic classes in the country, of individuals who, through their originality and creativity, are in a position to make a unique and significant contribution to the welfare and progress of their country. It is the function of education to discover special talents and capacities and to foster their development in the interest of the nation as well as of the individual endowed with these special abilities.

The Qualities of a System of Education Geared to National Development

One of the most necessary characteristics of a system of education closely geared to national development is that its personnel be "development-conscious": (personnel, in this context, meaning not only the leaders in education--the minister, his deputies, his secretaries and his advisors who are responsible for educational planning, and the administration--but also the rank-and-file of the profession, down to the novice village teacher). All of them must be conscious of the vital role that education has to play in national development, and must be imbued with a sense of urgency, a sense of mission--of having a significant contribution to make to the country's development.

A second quality is a definite program of development, embracing every level and every important aspect of

education, with targets, priorities and emphases carefully thought out and clearly indicated.

Third, the plan of educational development should provide the necessary support for other national plans and objectives, such as, cultural advancement, industrial and agricultural development, social and moral progress.

Finally, if education is to be geared closely to national development, there must be provision in the educational plan for regular and constant evaluation of achievements in terms of developmental goals and targets so as to ensure that educational progress will keep pace with and provide support for the other plans of national development in terms of adequately trained personnel.

The Function of Primary Schools in Terms of National Development

The gearing of the educational system to national development means that educational institutions at all levels will have correspondingly important functions from the developmental standpoint. In this respect, the primary school has a significant role to play.

One function of the primary school will be to give pupils an adequate mastery of the basic tools of learning. For a large proportion of the children graduating from primary schools in Ethiopia, primary education will be a terminal stage in their formal education; it is, therefore, essential that they should acquire an adequate mastery of the tools of learning so as to be able to continue to

educate themselves and, thus, not only enhance their own prospects for livelihood but also become assets to their families and to society. Another important function of the primary school is to develop vocational efficiency in what may be called "unspecialized skills," such as the ability to manipulate simple tools and perform simple tasks, such as, cooking, sewing, gardening, poultry-raising, making household repairs, simple woodworking and masonry, etc.

Another fundamental, one that has been rather tragically neglected up to now, is the discovery of what psychologists call the "latent abilities" and special talents of boys and girls at the primary school level. These abilities and talents should be developed and used in the service of the nation.

Education and Community Needs

Education has a specific role in meeting community needs, and as such, it is necessary to gear educational programs more or less directly to the satisfaction of these needs. An obvious reason for this is that no program of socio-economic development can get underway unless the people are educated to take the steps and to employ the means that lead to such development. And how can people--old or young--be educated for this except through the educational institutions located among them? In a developing country such as Ethiopia, therefore, it is a major responsibility of every educational institution and medium to gear

its program, at all levels of study, to the needs of the community. Educational institutions and their programs should be community-centered in the sense that the socio-economic development of the community becomes a matter of prime concern for the teachers as well as for the pupils. This concern may manifest itself in two ways: (1) in the kind of curriculum that the school will develop for the benefit of its pupils, and (2) in the more direct measures that the school will take to give all the help it can to the members of the community to enhance their economic status and improve their social well-being.

This kind of a community-centered institution has the valuable effect of strengthening the faith of the common people in education, and especially in its power to improve their socio-economic condition. This heightened faith in the potentialities of education can have the salutary effect of encouraging people to send their children to school and keep them there as long as they can afford to do so without having to make an unduly heavy sacrifice.

A nation-wide unified educational and developmental program requires a facility by which it can be launched. In a country like Ethiopia, for this purpose, the employment of television is paramount.

The purpose of this study is to explore possibilities for the use of an airborne system to disseminate television programs on a nation-wide coverage basis and to

propose a set of policy recommendations for its orderly development in Ethiopia.

After first looking at the history and development of education and the mass media in Ethiopia up to the present, the use of an airborne television system is proposed for the purpose of mass education and communication to create awareness among the masses, to affect social change, and to encourage attitudes desirable for national development.

The procedures for studying the problems of education, mass media, and the proposed system with its numerous factors involving technical problems, organization and administration, personnel requirements, costs, methods of financing, and programming policies to meet telecasting objectives are also considered in this study.

CHAPTER II

STATEMENT OF THE NEED FOR THE STUDY AND OBJECTIVE

As indicated in the introduction, many interrelated economic, socio-cultural problems can retard the development of any developing country. These problems require many approaches toward their eventual solutions. One such approach is through education. The need and object of this study is, therefore, to explore and demonstrate how a rather new communication medium, airborne television, can provide outstanding instruction which will help the Ethiopian people to raise their educational level on a nation-wide basis in the shortest possible time at a reasonable cost.

Objective, Accomplishment and Preliminary Testing

In achieving its objective, the following educational needs will be served:

1. Literacy instruction.
2. Formal education at all levels (including college).
3. Teacher training instruction.

4. Vocational trade and skill training for adults.
5. Public health, community development, extension work, agricultural methods and innovations, and other mass audience oriented programs.
6. Other programs concerned with the cultural aspect of the life of people in all sectors of life.

A secondary objective, the system will make a significant contribution to the development of human and physical resources. By being incorporated into the total picture of the national development program, airborne television will enhance the educational and social structures of the nation. It will further aid the Ethiopian economy by the introduction of this new electronic system of broadcasting as well as by the possibility of manufacturing television receivers, assembling and maintaining them.

Preliminary Testing

A big and all-encompassing project such as the system being proposed requires a sort of small scale beginning and moderate acceleration. It should, therefore, be initially introduced on a demonstrative basis.

The purpose of the demonstrative stage can be to focus on a certain program presentation which could be tested, such as, simple demonstrations in agricultural undertakings or the focusing on literacy instruction. The experimental or demonstrative stage will then be aimed at

showing how television instruction broadcast from aircraft can teach its viewers how to read and write Amharic and can be beamed to a geographically defined area, reaching many thousands at the same time.

Immediately afterwards, tests will be administered to see the learning result of the participants. If the airborne system can accomplish such difficult undertaking as the teaching of literacy, the system can also contribute significantly in the other fields outlined.

The Opportunity for Such a Program

Ethiopia offers an enormous potential for pioneering airborne television as a national service. It is a strong, developing nation with an ancient heritage and profound cultural resources. It has the unique opportunity of a unified educational system, government administration, and a unified (although not yet spoken and read by all of its inhabitants) language for "universal" communication. Its educational challenges and problems are very real, but at the same time its national commitment to dealing with and solving its problems is equally real.

Ethiopia's educational problems and needs are significantly involved with a widely dispersed population, many of whom dwell in small rural villages isolated by the absence of communication, thus isolated also from one another and from the mainstreams of national development. Overcoming illiteracy is a persistent major national

challenge. It is, further, harder to combat in communities that are isolated and where teachers and facilities are not only inadequate, but to a great extent, nonexistent. This does not suggest that the leaders more directly connected with the problems do not know and are not committed to solving these problems. However, the author believes that any means of a method which will help to solve these problems more quickly and effectively would be welcomed.

Education for Rural Community Development

One of the fundamental needs in terms of development in rural areas (most of Ethiopia is rural) is a rapid advance in agricultural innovations which are possible through the inculcating into the minds of the young generation a positive attitude toward rural life. Through intensive education, the individual can be lead to work effectively in improving rural environment and productivity. Education must never be regarded as the one way to escape from one's environment. A new attitude will be needed. A broader and more appropriate education must reach far greater numbers than in the past. Otherwise a large number of the new generation will be condemned to under-employment, low productivity, and the disappointment of hopes and ambitions.

The numbers of this new generation of "youth" are likely to increase so rapidly that within a short span of time they will form the bulk of the population. It will

be fatal to aim at general and formal educational programs which, though alluring when viewed in isolation, would absorb far too large a portion of these available resources which are required for productive investment, and thus restrict the expansion of demand for the skills and knowledge which are in urgent need. In the preparation of educational programs, it must be remembered that "rural education for rural progress" is the keystone to any realistic program for a country's prosperity.

Such programs will primarily focus on an extensive reform of elementary education in rural areas. This will entail widening the scope for talent which now has no opportunity, and will also be designed to change the attitude toward work in agriculture and to adapt the individual to serve in the community to which he belongs. Hence, it must provide the rudiments of general knowledge, and do this within the framework of existing conditions. This will further include the teaching of technical knowledge and instruction in nutrition. This will, of course, mean that the training of the teacher will include programs in both agriculture and nutrition. The importance of teaching and agricultural service in rural life must be outwardly recognized in order to be able to play a major role in the rural framework and in the rise in rural productivity. In this respect the rural school may act as the center of the rural renaissance.

Such objectives can be met through the employment of educational mass media which are able to reach massive audiences simultaneously. A single program, or a single teacher, can appear at the same moment in hundreds of separate areas. Such a medium as airborne television can make use of the best teaching talent available, and can relay the same program to virtually any area within the educational system. It is a visual medium which allows for creative and imaginative approach, and full integration with all other visual aids.

CHAPTER III

HISTORICAL BACKGROUND OF ETHIOPIA

The Country

The Empire of Ethiopia, commonly but wrongly called "Abyssinia," is situated in northeast Africa between 3 and 15 degrees north latitude and 38 and 48 degrees east longitude. Its total area covers approximately 492,557 square miles, and its population is between 20 and 22 million. Ethiopia is the tenth largest country in Africa, being slightly smaller than South Africa, but twice the size of Kenya. It is twice the size of France, or of the State of Texas. Neighbors which touch its geographical borders are the Sudan, Kenya, Somalia, and French Somaliland.

The terrain of Ethiopia consists of a mountainous tableland surrounded by a vast low country, the natural features rising as high as 8,000 feet above sea level. The physical features of the Ethiopian plateau are fertile, temperate, and well-watered.

Most of Ethiopia consists of this very high plateau with precipitous edges. The western edge is the boundary which separates her from the Sudan; the Kenya border is

artificial, although at one point it stops at Lake Rudolf, into which Ethiopia's River Omo flows. The southern boundary with Somalia is approximately 1,000 miles long.

Ethiopia has been called Africa's Switzerland and Africa's Tibet. It is a land of awe-inspiring mountains. Even today mention of this ancient empire conjures up mystery and fascination in the minds of men. Sometimes there is almost resentment of Ethiopia's periodic aloofness from the political currents of a wider world. Her scenery, like her people, has a long and interesting history resulting in variety and splendor unique in the whole of Africa.

The fragmented nature of the highlands of Ethiopia has played a great part in the country's history. Isolated and mountainous plateau masses have proved, to date, almost insurmountable obstacles to the kings who sought to unify the country, to the invaders who sought to conquer it, and to those who have sporadically attempted to develop its economic resources. The breaking down of isolation, from the contacts and currents of modern Africa has led to a fierce independence of spirit in many areas where the pattern of life has remained unchanged for hundreds of years.

Moreover, this extraordinary country still preserves, in some measure, the appeal of the mysterious and unknown. Parts of it have rarely been visited by "daring" explorers and some of its numerous peoples are but names

to ethnologists. Certain antiquities of the country are known to exist but remain unstudied; many more assuredly await discovery. Even the most "known" of the ethnic groups, proud, aloof and self-sufficient, can hardly be said to be well-known. Few foreigners have secured their confidence; fewer still have aspired to a perfect knowledge of the language.

The obscurity of Ethiopia is paradoxical. Western travelers reached Ethiopia as early as the fifteenth century, and the Portuguese knew it well in the sixteenth. Bruce spent five years there in the eighteenth century, and the early nineteenth saw a fair quota of visitors from the principal countries of Europe. The opening up of Africa in the last century influenced Ethiopia less than any other part of the continent, and she maintained her frontiers and kept her independence throughout the colonial scramble. Ethiopia remained, in the popular mind, a land of romance and adventure, of mystery and horror. It was a tempting field for sensation-hunters, but too little visited by sober travelers. Hence, bad books on Ethiopia are plentiful, good ones rare, and no part of Africa has suffered so much or so long from ignorance and misunderstanding in the outside world.

Mountains

Mountain ranges exist mainly to the east and southeast of Lake Tana, but also on the eastern plateau across

the Rift Valley, southeast of Addis Ababa, the present capital. Ethiopia has the fourth highest mountain in Africa, Ras Dashan. It is 15,158 feet high, over 4,000 feet lower than Kilimanjaro in Tanzania and nearly 200 feet lower than Mount Kenya, in Kenya. Ras Dashan is in the Simien range in Begemder and Tigre and the summit has never been climbed. Among the ten highest mountains in Africa are also the following: Abund Joseph (13,743 feet) near Lalibela, Mount Birhan (13,625 feet) in Gojjam and Mount Guna (13,881 feet) near Lake Tana.

People

There are three great ethnic groups within the political boundaries of the Ethiopian empire: (1) people of Cushitic (e.g., Hamitic Ethiopian) stock who have, over a long period, received Semitic admixtures originally from the Arabian shores of the Red Sea and who themselves speak Semitic languages, (2) Cushitic groups who have remained comparatively free from the influx of such outside elements, and (3) people of Nilotic origin. Of course, this seemingly simple picture of ethnic grouping is somewhat misleading, for Ethiopia is a country which embraces a complex variety of ethnic elements representing a varitable mosaic of races, tribes, and linguistic groups: "l'Abissinia é un museo di popoli," in the words of Conti Rossini.[1]

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[1]Counti Rossini, Note Per la Storia Letteraria Abissinia (RRAL, 1899).

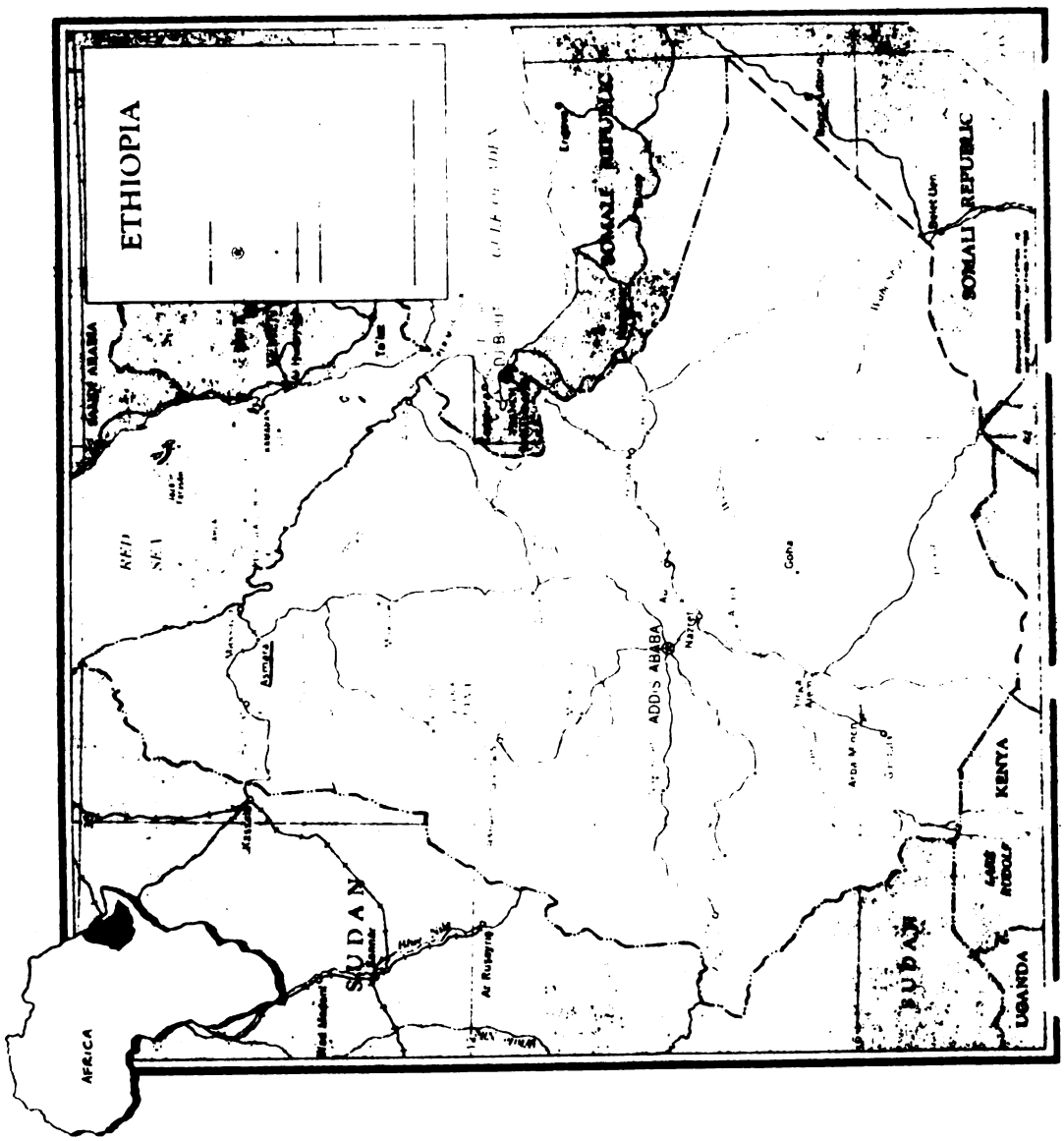

Figure 1.--Political Map of Ethiopia

Neither the Semitized peoples nor the Cushitic groups are in any way racially pure; indeed, they have absorbed so much alien blood, partly from each other, partly from Negroid groups and from sources difficult to identify that the term "race" (vague and all too often abused) has little meaning in this connection. For our present purpose, however, one can state without much hesitation that the Ethiopian today speaks of himself as being "African in the widest sense and Ethiopian in the strictest sense."

It is difficult to generalize about the Ethiopian national character, for all such pronouncements are of necessity purely impressionistic and subjective. However, the following description of the Ethiopian by Edward Ullendorff is in order:

> The Abyssinian is exceptionally intelligent, mentally agile, and extraordinarily eager to learn. His quick absorption of knowledge is at times stupefying, but profoundity is not, perhaps, greatly esteemed. Ethiopians are proud people, yet at the same time they display a courtesy and humility towards each other as well as towards strangers that can be deeply moving. Their low bow and their kiss are not an expression of obsequiousness, but an aspect of politeness and considerateness in manner which has all but disappeared in Europe. Most of them are born diplomats, some of them are unduely suspicious, but all are generous and quick to forgive. Many Ethiopians are given to litigiousness, but their sense of honour and justice is satisfied once the matter has been properly argued out; thus they will present a case with great dexterity and a distinct flair for oratory. Friendship is greatly prized and willingly offered, though often there remains, perhaps, a residue of reserve. Few of those who have come into contact with Ethiopians have been able to resist their compelling charm and the abiding interest of country and people.[2]

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[2]Edward Ullendorf, The Ethiopians (London: Oxford University Press, 1960), p. 46.

The Ethiopian Orthodox Church

Perhaps the most profound expression of the national existence of the Ethiopians is its officially professed religion. Monophysite Christianity in its indigenized form, impregnated with strong Hebraic and Semitic elements, "Ethiopian Christianity" had long been the storehouse of the cultural, political, and social life of the people.

All through Ethiopian history the Ethiopian Church has been a unifying influence in a country where almost every force has tended toward division and disruption. On the eve of the Italian invasion, C. F. Rey thus wrote of the impact of the Church on the spirit of the Ethiopian nation: "It [the Church] is exceedingly rich and its influence is still very strong today; and great as is the part played by various forms of religious belief in shaping the destinies of many countries in the world, few I think, can have affected a country's history as much as in Abyssinia."[3] While the Church has long been "a unifying element" at large, it has also developed to be a very wealthy institution--unbecoming to its declared teachings.

Christianity, professed by an estimated 40 per cent of the population, exercises tremendous influence on the life of Ethiopia in general. The figure given as 50 per

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[3]C. F. Rey, The Real Abyssinia (Edinburgh: Rand R. Clark, Ltd., 1938), p. 174.

cent may be a rational aspect of classification since there are certainly other religions to account for.

Islam, although an important religion in Ethiopia, claiming about 35 per cent of the population, took root in the time of its founder (c. 570-632 A.D.). "Islam is imported into Ethiopia through both 'Jihad' as well as by migrations."[4]

The Church and Its Impact on the Ethiopian People

The Ethiopian Orthodox Church in its spiritual, as well as temporal, influence has played a far-reaching part in the destiny of the country. Many Ethiopian kings in the past were either made or broken by the tremendous influence of the Church. On the other hand, authority is highly tempered by the moral and spiritual force of the Church.

Far from being a transient or superficial organism, the Church has its roots deeply embedded in the customs and mores of the people for multiplied generations. It has been shaping the outlook of the people all this time, and still maintains a stronghold on their moral values. It stood as the single cohesive force which gave the Ethiopian people the stamina and power which consequently resulted in the historic record of the defeat of the Italians in the Ethio-Italian war known as the Battle of Adwa (1890). Its

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[4]Ephrim Isaac, The Ethiopian Church (Boston: H. N. Sawyer Co., 1967), p. 85.

impregnable resistance against invaders has given the Ethiopian people their sense of nationhood. World history will never forget, neither will the Ethiopian people, the righteous blood of many learned Ethiopians shed against the invading Fascist Italians (1935) who, as some historical records show, were "blessed by the Roman Church to conquer and colonize Ethiopia."[5] The Italians burned churches throughout the country. They plundered religious objects and desecrated shrines; they massacred the educated youth. All this occurred because the Church stood as a challenge to their attempt to debase the moral standard of the people through terrorism. During those five awesome years the Church suffered both materially and spiritually. It was not long after that the Church was revived and started "living" again.

Only a very limited number among the priests in the Ethiopian Church can be said to be "literate." For the most part the priests are below any appreciable literacy to speak of, and generally confused, and uninformed about the fundamental teachings of the Church.

More will be said about the Ethiopian Church in the following sections, particularly of its role in education. Suffice it to say at this point that in general,

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[5]A. G. Duprey, De l'invasion a la Liberation de l' Ethiopia (Paris, 1959).

today, as ever before, the Ethiopian Orthodox Church stands as the powerhouse of the culture of the Ethiopian people. Its influence reaches deep into the decision-making level of the political government.

Government

Ethiopia has a unitary government which exercises full control over the political sub-divisions of the empire. The empire is divided into provinces, the provinces into sub-provinces, then into districts, sub-districts, and towns. At the top is the Emperor who has the supreme authority over most affairs of the country. He is the chief executive of the Public Service, with the powers to appoint, promote, transfer, suspend, or dismiss any official of the government.

Under the Emperor, there is a Council of Ministers or Cabinet whose members are appointed by him. This body consists of all ministers. The Emperor, or, in his absence, the Prime Minister, is its chairman. Its main functions are to advise the Emperor and carry out all government matters. The Prime Minister is responsible for overall government administration and acts as the main coordinator of the various ministries.

Each ministry is centralized under the minister, forming a hierarchy in which authority and responsibility are delegated downward through subordinate officials.

Of all the ministries, the Ministry of Interior is the largest, and carries out many different functions. It is the headquarters for all political sub-divisions of the empire and for the security force. A United Nations expert has stated that in Ethiopia,

> . . . authority converges in the form of a pyramid from the sub-districts, districts, sub-provinces, and the provinces to the Ministry of Interior. The municipalities and townships also, with the single exception of Addis Ababa (the capital city) are under the control of the Ministry of Interior and this control is exercised through the provincial Governors General.[6]

The heads of the political sub-divisions in the country are appointed by the Emperor, in most cases upon the recommendation of the Ministry of Interior. Each ministry has its own representatives in every political sub-division who are responsible for the performance of the duties of the ministries they represent in their particular areas.

According to a memorandum prepared by the Ethiopian Institute of Public Administration, "the development of ways and means of granting a larger degree of authority and responsibility from ministers down through directors general to directors to their subordinate employees is a fundamental problem of administration of the government."[7]

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[6]United Nations, Imperial Ethiopian Government Public Administration, Final Report, Administration in Government, 1961, p. 1.

[7]Ethiopian Institute of Public Administration, Memorandum on Administrative Change in Ethiopia (Addis Ababa: Ethiopian Institute of Public Administration, 1963), pp. 2-3.

The new constitution which was promulgated by the Emperor in 1955 provided for an elected Chamber of Deputies in a bicameral parliament which also included a Senate whose 101 members are all appointed by the Emperor. Other than this, in Ethiopia today there is no organization existing in the name of a political party.

Education, literacy and the mass media in Ethiopia will be discussed later. By way of statistical figures, however, the following information is in order:[8]

Education.--438,000 students (both grade school and high school). One university coordinating the Agriculture College, University College, Engineering College, and the Medical College. Enrollment 2,000.

Literacy Rate.--Less than 10 per cent of the population (Readers Digest Almanac and Yearbook, 1968, p. 114).

Cinemas.--There are ten cinemas in Addis Ababa and four in Asmara with seating capacities of (average) 2,000 each, and about a dozen smaller cinemas in the provinces.

Newspapers.--In Addis Ababa there are two English and two Amharic dailies, and in Asmara two Italian dailies, one part Tigrinya-part Arabic, and one Amharic daily. All papers are government-supervised and have circulations varying from between 1,000 and 12,000.

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[8]S. H. Strenberg, The Statemen's Year Book (New York: St. Martin's Press, 1968).

Official Language.--The Amharic language belonging to the Semitic family is the "lingua franca" of the Empire. Amharic is primarily spoken by the Amharas. The Amharas are referred to as the ethnic class of Semite Ethiopians inhabiting the central part of the empire with their capital Addis Ababa. The land covers an area of about 762,235 square miles with a population of about 1.7 million.

CHAPTER IV

DEVELOPMENT OF EDUCATION IN ETHIOPIA

Introduction

Ethiopia, so old in her history (three thousand years), so profound in her cultural heritage, so unique among her neighbors in her socio-political development; with a long-standing written language, with literature and art uniquely her own, nevertheless, stands today at the foot of the class in educational development.

The purpose of this chapter is not to delve into the nature and cause of this rather paradoxical situation, but albeit from scanty sources to bring to light some aspects of Ethiopia's educational development during its earlier history, to explain its gradual development, and to look at some of the educational problems faced today.

In discussing Ethiopian education and its development, one has to employ two historical settings: that of the ecclesiastical and that of the secular or public educational systems of education. One is confronted here with three distinct periods in Ethiopian history. It is beyond the scope of this study to deal in depth with these three periods. For the purposes of this discussion, the

periods will be divided into the following: (a) Ecclesiastical Period, (b) The Beginning of Public Education, and (c) The Period of Modern Education.

Ecclesiastical

The ecclesiastical period in Ethiopian history embraces that vast era beginning with the glories of Aksum, the cradle of Ethiopian civilization and the home of "Ethiopian Christianity," and the very limited beginning of formal education.

The Orthodox Church in Ethiopia today should have been standing in line with its historical counterparts in Europe which are the birth places of such illustrious institutions as the Universities of Paris, Rome, and Bologna. Perhaps the Alexandrian Seat never took to heart the teaching mission and commission of the Church when it came to the Ethiopian branch of the then Coptic Church (until 1951, the head of the Orthodox Church in Ethiopia was a non-Ethiopian appointed by the Catholicos (Patriarch) of the Alexandrian Coptic Mother Church).

According to the Revised Constitution of 1955, "The Ethiopian Orthodox Church, founded in the fourth century . . . is the Established Church of the Empire, and is as such, supported by the State."[1]

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[1]Revised Constitution of Ethiopia (Addis Ababa, Ethiopia, 1955).

Whether or not the Alexandrian Mother Church is to blame for this retardation, the Church in Ethiopia at least maintained a system of its own education seemingly for its own doctrinal propagation together with its leadership in maintaining and propagating Ethiopian culture. Consequently, until about 1908 the propagation of education and culture was by and large in the hands of the Church.

Between 330 A.D. (the conversion of the Aksumite empire to Christianity) and the 19th century, the records concerning the role of the Church in education are indeed extremely limited. But that the Church played the role of "the power house" of the Ethiopian culture, was certain.

> It provided elementary and intermediate schools, and monastic universities with branches devoted to theology, history, poetry, music, medicine, and surgery, all of which function to this day, forming one of the oldest and most continuous systems of education in the world.[2]

Other than maintaining the cultural heritage of Ethiopia, the Church never made any kind of appreciable move in the area of general education. During this early period, in fact, most of what we term "school-age" children never attended school.

Gobat, a 19th century missionary in Ethiopia describes children and their time in the following words:

> After the age of 6 or 7 years, the children are considered as servants. The boys are shepherds till the

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[2]E. S. Pankhurst, Education in Ethiopia (Woodford Green, England: New Times and Ethiopia News, n.d.), p. 29.

> age of 14 or 15, and reside with their parents; but if their parents are poor, they leave them, by their own choice, at the age of 8 or 9 years, in order to get their livelihood by keeping cattle elsewhere. The girls are occupied in managing the little affairs of the house and begin to fetch water, which is always at a distance, as soon as they can walk steadily: at the age of 8 or 9 years they begin to fetch wood from the mountains. They do not begin to grind till they are 13 or 14 years old.
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> There are some fathers who send their children into convents, or elsewhere, to have them instructed; but there are many who will not do this, lest their children should become monks; on the account many boys desert their parents, in order to seek instruction for themselves. Some enter the house of a priest or another teacher as servants during the day, and they receive instruction at night: others go, after their lessons are over, to get food by begging. There are also some persons, in easy circumstances, who support those children who seek instruction without the help of their parents.[3]

This period's educational system (which still is in operation in some parts today), the teacher, and the schools are described by C. H. Walker in these words:

> In a big town there may be 30 boys who are under three teachers, but in a monastery town there may be as many as hundred, and at Zeig Anal and Addis Ababa one may find a thousand. But the children of officers will learn at home, for an officer will build a hut nearby where the confessor will teach them the alphabet, arithmetic and the Psalter. The teacher may be a priest who is a Liq, or professor who knows much learning. . . . Or he may be an ordinary priest or even a scribe, though the scribe they praise not over much, for he may work cunning and wander here and there round the town. But the priest will sit quiet with his fly-whisk while the lad who was first instructed teaches the last comer. So the priest will sit as a Judge and will punish the boy who errs, crying: "was that what I told thee

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[3] S. Gobat, Journal of Three Years Residence in Ethiopia (London: Seeley, Burnside, and Seeley, 1834), pp. 312-13.

> yesterday?" pulling and twisting his ears, till he pours forth tears. Thus he will learn per force.[4]

The general framework of Church education has built-in progression levels which the student has to go through until he is said to be "educated."

The first level consists of the mastery of the 210 symbols which constitute the Ethiopian alphabet. This takes the form of constant repetition (and usually loudly) of the main twenty-six characters vertically and the seven forms or variations for each character horizontally.

The second level includes reading and also writing. The reading part is comprised of St. John's Epistle in Geeze. Here the student starts out by a rather slow motion of saying the various characters of the alphabet in the Epistle, then saying them louder and faster and in a rhythmic manner. This is known as the "Fidel Hawaria" or Apostle's Alphabet.

The third level includes what is known as "Gabata Hawaria" in which the student reads from the Acts of the Apostles. This and the next levels are known as the "formative stages for voice training."

The fourth level is the same as the previous one except for the material being different. This level acquaints the student with readings from the Gospels.

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[4]C. H. Walker, The Abyssinian at Home (London: Sheldon Press, 1933), p. 12.

The fifth level, called Dawit, i.e., David, begins with the reading of the Psalms. Upon being able to read through the Psalms two to three times, the student may consider himself "graduated." This is an important part of the student's educational life. The occasion is celebrated by the parents and gifts are given to the teacher. At this level the child's ability to read and write puts him in a special category where he may be sought as letter writer and/or reader.

The level following is primarily for those who wish to enter the ministry of the Church. The average layman may be said to have attained his schooling requirements at the end of the fifth level.

This advanced level of study (exclusively for men) is where oral lessons start. This stage prepares one for the level of "debteras" (cantor) in any of the specialized areas he may choose and qualify for. The specialized areas are known as: (a) "Zema bet," or school of music, (b) "Kene Bet" or school of poetry, and (c) "Aquaquam Bet" or school of movement or dancing.

In the "Zema bet" the students learn Church music known as "degwa, Zemare, and Newast." All of these are variations in the order of service, particularly at the end of Eucharist and funerals. Prayers "kedase" and chants are studied by priests and deacons.

The "Kene Bet" engages the student's mind in creativity and imagination in the composition of series

of poems. These poems if successful, are later on sung in Church. The poems are judged on the merit of their rhythmic expressions, their duality of meaning, and their ability to project some kind of puns in verse. The "Kene Bet," which usually takes three to four years, has all kinds of complicated and rather detailed stages one has to go through, the extent of which is beyond the purpose of this chapter. A fuller and more detailed treatment of the history of Church education and what is involved in the various levels and degrees throughout the courses, is dealt with by Parkhurst and Wodajo.[5]

With the gradual development of public education, Church education and its rather restricted, and to a great extent unencompassing scope has inevitably gone down. Among those who have had the benefit and privilege of attending Church school, most are still "illiterate." For, a great many of those who attained the rank-and-file of the priesthood do not, even today, understand what they memorized and recited. Nevertheless, it has served at least one purpose: it has sustained the established existence of the Church.

Why the Ethiopian Church did not develop the highly desired institutions of secular learning, is a subject

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[5]Richard Pankhurst, Church, State and Education in Africa, ed. by David G. Scanton (New York: Columbia University, Teachers College Press, 1966); Mulugeta Wodajo, "Postwar Reform in Ethiopian Education," Comparative Education Review, II (February, 1959).

which needs much research and qualified investigation. Nevertheless, one can safely state that the political, social, and ecclesiastical environments between the period when Christianity was introduced in Ethiopia (330 A.D.) and the beginning of public and secular education in 1908 was not conducive to the development of such secular institutions.

It is also regrettable to note that such refinement and mastery of the art of rhythm, beauty, and splendor in poetry, which were characteristics of the language during those early years, are gradually being lost as Amharic is becoming popular. Poems have lost their highly artistic qualities, topics are most uninteresting, never stimulating, and those that are allowed are downright dull. Today, in Ethiopia, there is no mention in the school curriculum of such endeavors as the attainment of excellence in the "Zema Bet," and/or "Aquaquam." Such schools should be included (revised, reorganized, etc.) in the systems of education today, and it will remain to be a challenge to every conscientious Ethiopian educator to restore such academic excellence in today's schools.

The historical period 550 to 1550 A.D. in Ethiopia was marked by constant restlessness and instability. It was during this period that the long-established Solomonic Line was overthrown and replaced by the Zague Dynasty which moved the capital from Aksum to Lalibella. This movement weakened Ethiopia's contact with the outside world and

contributed much to her isolation. This dynasty continued on for about 130 years when it met its fall, in fact, through one of its own clergymen (cannonized later--St. Tecklehaimanot). This rebellion restored the Solomonic dynasty to power. The new power again moved its capital still further south.

Added to all this was the fact that during this period Church dominance upon emperors was very strongly felt. Civil wars were constant and with it came the changing of dynasties, resulting in further isolation of the country.

Thus it was that the Church never created an environment which was conducive to the creation of institutions which would challenge and satisfy the intellectual curiosity of students.

Although up to the beginning of public education in Ethiopia the Church was the only source of schooling in Ethiopia, many Ethiopians found ways of obtaining education abroad. Those who were trained abroad, however, were not sent by the Emperors of the time. Nevertheless, this handful of educated men contributed greatly by serving mainly as interpreters and/or contact men between the Emperors and the West.

Modern Public Education

Aside from the "home oriented" schooling established within the palace, the first public school in Ethiopia was

started by Emperor Minilik II in October, 1908, with an enrollment of about 100 children. During this time only a few select families were privileged to send their children to this school. Courses included Amharic, English, French, Italian, mathematics, science, and sports.

The decision by Emperor Minilik II to open the school was met with strong opposition from the Church. The head of the Monophosite Church of the period was the Egyptian, Abuna Matheos.[6] The conflict was more or less reconciled by the Emperor's consent to employ teachers from Egypt. They were associated with the school until the Italian invasion of Ethiopia in 1935.

Enrollment at Minilik II school was free and there was no restriction on age limit. The language of instruction was French. Innovation continued and soon Minilik II opened a primary school in Harar. There followed the establishment of small schools by foreign communities, particularly by the French community, of which the present French school is the pioneer.

The idea of state education initiated by Emperor Minilik II was eagerly accepted and opened the way for many foreign communities to establish schools.

In 1924 Emperor Haile Selassie, then Regent, opened Taferi Makonen School. The Emperor, who had himself

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[6]F. Rosen, Eine deutsche Gesandtschaft in Abeissinien (Leipzig: Viet, 1907), p. 267.

attended Minilik's school, made it further possible for mission schools to develop in Ethiopia. The Emperor himself allocated funds for the establishment of other schools as well. The opening of Taferi Makonen School was met with considerable opposition from the aristocracy.

Modern education in Ethiopia began to take shape and gain impetus after 1930, at which time the founding of a Ministry of Education also took place. The period also marks the coronation of Emperor Haile Selassie. This is the period when a system of six years elementary, six years high school, and four years of college was instituted.

In 1931 the first girl's school was begun by Empress Menen. As this was the first school which was made public for the education of women, it was again met with considerable opposition. The place of the woman was meant to be in the house according to the customs of Ethiopia.

At this time the number of Ethiopian students abroad also increased considerably; students went to countries such as Egypt, the Sudan, Switzerland, Belgium, the United States, and Lebanon.

In 1935 Ethiopia's development of modern education was brought to a halt. The brutal attack on Ethiopia by Italy during this period resulted, among other things, in the murder of over three-fourths of Ethiopia's educated youth. After the occupation, Musolini's policy severely restricted the schooling of natives.

After the liberation in 1941, the Ethiopian Government, with practically no finances, no facilities, no teachers, embarked upon the difficult task of rebuilding its educational system. In the period of thirteen years from 1941 to 1954 remarkable progress was made. As a result, in the year 1954-55 there were almost 92,000 students in 553 public schools. In 1954 there were some twelve secondary schools of which two were commercial, one technical, and one a teacher training school. Higher education included the University College, the Colleges of Agriculture and Engineering, and a medical school at Gondar. The enrollment at these institutions of higher learning was not, however, more than 400 students.

Table 1, page 45, shows the school enrollment at all levels during the five years of 1955-56 to 1959-60. The figures in parentheses indicate total female enrollment.

The post-war period saw a still further development in the country's academic institutions. This is marked by the establishment of the Military Academy at Harrar, the Naval College at Massawa, and (although with a longer history) the Air Force School at Debra Zeit.

It should be noted at this time that to an extent Ethiopia's institutions of higher education have been aided and developed from abroad. The Agriculture College, the Medical School and several other institutions are supported by the United States while the Air Force, the Police

TABLE 1.--Enrollment at all levels in the schools of Ethiopia (and Eritrea), 1955-1960.[a]

Year	Elementary Schools (grades 1-8)	Secondary Schools		Higher Education	Total
		Academic Gr. 9-12	Technical & Vocational		
1955-56	109,368	2,097	1,527	345	113,337 (19,736)*
1956-57	135,749	2,628	2,187	466	141,030 (24,899)
1957-58	150,892	3,492	3,245	605	158,234 (30,121)
1958-59	158,005	4,496	3,648	760	166,909 (34,116)
1959-60	170,460	5,273	3,646	784	180,163 (39,734)

Note: The figures in Table 1 apply only to government (public) schools. A more accurate accounting should also include the relevant figures for Church schools, private schools, and the newly initiated program of community schools but these figures are unavailable.

[a]Adapted from Ministry of Education and Fine Arts, Bureau of Educational Research and Statistics, Government, Mission, Private, Community and Church Schools, 1959-1960, Table I, p. 1.

*Figures in parentheses indicate female students.

Academy, and the Red Cross were implemented by Swedes. The Naval Academy is supported by Norwegians and the Military Academy by Indians.

By 1962-63 the number of students in government schools numbered 212,002. Added to this was enrollment in mission schools numbering 30,029. In 1963-64, the total number of students was reported at 353,411. In 1965-66 the total enrollment numbered 426,545. In 1967-68 the total enrollment of students in all types of schools was 553,465. That number included 1,852 students following some sort of study abroad.[7]

Ethiopia's public education has come a long way from its initial beginning by Emperor Minilik II in 1908. Modern education has made significant progress in making available trained and skilled nationals for positions of high responsibility. In spite of such developments in education, Ethiopia's economic, social, and political development is yet in its infancy. The standard of living, health, education, and general cultural development must rise higher still before Ethiopia can claim any equality with the advanced world.

Generally speaking, the impact of Ethiopia's public education has yet a long way to go before an appreciable number of the school-age children can be said to be

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[7]Educational Planning and Statistics (Addis Ababa: Ministry of Education and Fine Arts).

participating in any kind of schooling. Schooling is yet available only to a very limited number. This limitation also serves to accentuate divisions among the ethnic groups represented in the country.

Another limitation worthy of mention is one which concerns vocational guidance, the kind of early screening of talents, aptitudes, and special abilities that is absent in the educational system. For a long time Ethiopian education systems have fostered the idea of a highly desirable need for personnel equipped with the knowledge of foreign languages and trained in the general area of clerical work.

The need for scientists, technicians, engineers, and doctors went unrecognized by those responsible for educational planning. It seemed that the only need the country had was for personnel in administrative fields. This showed a lack of educational planning as to the need for various kinds of personnel training and perhaps purposeful, "uni-directional" planning. In 1964, for example, 65 per cent of university graduates were in the social sciences. Of the total secondary education enrollment in 1965-66, only about 16 per cent were in vocational and technical training.

The concept that a student's purpose in learning is to blend completely into the society that forms him is by and large prevalent. He is, as it were, molded to conform to the order of things in a social system where reward plays an attractive role.

The present schools and their systems are not useless. On the contrary, they are indispensable, for these schools have provided and are still providing the indispensable skeleton of educational personnel necessary to help the country carry on the elementary functions of law, order, and progress. But these schools alone cannot help Ethiopia to keep abreast of other countries and people in the twentieth century.

Teacher Supply Problem

The devastating effects of the war had created problems that appeared almost insurmountable to the educational planners in the early postwar years. The handful of educated Ethiopian personnel with advanced university training had been methodically exterminated by the invaders. The restoration of law and order promised to be a formidable task in view of the total disruption of communication facilities. The economic condition of the country, which depended on its agricultural resources, made planning for educational development difficult. Practically all educational facilities in the country had been turned into machinery for Fascist ideological purposes. Despite all these difficulties, considerable progress was made in the country in the restoration of education after 1941.

Although their outreach is extremely limited, many specialized institutions which served the need of reconstruction have taken shape. Among them are handcraft and

vocational schools, public health nursing, civil aviation, telecommunication, and teacher training schools.

What might perhaps be considered as unique in Ethiopian post-war educational development is the establishment of the program known as Community Education. This program, designed by education planners in 1954, is based on the principle of universal education for all Ethiopian youth. The program is designed to give every individual in the empire a sufficient command of Amharic and other basic abilities to enable him to cope more effectively with the problems of everyday living. The 1954 eleven-point resolutions called not only for a universal fundamental education in Amharic, but that the use of the Amharic language skills which are most useful in the rural areas be extended to adults and also to schools normally serving children from seven to twelve years of age. It further stipulated that special teacher training centers be established and that learning materials in Amharic be created for use in both the training and community schools. This step has resulted in the establishment of teacher training schools and has made some contribution in providing education to villagers who have for a long time been deprived of the opportunity.

A system of education that attempts to cater to the specialized as well as the general educational needs of a growing nation is beset, however, by many problems. Among the greatest of these has been the problem of an

adequate teaching force in Ethiopia. The dearth of educated and adequately trained Ethiopian teachers in the immediate post-war era continues today to be a real threat to the development of a viable, functional, and productive educational system. While it could be argued that "much" has been done to make possible the availability of more-or-less trained Ethiopian teachers, less is done in the area of maintaining those qualified teachers. The maintenance of qualified and financially and otherwise "satisfied" teachers is a crucial factor in making an educational system work.

A study by Dr. Aklike Habte[8] on the problem of retaining elementary teachers and on the reason why they withdraw from the teaching profession, reveals: (a) a lack of opportunity for their own educational improvement: "the improvement of their own education, they say, is in the best interests of their students as well as of themselves."[9] Habte states, "The Ministry, however, has never come forth with any plans for the continuous in-service education of teachers, the need of which is especially great in the remote rural areas. No attempts have been made to cater to the desire of rural teachers for afternoon or evening classes."[10] (b) "Adjustment Problems,"

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[8]Aklike Habte, "Brain Drain in the Elementary School: Why Teachers Leave the Profession," Ethiopian Journal of Education, I, No. 1 (June, 1967).

[9]Ibid.

[10]Ibid.

including difficulties of language, social custom, and living conditions. (c) "Isolation." The absence of rotation from one province to another, the feeling of being forgotten by the Ministry (once they are placed in a remote area), and the absence of evaluation of achievements by the Ministry officials are other factors which contribute to the constant loss of elementary teachers.

Habte's study points out that the "economic, administrative, professional, educational and social reasons" coupled with the hardship of rural life are factors in teacher wastage in Ethiopia. The study concludes with the following:

> If the welfare of our young people is the welfare of the future of Ethiopia, then everyone concerned, Ministry official and member of the Government, must take a long hard look at the situation and make a bold attempt to remedy the defects as soon as possible; it is dangerous to trifle with the future of a country.[11]

The Future

Judging from the reasonable and rather confined progress made in the past thirty years in the field of education, one cannot help but feel reservedly optimistic about the immediate future. According to the third five-year plan (1968-69--1972-73), the enrollment in government primary schools is expected to rise to 616,000 by 1973 compared to 312,207 in 1967. This is an increase of

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[11] Ibid.

almost 100 per cent. It further calls for the training of 8,000 to 9,000 new primary school teachers compared to 6,414 which is the present number. The projected increase in education calls also for university enrollment to number 5,000 by 1972-73, compared to about 2,000 at the present time. Over 3 million adults are to become literate during the plan period. This calls for a specified mass media program. Furthermore, the plan calls for rural oriented programs of education and rehabilitation.

The Role of Television in the National Educational Strategy

In order to truly implement such "bold" plans for educational development in a country like Ethiopia where the economic resources may not be adequate, an effective and broadly encompassing coverage is required. Television is reasonably cheap and far-reaching in coverage and to these ends television could be very effective.

Schools alone cannot meet the objectives discussed in previous sections and the educational objectives set out under the third five-year plan for Ethiopia's social, political, educational, and economic development. However, by maintaining a definite growth rate of schools and introducing the use of television in education and development on a national basis, all objectives can be satisfied to a large extent. Television can help to extend the pupil-teacher ratio and at the same time bring quality education to all at a cost lower than conventional methods. It is a

most potent tool of mass communication and literacy education. It can reach all, including those groups and people isolated due to the several reasons discussed earlier.

The Schools' Television

The suggestion to use television on a national basis as a system for education and for mass communication, does not by any means suggest doing away with teachers and schools. The suggestion calls for maintaining the planned development rate and, by the introduction of television coverage, bringing quality education to more people and creating additional capacity in the schools for absorbing increasing numbers of students.

A United Nations sponsored Science and Technology Conference held in Geneva in 1962 sums up the idea:

> This does not mean that television substitutes for teachers. It means that you take the best teacher and multiply him by hundreds or thousands of class-rooms and make it possible for him to be teacher of teachers, as well as teacher of pupil [sic] simultaneously. . . . Teacher [sic] is the oldest and still the best media [sic] but a series of devices have been produced to represent and aid the teacher in providing experience from which students can learn effectively.[12]

Those teachers who need to be brought up-to-date in today's rapidly changing world of science can be helped

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[12]United Nations, Science and Technology for Development, Vol. VI, Education and Training (Report on the United Nations Conference on the Application of Science and Technology for the Benefit of Less Developed Areas), 1963.

by the supplement which television can afford. A carefully planned and coordinated implementation of a national educational television strategy for Ethiopia will produce the following effects:

1. It will increase the number of practical literates.
2. It will increase the quality and comprehensibility of teaching.
3. It will decrease the problem of the loss of teachers at all levels, thereby also decreasing the need for training extra teachers.
4. It will decrease the cumbersome development system of the conventional literacy campaign.

The national system of television coverage will enhance the "continuing education" of the teacher, the lack of which was one of the main reasons given by Habte for the loss of primary school teachers. Television can not only help them to keep pace with the fast-growing and changing ideas and knowledge, but will enable them also to supplement their teaching with this new material. On the other hand, a nationwide unified "up-grading" program can be very easily implemented through the use of television. The idea of refresher courses for teachers can never be attained in its desired measure in the conventional manner. Through the use of television, it can--in fact with less cost and without the cumbersome need for the teacher to travel miles from where he is located. The

teacher will further learn by observing the good teaching methods used on television.

In view of the objectives laid down herein, and in view of the vast literacy gap existing in Ethiopia, the most effective way to go about solving such problems and meeting the desired goal in education in Ethiopia is through a nationally systematized television coverage.

Having concluded thus, the author will proceed to explore the cultural, political, geographical and financial feasibility of the airborne system for the dissemination by television of education, information, and wholesome entertainment to the Ethiopian people.

CHAPTER V

THE BROADCAST MEDIA IN ETHIOPIA

Mass Communication

Public information via the mass media in general is today financed and controlled by the government. In the book, Haile Selassie I, Silver Jubilee, the author David Talbot in trying to relate the function and purpose of the press in Ethiopia quotes Harold J. Laski, who said:

> The press, in a sentence, is a fundamental weapon in the social conflict, national and international, in which we are all, despite ourselves, combatants. We shall have truthful news when untruthful news does not pay, but it will not pay only when the majority of causes of social conflict, national and international, have been removed.

He goes on to say,

> . . . our news system, in a word, is a reflection of our social system; there will be no vital change in the one unless there is also a vital change in the other.[1]

The same can be said with respect to radio and, more recently, television. The main function which the media have in the communication process is not to spread information, all information, but function as a fundamental

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[1]David A. Talbot, Haile Selassie I, Silver Jubilee (The Hague: W. P. Van Stockum Publishers, 1955), p. 321.

tool in the social development, in which all people are supposedly made to participate. Thus, the political organization which supervises the function of mass media in the country may well be said to be, "the store house of the wishes of the Ethiopian people."[2]

Presently there are twelve main cinemas in Addis Ababa and Asmara (second largest city), four with seating capacity of 3,000 each, and about a dozen smaller cinemas in the other provinces.

There are two English, three Amharic, two Italian and one part Arabic-part Amharic daily newspaper in Ethiopia. All those published by organizations other than the Ministry of Information, are closely "inspected" by the government and reflect the social system which is basically characterized by the established government. All the papers have circulation varying between 1,000, and 12,000.[3]

The Ethiopian Patriotic Association, an organization of veterans of the war against the Italians, publishes the Voice of Ethiopia and Ya-Ethiopia Dimts, its Amharic version. A tabloid, the Voice depends largely on official releases by the government and foreign news agencies from

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[2]There is a great deal of similarity and consistency between the nature of media usage discussed here and Fred S. Siebert's discussion of the Authoritorian Concept of the Press. His treatment of this subject is found in F. Siebert, T. Peterson, and W. Schramm, Four Theories of the Press (Urbana: University of Illinois Press, 1963), pp. 9-37.

[3]Strenberg, Statemen's Year Book.

which only carefully selected items are selected. The Ministry of Information, on the other hand, publishes the Ethiopian Herald and Addis Zemen (New Times). Each of these papers usually consists of four pages of general reporting of world news and feature articles. The number of readers for each of these papers is not more than 10,000.[4]

The press in general, which could be termed an adjunct of government policy, serves specific objectives, very limited in scope, and provides a small number of people information pertaining to the life and function of the government.

No reliable statistics exist about the circulation and number of readers of the daily and weekly newspapers. The figures available represent estimates, usually optimistic.

> The total circulation of dailies, weeklies, bimonthlies, and monthlies is presumed to be approximately 35,000, with estimates of the number of readers varying between 70,000 and 105,000. Several thousand copies of the dailies published in Addis Ababa are also distributed, free of charge, to local officials and to some teachers in the provinces.[5]

Of the four monthlies and bimonthlies published in Addis Ababa, the one worthy of mention is the Ethiopian Observer, an illustrated monthly magazine featuring each

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[4] Ibid.

[5] U.S., Department of the Army, U.S. Army Area Handbook for Ethiopia, Department of the Army pamphlet No. 55-28 (Washington, D.C.: Government Printing Office, 1964).

month a different aspect of the social, economic, and cultural life of the country. Although adulatory in its general tone, topics in each publication are treated with considerable detail and in many cases are well researched.

The official government gazette, the Nagarit Gazeta, is published approximately every month and contains the newest laws and ordinances, imperial proclamations and appointments, and legal notices.

In the absence of a proclaimed policy statement as to what is to be avoided in print and/or publication of books and periodicals for public consumption, the decisions for such activities are in the hands of the Ministry of Information. According to the author's observation, however, when the person in authority turns to the function of the mass media, he has already determined the basic purposes of the government. These purposes control his attitude towards both the cultural and political aspects of communication. There seems to be a certain "built-in" logic by which the individual censor arrives at a position where it is apparent that the dissemination of certain information, ideas and opinions among the members of the community must necessarily have a detrimental effect.

Purpose of Communication

Mass communication in Ethiopia has the primary purpose to advance the wishes and policies of the government in order that it may achieve its goals and objectives.

This is done by informing, educating and helping in the mobilization of its populace. Thus by active participation in the communication process, the state utilizes the mass media as one of the most important instruments for accomplishing its purpose.

In Ethiopia, a country that is so rapidly developing, one has strong hopes for the development and effective use of the mass media in national development and the democratic system. The problem of democratic principles and authoritarian practices is described in a report prepared by Salvador P. Lopez at the request of the Economic and Social Council of the United Nations from which the following is quoted:

> In a world racked by ideological contention and insurgent nationalism, there has grown an ever-sharpening struggle for the minds of men. Highly developed techniques are being employed for the purpose of information propaganda and indoctrination with the result that each is often indistinguishable from the others.
>
> Inevitably in this struggle, the basic human right to freedom for opinion and expression has become, in many parts of the world, a casualty. This is true in the authoritarian states, but even in other countries this right is constantly menaced by the tendency to sacrifice freedom in the ostensible interest of defending freedom. The result is a complex social and political problem, marked by continuous interplay between abuse and efforts to correct abuses, between attempts to restrict freedom and attempts to widen it.[6]

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[6]United Nations, Economic and Social Council, Report on Freedom of Information (New York: United Nations, 1953).

Role and Function of Broadcasting

Politically

Broadcasting is used to preserve unity of thought and action among the governed and to maintain continuity of leadership. In the words of Schramm, it "acquires an absolutist aura which makes change undesirable, and stability or continuity a virtue in itself."[7] Access to the medium is restricted to those individuals who would operate for "the good of the state" as judged by the government. Since the general public is considered incapable of understanding the complications and intricacies of political problems, communication is, therefore, forbidden to "disturb the masses."

Broadcasting is not expected to criticize any political leader, and above all, it is not allowed to unseat the authorities. In the papers, as well as in broadcasting, there is a considerable amount of discussion on political systems in broad generalizations. It is even possible (in some cases) to question political machineries, but certainly not the manipulators of the government's machinery.

Socially

The social and perhaps the "ethical" role which broadcasting accomplishes in Ethiopia is not a complicated

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[7]Wilbur Schramm, Responsibility in Mass Communication (New York: Harper & Brothers, 1957), p. 63.

affair. That which is considered to be not good for the state, would not be good for society. It functions as though it were promoting, more positively, all communication to essentially contribute to the greatness of the state, through which the individual person as it were, grows to his fullest usefulness and happiness in his country. The social and ethical function of broadcasting is further seen in that the individual is not caused to decide for himself. There is, the sort of "hidden revelation" (if one subjects himself to know it), the wisdom of those of the past, or the indispensable guidance of the leaders! The individual as a member of a social organization is constantly made to realize that he can reach his highest level of aspiration under the guidance and care of the state.

Religiously

The Ethiopian Orthodox (Monophysite) Church, which was discussed briefly earlier, has for centuries been universally accepted as "wielding power-spiritual and temporal."[8] It has always been closely associated with the preserving of the royal line, tracing its origin to Solomon and the Queen of Sheba. Since the acceptance of Christianity, the Emperor in power has always been the accepted defender of the Church. There usually was no major clash

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[8]Talbot, Silver Jubilee, p. 149.

between the Church and state as long as the Church stood behind the monarch and as long as the Emperor stood loyal and true to her. Thus the "divine" interlock, through the centuries has been a sure and, to date, a working complimentary existence.

The emperors of Byzantium were "Defenders of the Church," duty-bound to combat heresy and to spread the Orthodox faith throughout the world. As the "annointed of God," absolute obedience was due them from the common people and from all Church officials. This position was adopted by the emperors of Ethiopia, who early took as one of their titles "Defender of the Faith." The Emperor said in 1945: " . . . The Church is like a sword, and the Government is like an arm," therefore the sword cannot cut by itself without the use of the arm.

Throughout Ethiopian history, with few exceptions, the monarch has controlled the Church as an institution through his power to pronounce articles of faith and make decisions in doctrinal disputes; through direct control over the bishop heading the Church, called, in Ethiopian, the "abune," and the power to appoint what until 1950 was the highest Ethiopian ecclesiastic, the "Ichege"; and through the power to arrest and try Church officials.

The strongly held divine right doctrine, by which Ethiopian monarchs and a bevy of hereditary nobles are set apart from the rest of the population, is protected and constantly strengthened through the Church. The Church has

always considered itself the repository of divine revelation. Its responsibility, as shepherd of the Ethiopian people, is to protect this revelation from being contaminated and to protect its sheep from impure doctrine. This idea is transmitted to the people through the Church's daily program over the radio.

The Church exerts its influence upon broadcasting to the Ethiopian people (35 per cent of the population is Moslem and less than 40 per cent is Christian)[9] by seeing to it that there is no music or entertainment during the two months of declared fasting period before Easter. During this time, news, commentary and some religious narratives on the life of Christ, the Saints, Mary and others are said during most of the program time. These are narrated in language and radio presentation that is hardly understood or appreciably enjoyed by the lay people, except perhaps by the priesthood proper. The birth and death of Mary, her claimed "accension," and other religious occasions are observed, during which observances (through the extended fasting period) there is strictly no music or entertainment in the everyday style on the radio. The Church uses "free prime times" and displays the poorest approach to rhetoric or techniques in good radio programming.

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[9]J. Spencer Trimingham, The Influence of Islam Upon Africa (New York: Frederick A. Praeger Publishers, 1968), pp. 26-30.

Where its authority reaches the Church permits debate, but never on the basic assumptions, and not outside the qualified members of its own order. It uses broadcasting to enforce its dictates by directly speaking to the people and commanding such authority and cooperation from the state for such expressions.

The Church, which in other ways is also a highly and hierarchically organized institution, does not have an openly known department of public relations. However, it never fails to get across its wishes and admonitions to the people. This it does by the most unusual privileges it enjoys, perhaps as the only institution in the world which can use a "political government's" facility free of charge and censorship.

The Ethiopian Church has played a key role not only in the "preserving" of culture and nationhood, but also as the pioneer institution for the establishment of schools in the early period of its history. This aspect will be discussed in the section dealing with the development of education in Ethiopia.

Commercially

Broadcasting in Ethiopia serves the public not only as a communication link between the government and the governed, but also has a third function, namely that of communicating what the commercial world has to offer. In this respect the advertiser does not have to merely buy a segment of time; he also "buys" a program.

Others use "spot" advertisement for promoting their products between programs and in some cases within programs.

Broadcasting in Ethiopia

Development

During the early years of Emperor Haile Selassie's reign,[10] the beginnings of a radio communication training school took root in Ethiopia. In the school's infancy, the Italian invasion of Ethiopia brought this and other aspects of its development to a halt. In September of 1935 (the beginning days of the war) the first trial of the radio communication system was made and a week later proper music, military band music, and news were disseminated successfully.[11]

In 1941 (after the liberation) the Department of Press and Information took up what was left by the Italians and developed broadcasting on a small scale made up of patriotic songs, news, and government information. Later on, this developed into what was called Radio Addis Ababa.

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[10]The early part of the Emperor's reign dates back to April 3, 1930. The year 1935 marks the Italian invasion of Ethiopia. Information on the history of the development of broadcasting in Ethiopia is obtained by translation from the booklet, "Yezena Maseracha Zede Beityopia," Mass Media in Ethiopia, published by the Ministry of Information, Addis Ababa, 1967.

[11]Imperial Ethiopian Government, Ministry of Information, Mass Media in Ethiopia (Addis Ababa: Commercial Printing Press, 1967).

Although the Press and Information took over what the Italians left, it was not usable equipment. One account states,

> . . . the equipment seemed to have suffered from the "scorched earth" policy of the routed enemy. It was completely put out of order and could not be used during His Majesty's return in 1941.[12]

The equipment was later reconditioned to carry on some kind of radio programming and has been sustained since. Programming during the early days was limited to the surrounding areas of Addis Ababa. What in 1941 started out as crude programming for a very limited number of hours during the day, soon developed into fully developed, regularly scheduled programs.

In 1941 the initial facility at the disposal of Radio Addis Ababa was a 7 KW shortwave transmitter. At this time, the program staff numbered five full-time employees.

In 1950 the Ethiopian government entered into an agreement with the International Bank for Construction and Development for a loan to develop and improve telecommunication. In 1953 the Imperial Board of Telecommunication of Ethiopia was established. This agency (governed by selected and appointed board members) is charged, to rehabilitate, extend, repair and maintain telecommunications facilities of Ethiopia (other than military).

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[12]Talbot, Silver Jubilee, p. 322.

Later Developments

By 1960, the installation of two 10 KW shortwave transmitters was made possible and, as curious as it may sound, it is said that transmissions were beamed outside of Ethiopia. This included programs in English, French, Arabic, and Swahilli. This, however, was suspended soon afterwards and efforts were concentrated on domestic programming.

Administration

During its earlier development, overall administrative responsibility of the Department of Press and Information (which included the press and radio) and the management of the printing press were in direct control of the Emperor. The printing press has a much earlier historical record than the development of press and information in Ethiopia. The administration of press and information before the Italian occupation and soon after were governed together. The Department of Information and Press, together with broadcasting, were constituted to form what today is known as the Ministry of Information.

Later developments show that the printing press (Berhanena Selam), which by international standards is considered to be the most up-to-date (including the printing of security materials), is officially known as "Berhanena Selam Printing Press of His Imperial Majesty."

After the year 1964, more transmitters were installed. A 100 KW shortwave transmitter was installed during this time. This brought the total technical facilities to: two 10 KW and three 100 KW, shortwave transmitters; two 100 KW and a 50 KW, medium wave transmitters. These are located in various places in Ethiopia (Addis Ababa, Asmara, and Harrar). Not all of these transmitters have been put to use since their completion in 1966-67.

Recent Developments

In 1963 an offer by the West German government to develop a training program for radio program producers was implemented. The training program, which lasts about a year, gives courses in the rudiments of radio journalism and program production.

Today the old name, Radio Addis Ababa, has been replaced by Radio Ethiopia, and as it is within the jurisdiction of the Ministry of Information, which also is directly in charge of the television service, the two agencies of the government within the Ministry of Information are known as "The Ethiopian Broadcasting Service."

The purpose of the broadcasting service is, of course, to "establish, maintain and operate radio and television broadcasting facilities within the empire in the interest of providing educational, informational, and

entertainment programming of such nature as will best serve the public interest."[13]

Programming and Airing Responsibilities

While the Ethiopian Broadcasting Service is responsible for the production of its programs, the technical responsibility to actually put the programs on the air is completely outside of its jurisdiction. The technical responsibility belongs to the Imperial Board of Telecommunication mentioned earlier. This autonomous government agency is responsible for the technical operation of the broadcasting system. This peculiar feature may be a cumbersome arrangement in terms of overall efficiency and coordination of work; nevertheless, the system serves, if nothing else, as a highly desired political check point. Future considerations, however, stipulate that such broadcasting facilities will be managed under the auspices of the Ministry of Information. It shall, nevertheless, be maintained by the Imperial Board of Telecommunication.

Programs

Presently, Radio Ethiopia broadcasts in six languages. They are: Amharic (the government's official language), English, Somali, Arabic, French, and Afar. The total broadcasting time is twelve and one-half hours a

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[13] Negarit Gazeta, "Public Proclamation," Addis Ababa, September, 1969.

day.[14] It operates on 872, 854, 944, 6185 KC or 48 M. Table 2 indicates a distribution of language programs per week. It is interesting to note that while almost 60 per cent of the total broadcasting time in a week consists of music, 23 per cent is devoted to news and features. While 2.6 per cent is given to religious broadcasting, agriculture's share is a mere 1 per cent of the total programming per week. The time allotted for health, women and children, is still lower on the scale.

A breakdown of the Amharic programs is shown in Table 3. Over 66 per cent of the Amharic programs are devoted to music, news, and special features. Information is 14.4 per cent and includes communiques from the various government agencies. Thus over 80 per cent of the programming has little educational value.

Television

Although a fairly new venture of the Ethiopian Broadcasting System, television service in Ethiopia should be mentioned at this time. This newest communication medium is in its fourth year of operation. The whole development of television in Ethiopia seems to be something of an "overnight" happening. Two expatriates and four Ethiopians (all Ethiopian-trained locally for about two weeks) constituted the initial television broadcasters.

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[14]The Ethiopian Broadcasting Service, Radio and TV Program Schedules, effective March, 1968.

TABLE 2.--Present distributions of program time for each language in the course of one week. [All figures are compiled from Radio Ethiopia's program schedules effective March, 1968.]

	Amh.*	Som.	Eng.	Arb.	Fren.	Afar	Total	% of Total
	min/wk	min/wk	min/wk	min/wk	min/wk	min/wk	min/wk	Broadcast
Music	1,151	627	740	255	161	140	3,094	58.6%
News & Features	506	268	145	165	49	70	1,203	22.8
Health		10					10	0.2
Agriculture	30	30					30	1.1
Religion	105			30			135	2.6
Propaganda		60					60	1.1
Editorials	60						60	1.1
Sports	55		15				70	1.3
Education	110						110	2.1
Information**	358						358	6.8
Women's Progs.	60						60	1.1
Children's Progs.	15						15	0.3
Panel	45						45	0.9
Total min/wk	2,495	1,015	900	450	210	210	5,280	
Percentage of Total Broadcasting	47.3%	19.2%	17.0%	8.5%	4%	4%		100.0%

*Amh. = Amharic; Som. = Somali; Eng. = English; Ara. = Arabic; Fren. = French; Afar = Afar.

**Information includes those programs developed and produced by public relations offices of the various ministries.

Note: Any of these program slots are subject to change or replacement by special programs as desired.

TABLE 3.--A breakdown of the Amharic programs on Radio Ethiopia. [Figures compiled from Radio Ethiopia's schedules of programs, effective 1968.]

	Min/Week	Hrs/Week	Percentage of Total Amh. Broadcasts
Music	1,151	19:11	46.1%
News & Features	506	8:26	20.3%
Agriculture	30	0.30	1.2%
Religion	105	1:45	4.2%
Editorials	60	1:00	2.4%
Sports	55	0:55	2.2%
Education	110	1:50	4.4%
Information*	358	5:58	14.4%
Women's Progs.	60	1:00	2.4%
Children's Progs.	15	0:15	0.6%
Panel	45	0.45	1.8%
Total	2,495	41:35	100.0%

*"Information" includes feature programs developed and produced by public relation offices of the various ministries under the direct guidance and responsibility of the minister in office.

The staff has now grown to about fifty employees altogether.

The objectives, purpose, and function of television service are the same as those of radio. Television is under the administrative jurisdiction of the Ministry of Information and at times uses personnel from the radio staff. The television service covers an area of about thirty square miles. A very interesting beginning which television has undertaken is a cooperative production of school television. Formal education programs have been broadcast to schools in Addis Ababa and the surrounding area for two years. The Ministry of Education, which has its own production studio, is expected to expand this undertaking.

A breakdown of the Ethiopian television service (Table 4) shows it too is consistent with the philosophy of broadcasting in the political system of Ethiopia.

As indicated, 60 per cent of the programming is imported while 40 per cent is produced locally, involving mostly a one-man live appearance and from time to time, group presentations. It is too early to make general remarks concerning the amount of imported programs. "The Flintstones," "Bonanza," "The Fugitive," "The Saint," "Maxwell Smart," and "The Lucille Ball Show" are among the favorite programs broadcast. This could be due to the infancy of the service. It could, however, be a very tempting policy to follow in the future since the cost of

TABLE 4.--Breakdown of television programming. [Figures obtained from the Ethiopian Television Service's program schedules, effective March, 1968.]

	English	Amharic	Total	Percentage of Total
	Min/week	Min/week	Min/week	TV Service
Educational	470*	180	650	36.6%
News	105	105	210	11.8%
Features	65	85	150	8.5%
Editorials		20	20	1.2%
Children's Progs.	45*	15	60	3.4%
Youth	15	15	30	1.7%
Sports	120*	10	130	7.3%
Films	420*		420	23.7%
Variety or Special		70	70	3.8%
Health		20	20	1.2%
London Line	15*		15	0.8%
Total Min/week	1,255	520	1,775	
Percentage of Total TV Service	70.7%	29.3%		100.0%

*Imported programs = 1,070 min/week which is approximately 60 per cent of the total TV service.

running such "canned" programs would be much less than developing one's own, more relevant programming. It is true that Addis Ababa has a highly cosmopolitan population (about half a million); however, in a system where the national government is to uphold the interests of the Ethiopian people, the justification for 60 per cent of its television service being imported seems unreasonable. Furthermore, 70 per cent English programming as opposed to 30 per cent Amharic in an area where the greater portion of the population understands only Amharic is outrageous. Perhaps Ethiopia, too, is caught up with the idea of maintaining "the status quo," a basic problem of the developing countries characterized by a vast educational gap within each country. The leaders of these "young" nations already live in an urban technological society, based on the customs of Europe and America, and thus are out of touch with the rural masses in their own country, whose culture has remained virtually unchanged for centuries. This new culture which the town dwelling leaders adopt and which to an extent has its own kind of national unity, does not have a counterpart among the rural masses, where older and essentially disparate cultures persist. Ethnic groups living in rural areas often have little understanding of the town dwelling leaders of the "ruling group," or of each other. In periods of anti-colonial struggle, many Africans have united under a single purpose: that of a common opposition to colonial power. This was the case

with Ethiopia during the Italian occupation. But this does not, in fact, increase their understanding of each other, and as the days of anti-colonial struggle fade into the past, any unity which it achieved becomes more unreal.

In many of these countries it appears that television has seldom been employed to solve the major tasks faced by society. Such a purpose has not been the dominant motive for its introduction in these countries. Frequently, the driving force seems to be a mixture of national prestige, commercial venture, thirst for escape and entertainment, and the all pervading "spirit of the time" which is hard to resist in any corner of the world.

A country of meager economic and manpower resources which considers the introduction of television, must first weigh these inevitable and profound problems related to its use.

Independent Stations

Radio Voice of the Gospel (RVOG) is an independent broadcasting station beaming programs from Ethiopia to its target areas in Africa, Asia, and the Middle East. The station serves an area in which approximately one billion people live in at least thirty countries.

RVOG (call letters ETLF)[15] iw owned and operated by the Lutheran World Federation and is affiliated in

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[15]Radio Voice of the Gospel, Facts and Figures (Addis Ababa: Radio Voice of the Gospel, August 6, 1969). (Mimeographed.)

broadcasting with the World Association for Christian Communication which represents the All Africa Conference of Churches, the East Asia Christian Conference and the Near East Council of Churches.

Contributions towards its operation come from Christian Churches around the world.

The franchise to build and operate a Christian radio station in Addis Ababa, Ethiopia, was granted by the Imperial Ethiopian Government on November 27, 1959. The contract was signed on February 15, 1961, and the station opened officially on February 26, 1963.

Two simultaneous shortwave services are operated on two 100 KW transmitters.

A one KW medium wave transmitter is operated by the station under the auspices of the Ethiopian Evangelical Church. This special service for listeners in and around Ethiopia's capital city (over half a million population) transmits programs in Amharic, English, and French. It carries a seven-hour daily schedule.

Programs in the following languages are beamed from RVOG: Amharic, Arabic, English, French, Fulani, Hausa, Hindi, Malagasy, Mandarin, Persian, Sinhalese, Swahili, Tamil, and Telugu.

Although limited programming is actually produced at the station, RVOG is primarily a broadcasting house "trafficing," as it were, programs produced by fourteen area studios which in turn are sponsored by the churches

and missions of Christian councils in countries of Africa, Asia, and the Middle East. These produce the major portion of all shortwave programming, send the programs on tape to the station where they are then processed and transmitted back to the producing areas. The production studios are located in Ceylon, India, Iran, Lebanon, Jerusalem, Ethiopia, Tanzania, Madagascar, Cameroun, Nigeria, and Hong Kong.

In an address at the fifteenth anniversary celebration of the Japan Lutheran Hour on November 11, 1966, Dr. Sigurd Aske, Executive Director of the Lutheran World Federation Mass Media Program, summarized in a sentence the general purpose and the approach of a broadcasting service such as RVOG. "The task of the Christian broadcaster is to find the listener where he is--seeking entertainment, and give him what he needs; the gospel."[16]

Programs are produced by each studio under the auspices of its respective Protestant church, following a basic guideline concerning its content. Thirty per cent of RVOG programming is evangelistic. The majority of the schedule, 70 per cent, is educational, cultural, and informational.

The 30 and 70 per cent formula may seem ideal for an organization such as RVOG since it does not circumscribe

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[16]Sigurd Aske, "The Lutheran Church's Use of the Mass Media from Now On," Mass Media Report, (March, 1968), 18.

one into a hard line of rules in program production. Experience has shown, however, that maintaining the staff of personnel needed to develop and produce such programs has been most difficult. Guidance, leadership, and the qualification to administer the desired programming with maximum efficiency, are usually overtaken by the human element and "purpose" is lost sight of. Interpretation as to what is "Christian" in any given program also sometimes becomes a cumbersome dialogue with directors, program producers, and church leaders.

However, RVOG, as a broadcasting service, has a clearly defined and stated policy in its charter. The charter contains general definitions of the scope and area of coverage in its operation. The board which governs the function of the station, and in the same manner the sponsoring agencies of the local production centers, assign, through their executives, tasks of planning and producing the programs subject to periodic review. The specific programming which results depends upon the limitations of the charter, to a certain extent, public opinion, and the ways in which both of these are interpreted by the directors.

RVOG presently transmits twenty-six hours daily--nineteen hours on shortwave and seven on medium wave.

World newscasts are broadcast twenty-two times daily in Amharic, English, French, Hausa, Hindi, and Swahili. The station has a news policy of clear

objectivity, reliability, balance, completeness and up-to-dateness. In the opinion of the author, in this and other aspects, RVOG stands on the same ground, if not above at times, as the so-called "leaders" in the broadcasting business.

Content of Broadcasts Over RVOG

RVOG's contract with the Ethiopian government outlines its program content and serves as its basis for self-regulation.

Article IX of the contract indicates:

A. No program originating from the Federation's Radio Broadcasting Service shall.
   1. Involve the station in political questions.
   2. Constitute an attack upon any organized church.
   3. Constitute an attack upon any organized church, mission or body.
   4. Attack or deny the evangelical Christian faith.
   5. Contradict generally accepted codes of Christian morality.
   6. Involve in commercial advertising.

B. Within the limits prescribed herein, the Federation shall determine the type and content of all programs originating from the Federation's station.[17]

With those "limitations" in mind, RVOG aims constantly towards realizing basic rules and principles in the communication of ideas by radio. It aims at presenting messages in as understandable a manner as possible within the context of cultural and religious situations in which the audience lives. This is done by revising its broadcasting style from time to time towards the development of

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[17]Radio Voice of the Gospel, Facts and Figures.

longer and more slowly paced program blocks. Its program blocks lend themselves to detailed treatment of subjects with a longer and more informative continuity. "Meaning" and "substance" by discretion in the use of flashbacks and sound effects are parts of the guideline in production.

The balancing of programs in the ratio of 30 per cent evangelistic and 70 per cent informational is maintained in the framework of its total programming and is not a rigid "rule of conduct" by which each program segment is developed. Information, news, interviews (on current affairs), questions and answers on issues that may be religious or secular, educational features (both religious and secular aspects), stories, drama, entertainment, secular music, meditations, Bible readings, sermons, worship services, are a few elements which make up the total program.

RVOG enjoys the "freedom" of singleness of purpose in its operation, and a direct application of its programs as a much needed source of information which does not have to "pass through" many "gate keepers" before it is put on the air. In its program production a simple procedure is employed: the producer of a given program receives guidelines for the production from the program director and is left on his own to complete the program as appropriately as possible. Once the program director of the producing studio approves the program, it is sent to the broadcasting house for broadcast.

In the case of newscast preparation, the editor on duty compiles the day's news events right from the teleprinters (Reuter), AFP, BBC (monitored occasionally), puts them in the order of "their news value," submits the prepared newscast to the director on duty, and in a matter of a few minutes it is on the air.

Concluding Remark

It is obvious that the Department of Information, which is also the "Public Relations" of the government, is not on the priority list of the third five-year plan. Perhaps the concept of "sound" administration in the case of the Ethiopian government is not considered to need publicity. Maybe the rather low priority for information may have resulted from the greater attention given to projects which appeared to have a more direct effect on the lives of the people, such as economic development schemes or the improvement of health and education services, or it may also be due to a shortage of persons qualified to practice the mystique of information or public relations.

The development of the information media and their effective use is a prerequisite to the full employment of freedom as a basic human right. This right cannot be effectively enjoyed where the media of information are inadequate and their programs handicapped. "Freedom of

information is one of the basic freedoms and it is essential to the furtherance and protection of all other freedoms."[18]

Today, more than in any other time in their history, the people of Ethiopia need to be fully informed, integrated, encouraged, and inspired to new efforts. Mass media should provide the link between all segments of the people and the authorities. Indeed, it can be said to be an indispensable part of the system of modern government and an essential public service in any community.

The newspaper, for instance, can serve a multiplicity of purposes. It is a source of news--international, national, and local. It is a vehicle for disseminating information which will help raise living standards. It can campaign for just causes. It can be made to provide a highly needed incentive and can also be an instrument for further education. It can guide and harness social forces.

Mass media can be used to educate and inform and thereby create understanding of community objectives and a civic consciousness which are the basis of democracy and social progress. In brief, the mass media are an instrument of social, political, and moral emancipation.

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[18]James M. Coltrat, "The Influence of Television and Newspaper in Africa," Africa Today, March 7, 1968, pp. 71-74.

It is self-evident that raising educational standards in developing countries, and Ethiopia is no exception, calls for the dissemination of knowledge of farming and industrial techniques, health and community development, among other things. But when one is attempting to accomplish in a matter of years a task which it has taken centuries to complete in the more developed countries, the traditional means of education alone prove inadequate. It is here that the mass media, unsurpassed in speed, range, and force of impact, offer the greatest possibilities for effective action.

The mass media can markedly stimulate the capacity to create further wealth by enlisting the "human" or "non-physical" factors, such as improved skills and better education.

The mass media in Ethiopia can grow with and contribute to the general economic development of the nation and of the welfare of the people. Thus, for the country's economic planners it becomes necessary to consider what part of the national resources might be best devoted to the development of the media so as to contribute most effectively to the general expansion of the country's economy.

The mass media in Ethiopia do not suffer from the lack of technical facilities for the dissemination of information. Progress in this respect has been remarkable.

It now remains to be seen if such improvements lead towards the making of a fully informed and integrated nation.

The mass media in Ethiopia should be made to disseminate information. This is not only in response to a basic human right, but as an initial step in creating an informed public. An informed public in turn is the beginning of a democratic society. Information is not just news; it is the interpretation of news, guidance on trends and events, even debates. The mass media should be used to interpret this concept of information in a wide sense.

Planning for the development of the information media must, of course, form part of the overall government program for economic and social expansion, taking into account the multiplicity of other national needs. Perhaps the results that could be had from the development of mass media are more indirect than direct, but this should not be a reason to deny mass media the place they should logically occupy. They should be treated as an essential element in pre-investment, and thus form an integral part of any general program for economic and social progress.

Much should have been accomplished through the use of these powerful media. The tremendous opportunity for broadcasting to play its part in the advancement and development of the people of this old, yet young country of Ethiopia is still there. With determination, the challenge this opportunity presents can be met, for information

is not a luxury exclusive to the developed world, but a necessity of development itself.

CHAPTER VI

THE ROLE OF TELEVISION IN EDUCATION, CULTURE, AND DEVELOPMENT

Introduction

Television is an original method of investigating reality, an amazing instrument for optical exploration. It can teach the student to observe, compare, and judge for himself. Despite its dimensions, television brings the student immediately closer to reality. It enables the student to, as it were, participate in the decisive moments of scientific experiments in a broadcast on scientific research. It brings new insights to documents analyzed in close-up by the camera, making them acquire a clearness and vigor which they do not always have in real life (e.g., such series programs as "The World We Live In"). Television in education introduces light and shade into ranges of colors and allows for the most minute graphics (as in programs of introduction to works of art).

"Television has the ability to surmount the gulfs of time and space and it can blend different forms of

expression as does no other medium."[1] The strange wonders of animal and vegetable life can be brought to use in the framework of school broadcasts.

Gradually, school television can be made to help in rediscovering the ancient educational virtues of the narrative. Programs in geographical and civic themes which reveal to the pupil the different (and comforting) aspects of the changing scene of his native country, followed by serials relating to the daily life of a citizen dating back into history and continuing to the present, can be developed.

In countries such as Ethiopia, the abundant historical riches of the past can be revitalized and seen as "lived today." The pupil can be made to see the rulers of the past and their subjects. They can see who decided critical aspects of their history. They can be made to see who used his power effectively and who misused it. The student can participate and become enthusiastic, relive history and think about it intensely. Thus, the purpose of "teaching" is accomplished.

In a word, the variety of television's scope induces it to create a new language combining human warmth and strange horizons, the search for a rhythm in keeping with inner continuance in time and the shock of beauty

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[1]Henry R. Cassirer, "Observable Trends in ITV," Seminar Report--Instructional TV (Lafayette, Ind.: Purdue University, 1961), p. 109.

transfixed at point-blank range, an original expression molded in the familiar and the miraculous. Of course, all this does not accomplish miracles by itself. In the case of the so-called "developing country," it is the "teacher" in the last analysis who must draw from this new, wide-range of resources the material best suited to the conduct of a class.

Educational Television's Potential

As is universally known, television has been epoch-making in the modern history of education, as regards both methods and materials. Broadly speaking, it gives the civilized nations the hope of solving the difficult educational problems caused by the greatly accelerated increase of knowledge of these past decades on the one hand, and the qualitative and quantitative shortage of teachers on the other.

For the developing nations television may be regarded as one of the most effective means of reaching in a few years the educational and cultural level which the advanced nations needed about a century to achieve.

The most valuable role of education in a nation thus becomes a drive for "universal literacy." Nothing, it is held, more clearly separates the old and vanishing separate cultures from the new "unified" technological culture than the ability to read and write. Once this has been achieved, then greater "social mobility," the

influence of common newspapers, advertisements, the development of "empathy," knowledge of other people gained through reading books, will quickly produce the degree of mutual understanding which is sought.

But Why Television?[2]

Today television is firmly established in practically all countries of Latin America. In Africa television broadcasting exists (although in many of these countries it serves the purpose of maintaining the status quo and of providing prestige), in the United Arab Republic, Algeria, and Morocco, in Nigeria, Rhodesia, Kenya, Ethiopia, in the Congo, Ghana, Ivory Coast, Sierra Leon, the Sudan, Uganda and Tanzania, while at least a dozen smaller countries are seriously contemplating its introduction. The same is true with the Asiatic countries. Television is flourishing in the urban centers of Hong Kong, the Philippines and Thailand as well as in India, Indonesia, Malaya, Pakistan, and Singapore.

All these societies are dominated by the need to promote social and economic development, to save and invest capital productively, to increase the standard of living of the people, to enhance universal and advanced education, and to combat the scourge of mass illiteracy.

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[2]Kinane K. Tokio, Educational Television in the Developing Countries (Tokyo, Japan: Nippon Hoso Kyoksi, 1965), Ch. 4-6; European Broadcasting Union (Issues 1965-1967).

Is television, above all, a means to escape reality, to have easy access to entertainment and relaxation, or is its primary function to convey information and education? In the countries where television began its march around the world, it gained its impetus from the inventions of scientists, and found expression and character mainly in "popular entertainment."[3] Then followed "information" as a second important function,[4] while education or even the wider concept of enlightenment is only a poor, though growing third. This is how it did develop. Now to meet the very serious "socio-economic" problems of a developing society, the question is, how should it develop? Reverse the order! The "developed" society had the technology shaped into tools by the engineer and society mastered it. In a developing society, however, television should develop in terms of its role. Its principal role, therefore, should be to give expression to the needs, to the character and the aspirations of a society in which it is functioning.

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[3]Peterson, Jensen, and Rivers, Mass Media and Modern Society (New York: Holt, Rinehart, & Winston, Inc., 1966), pp. 49-52, 57, 162-63.

[4]Gene F. Seehafer and Jack W. Laemmar, Successful Television and Radio Advertising (New York: McGraw-Hill Book Co., Inc., 1969), pp. 9-13.

The Immense Opportunities of Television

Products of a pre-literate society, cultural forms call for an audio-visual rather than a printed mode of communication. Illogical as television appears at first sight for developing society from an economic or technological point of view, the insistent search for it may, in fact, respond to a deep-seated and fully justified desire to adopt a traditional culture to the modern age. Not only does television appeal to the illiterate more powerfully than any other medium of communication, including radio, it can also effectively serve to teach literacy itself. Provided it is coupled with the production of teaching and reading materials which cater to the interests and vocabulary of the new literate, television can serve this purpose effectively.

For the "developing" society, television can adopt itself to this task not only because it is a "complete" audio-visual medium, but because it is particularly suited to group reception,[5] such groups, a new force in the community, will be not just a class of pupils, but an assembly of adults who deepen their viewing experience through follow-up discussion, practice and action. "The teleclub," a relatively unusual feature of an affluent society,

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[5]Wilbur Schramm, Mass Media and National Development (Stanford, Calif.: Stanford University Press, 1967).

can become the basis of mass reception in the poorer countries.[6] It is more than the spontaneous gathering of a group of eager viewers around a television receiver. It requires consientious organization, leadership, and guidance to be effective as a tool for education and social development. The manner of utilization and the nature of its program determine the role of television in the promotion of education and culture.

Educational television also means instruction of adults. In literacy teaching (or literacy campaign, as it is more commonly known in Africa) it may find one of its must fruitful fields of application. Directed by matched group discussions and individual practice on the receiving end, instruction can be given in fields such as vocational training, agricultural production, and in the many related areas in community development. All these and many more can all be transposed vividly to the television screen and stir the viewer's mind and encourage him to act.

Educational television for the developing country can cover the entire gamut from direct instruction to cultural expression and communication. What counts and should be seriously considered at the outset is the essential point of view from which it is produced, the principle that all its output should serve educational and constructive purposes.

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[6] Social Education Through Television, Reports and Papers on Mass Communication (Paris: UNESCO, 1963).

It is only too true that if a developing nation is to meet the economic, political, and moral challenge with which it is faced, it must accomplish this through the development of its human resources. This means educational opportunities must be provided to enable every human being to develop his capacity to the highest capability. This work may well be mankind's most urgent task, and certainly the task that faces African statesmen today.

It is self-evident that the raising of educational standards in developing countries calls for the dissemination of knowledge of farming and industrial techniques, health and community development, among other things. But when one is attempting to accomplish in a matter of years a task which it has taken centuries to complete in advanced countries, the traditional means of education alone prove inadequate. It is here that television and the rest of mass media, unsurpassed in speed, range of force and impact, offer the greatest possibilities of effective action.

The immense opportunities offered by television in developing societies are hampered by problems which are closely related to television's still outstanding cultural and psychological implications. One can ask how television can play its role in a developing country faced with numerous obstacles in the area of technology, the high cost of receivers and programs, and the lack of a trained staff. None of these obstacles are insuperable as such, though they require allocation of considerable

funds and qualified personnel, and training of staff, and an intensive search for new equipment, new forms of organization and new types of programs suited to the needs television is called upon to meet. Nevertheless, these should not and cannot be justifiable reasons for folding one's hands and waiting for miracles to happen.

It is possible to find funds, to liberate skilled personnel, to train new cadres, and to organize the constructive use of television for the purposes described herein. This can be done if its importance is fully appreciated and recognized. If television is seen as a source of luxury, as a source of international recognition, as a maintenance of the status quo, if its role in education is something supplementary and incidental, if governments believe that commercial television will bring them "something for nothing," its cost in the developing nation will always be prohibitive. But if it can make a major contribution to social, economic, and educational development, there is no doubt but that it may turn out to be the most effective and the fastest means to obtain rapid advances.

The urgent desire of the so-called "developing nations" is to pass rapidly over the intermediary stages into the second half of the twentieth century. In doing so, they reach out for every resource available to modern man, and not least, for television, indeed for educational television.

No developing country can afford wasteful use of its information media (above all of television).

The following points are ingredients necessary for a successful and real change:

1. A plan that recognizes the problems and charts a course with the proper balance of firmness and flexibility. Insight and wisdom coupled with drive and tenacity necessary to hold people to the task.
2. Administrative support, vision and ability to endure, and willingness to stand firm in difficulties.
3. A pool of competent people dedicated to the task--people possessing tolerance and acceptance of human differences plus emotional stability to survive in a new and limited environment, constantly planning, producing, using, and evaluating. (See Figure 2, page 98.)

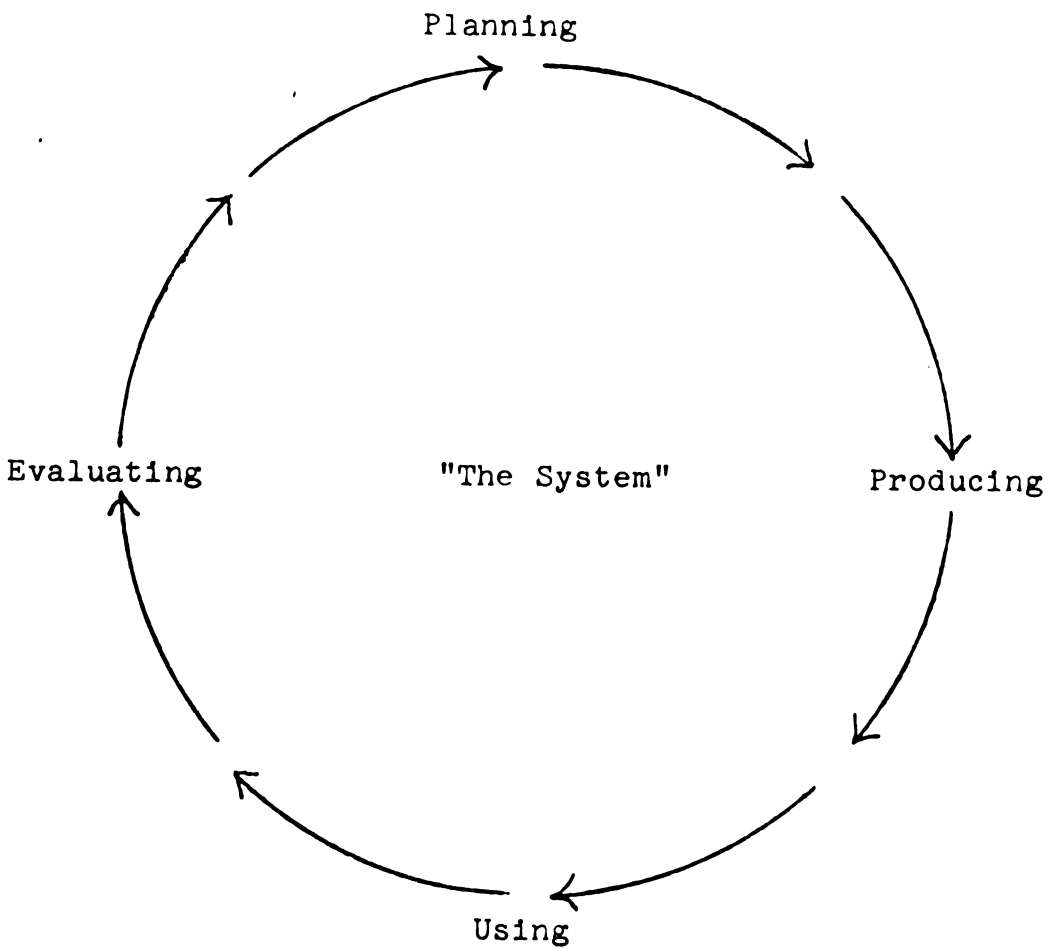

Figure 2.--Ingredients for an Effective Working Plan in the Use of Television.

CHAPTER VII

POTENTIALS OF AN AIRBORNE SYSTEM

The airborne television system is an aero-electronics device which is used to broadcast television programs by the use of an aircraft equipped with television transmitters, in the case of MPATI. In Vietnam the Navy used constellation VHF. Beneath the aircraft's belly protrudes a 24-foot gyroscopically stabilized antenna. Inside the plane, engineers operate the ultra-high-frequency television transmitters fed from two video-tape recorders. Instructional materials were prerecorded. Receiving schools were equipped with UHF receiving antennas and sometimes with distribution systems to permit the signal to be received in several classrooms in a building.

A second question of the MPATI airborne system proposed a micro-wave relay system and tracking means that would permit programs to originate "live" on the ground, and to be beamed to the aircraft, for rebroadcast.

At 23,000 feet altitude, the coverage of a television signal extends to a theoretical circle of 400 miles diameter.

Advantages of the Airborne System

As stated earlier, the airborne system provides a high quality education with quicker time and with less cost than any other means available. On comparison, ground-based ETV would cost about three times as much to establish and maintain as would the airborne system, considering coverage and quality level.[1]

Moreover, the principle of the airborne system is simpler. By elevating the transmitting antenna some miles above the earth, its geographic coverage is greatly expanded to reach a greater number of students. (This is beyond the telecasting limits of ground-based stations.)

The airborne system originated in the United States in 1945, and from 1961 to 1967 was used for educational purposes covering a six state area in the Middlewest under the auspices of the Midwest Program on Airborne Television Instruction (MPATI) with headquarters at Purdue University. Throughout its operation the project brought to some 2,000 schools with over 1,000,000 students in this six state area, diversified instructional television, with a remarkable operations reliability record of more than 98 per cent.[2]

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[1]Westinghouse Electric International Co., J.-2068, Baltimore, Maryland, November, 1966, Ch. 1.

[2]John Ivey, Jr., "Educational Marriage of Airborne and Television," February 1, 1965. (Mimeographed.)

It is estimated that it would require about nineteen ground-based transmitters to cover the same geographical area. The airborne station at 23,000 feet essentially covers a 400-mile diameter circle.

Another advantage of the airborne system is the speed with which it can be instituted. In the case of Ethiopia, perhaps the quickest and least costly means of implementing an airborne television transmitting system is to duplicate the two-channel DC-6 systems used by Midwest Program on Airborne Television Instruction (MPATI). Engineering development is complete and engineering drawings for fabricating these systems are available. A description of these systems and their equipment has been published.[3] Figure 3 shows the interior of the MPATI DC-6 viewed from the aft end of its cabin. The two airborne video tape recorders and the master control console can be seen. Figure 4 shows the MPATI DC-6 in flight and its stabilized antenna boom in the broadcasting position.

The airborne system has the inherent advantage of reaching more people for less per capita cost because of the high altitude (23,000 feet) from which its signals originate. To obtain a comparable 125,000 square mile coverage with ground-based stations would take the construction of nineteen transmitter sites.

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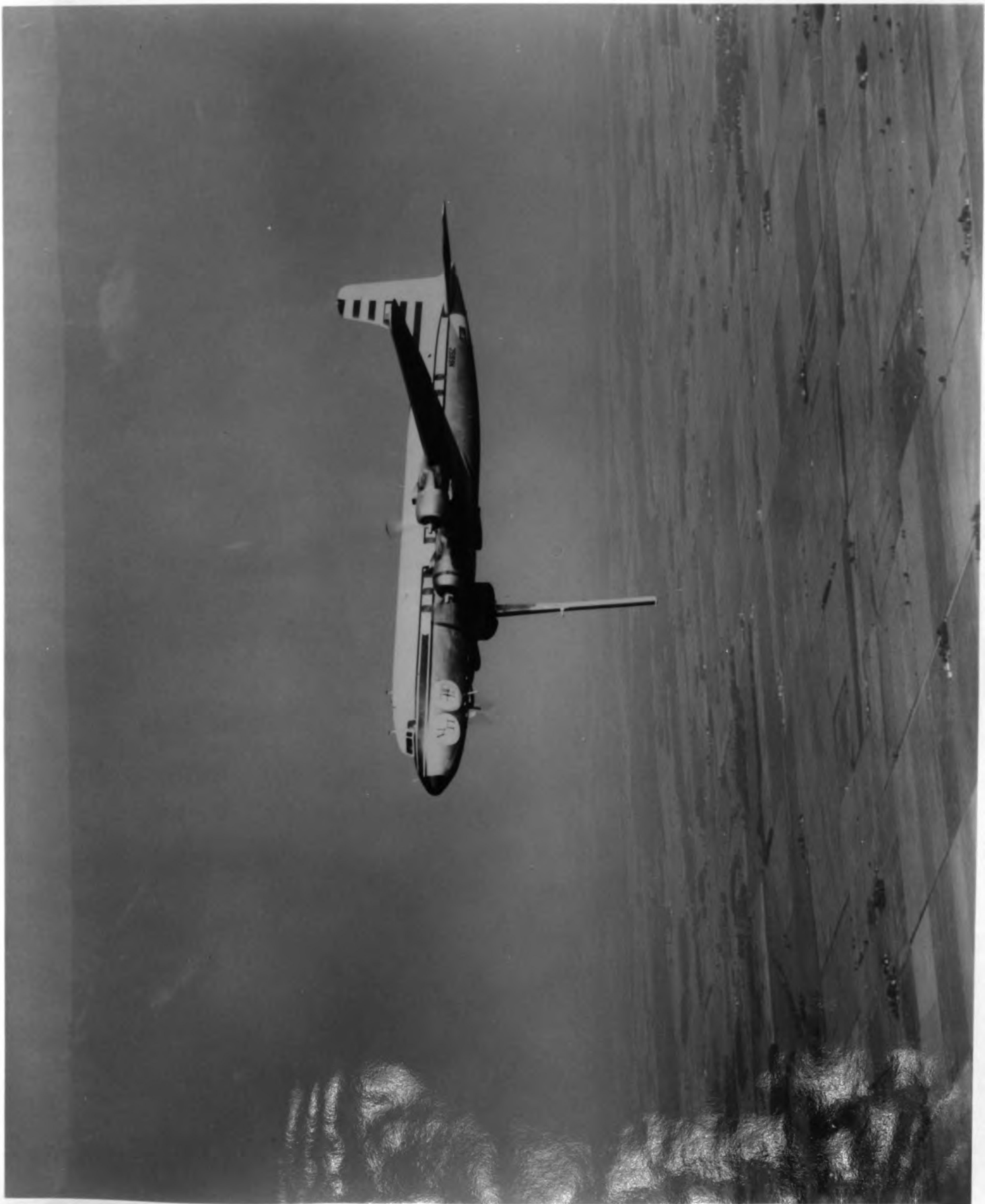
[3]"An Airborne UHF Transmitter for Educational TV," IRE Transactions on Broadcast and Television Receivers, Vol. BTR 7, No. 3 (November, 1961).

Figure 3.--Interior of MPATI DC-6 TV-Broadcasting Station. [Picture courtesy of MPATI.]

Figure 4.--Midwest Program on Airborne Television Instruction
DC-6 Television Broadcasting Station in Flight.
[Picture courtesy of MPATI.]



In an age of great technological advances, the airborne system lends itself to quick service, to the emergence of a satellite communication system, and to transfer, as desired, to more sophisticated systems.

Other Distribution Systems

Television distribution is more an engineering undertaking than an educational enterprise. This aspect takes into account two parts, transmission and reception. Television programs can be transmitted by what are known as closed circuit systems, by ground television stations, and by airborne television stations. It is also hoped, when it comes to its fullest operational development, to include synchoronous satellite.

1. Closed Circuit

This is a system which usually transmits visual and aural signals on radio frequency carriers over coaxial cables connecting to standard receivers of the users. Many such systems exist in the United States. Their applications are usually local, particularly in colleges. In some cases, these systems are installed and maintained by the telephone company and leased by the user, who furnishes the television receivers, the visual and aural signals for the program.

2. Ground Distribution

Ground stations require higher transmission power with operating ranges of 30 to 65 statute miles (48 to 100 Km). They broadcast television signals through the air to receiving antennas which are connected to standard receivers.

3. Satellite Distribution

Satellite systems such as TELSTAR, RELAY, and EARLY BIRD have transmitted signals between continents requiring highly sophisticated receiving systems. If standard receivers are to participate in the distribution of satellite distribution, it will require rather costly intermediary systems to translate the signals for use in standard receivers.

4. Electronic Video Recording (EVR)

EVR developed by CBS Laboratories, replaces conventional film and tape as the basic medium for television programming. Essentially the system works in the following manner.

A film or video tape is first used to make an EVR master from the original program. This mastering is carried out in vacuum, where an electron beam of five micron diameter records very high definition images on a special electron-sensitive tape. Up to eight programs can be produced side by side on a single EVR master, from which a large number of copies can then be made optically

in a special high speed printer. The result is a half-hour EVR program every thirty seconds, about the time it takes to press an LP record.

The potential of EVR is yet to be demonstrated but in theory the economic advantage of very inexpensive copying of television recordings makes possible the storage of instructional material in the individual classroom. Then, a teacher instead of tuning to television broadcasts at a predetermined time, can select and play material from the local EVR library in the same manner one selects audio recordings from one's own library and plays them.

Costs for Distribution

Comparative costs for distribution by closed circuit, ground, and airborne distributions have been studied by the Westinghouse Corporation.[4]

Relative costs per student, considering channel per year for systems used for in-class instruction were $3.30 for closed circuit, $1.50 for ground transmission, and $0.55 for airborne transmission. These figures do not include such items as costs of the receivers or lesson preparations. These are common to all systems.

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[4] Educational Television Distribution, Report No. AA3754, Westinghouse, Baltimore, Maryland, July 31, 1963.

Receivers

Perhaps the most useful receiving installation would be a single receiver installed in a village gathering place or in one large classroom in a village, or in a popular gathering hall.

The most important problem here may not be the question of locality as much as source of operating power for the receivers, the availability of a place for the installation, and the maintenance of the receiver. These are difficult problems connected with such an operation. Equipment failure cannot be predicted in advance and the cost of regular preventive maintenance together with continued upkeep is difficult to determine. However, many of the seemingly difficult problems can be controlled by careful examination of what would be the best kind of equipment that could be used with minimum problems. The following are kinds of receiving units which could be considered and which provide reasonable acceptability as to their usefulness.

1. Transportable Receiving Units

Transportable receiving units are suitable for use in villages that are accessible by trucks. Their usefulness is limited to a particular village at a time; they are used for a given period of time; they are used for specific purposes and then moved on to the next village for the same purpose.

This system consists of a panel truck with two large receivers which can be viewed outside from either side of the truck. A gasoline driven generator is also mounted on the truck. The antenna system would be an extendable tower carried atop the truck.

The truck can serve a second purpose. It can carry two other such sets which could be left at a nearby village to be operated wherever possible. Such transportable units are very handy since they can be transported by animals or people where trucks may not be able to come in.

2. Permanent Installations

Permanent receiving installations are the ones that would bring a more stable solution to most of the problems. However, the utilization of equipment, its maintenance, and related technical problems have to be carefully evaluated.

Electric Power

Only part of Ethiopia is supplied with electric power, making the source of operating power the most critical problem to be faced. Added to all this is the care that should be taken in the selection of the kind of equipment and its maintenance. The kind of receiver, the light level in which it operates, the power drain and all other related technical characteristics have to be studied

by people knowledgeable in the field and with a considerable amount of experience.

The following are some possible operating power sources for television receivers:

1. Gasoline driven ac generator
2. Dry cell batteries
3. Storage batteries
4. Solar cells
5. Thermoelectric power source
6. Wind driven generator

Gasoline Driven Generator

Gasoline driven generators have now been on the market both as an alternate for a current power driven generator and also as a reliable, independent power source. One gallon of gasoline is considered to be sufficient for a broadcast day to operate one or several transistorized receivers. There is no question that a large quantity order of such machines would reduce the cost of receivers dramatically. This will also allow the possibility of designing specific sets for the desired purpose.

Dry Cell Batteries

This is one method which perhaps could lead to a rapid development of producing (manufacturing) dry cell batteries in Ethiopia.

The commonly known "No. 6 dry cell" battery is a 1/2-volt, 40 ampere-hour cell weighing about 2.4 pounds.

The technical and logistic feasibility of the dry cell battery as compared with other systems of battery operated power sources should be carefully evaluated.

Storage Batteries

This is perhaps a very efficient and economical way of providing power although it involves the activities of generators. It is calculated that a 12-volt, 100 ampere-hour will provide power for a 40-watt receiver for about one week (a 5-day week and a 6-hour day). The problem this kind of power generator possesses is one of recharging. Among recharging methods are: (a) wind driven, (b) gasoline driven, (c) central charging station generators.

Solar Cells

As the name implies, the solar cell operates primarily in sunlight. It is used in conjunction with storage batteries with the power capacity to remain charged for an average amount of daily sunlight. Although expensive ($400 per watt), it may be a worthwhile consideration, particularly in view of the availability of sunlight in Ethiopia. The solar cell is said to have a life expectancy of five years with essentially no maintenance.

Thermoelectric Generators

This is a device which is built to convert heat into power by the use of any gas. It is made to operate outside in the wind, rain, or snow with an operation life

of 10,000 hours, thus providing a good solution for maintenance. However, the cost and the logistics required to make it run should be carefully evaluated. Such devices, although seemingly expensive when considered per unit, provide, nevertheless, the possibility of low cost when purchased in greater quantities.

Wind Driven Generators

Power generation from wind is not a new development. It has been used for centuries for pumping water, grinding corn, etc. The principle behind the use of wind as a source for power generation is that wind is merely air in motion. The air has mass, and when this mass has velocity it can result in a power generating energy.

Educative Use of an Airborne System

More than any other single factor, educational deficiencies impede progress toward higher standards of living. This factor is further complicated by difficulty in obtaining qualified teachers and the absence of suitable facilities in terms of equipment and books, particularly in the developing countries. There is further an acute shortage of leadership and teaching skill to provide the basic educational needs for the great mass of illiterate people and the fundamental skill and knowledge essential for healthful living. At this point modern educational technology is brought to the test.

In 1965-1966 the total number of students in Ethiopian schools in all grades, including institutions of higher learning, was only 426,545. By far the largest portion of these were in primary education, numbering 378,750.[1] Only 5 per cent of school-age children were in school. It is estimated that of the 22 million population about 7 1/2 million (1965 estimate) were children under ten years of age and two-thirds of the population was under thirty years of age. This indicates that the vast majority of the population is outside of any school system.

By and large, educational institutions serve the urbanized areas of the nation. But urban areas include less than 5 per cent of the total inhabitants. This privileged group of students eventually finds themselves training in some area of the social sciences. The net result is a de-emphasis on training in the fields of science, engineering, and other technically oriented fields.

The Extended Purpose of Education

The concept of education is much broader than what classroom instruction provides. The following statement by Millikan and Blackmer express the importance of broader education:

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[5] International Yearbook of Education, 1966, Vol. XXVIII (Paris, UNESCO, 1966).

> There are, however, three requirements (for self-sustaining economic growth) we would underline. . . . They are the expansion of the society's human resources; the laying down of basic transport, communication, irrigation and power facilities commonly referred to as social overhead; and a radical transformation of the agricultural sector. . . . The expansion of human resources is perhaps the most fundamental, complex, and least understood of these preconditions. It can be viewed both as a psychological problem of generating in enough people motivations, creativity, and purposeful innovation required for growth and as an economic problem of investing sufficient resources in human capital, of training numbers of people in literacy and in the new technical and administrative skills required to operate a modern economy.[6]

While education, on one hand, conventionally focuses on the development of skills (through literacy and further) which are necessary equipment for an individual's function in society it is, on the other hand, a means of generating purpose, goals, and the sense of communality towards the introduction of new ideas in the everyday life of society. This social aspect, this innovative aspect of education, is regrettably neglected by both educators and leaders.

Wilbur Schramm expresses it in the following way:

> Each developing country needs desperately to mobilize its human resources. . . . They (typical families) know little beyond their villages, little of Science, little of modern agriculture, little of their country's efforts at economic development, little of the responsibilities of nationhood. Despite their innate abilities, fine qualities, and leadership potential, they make a weak base on which to build a modern nation. Unless they change, they will have to watch technological growth from the sidelines, social change will happen to them, rather than their playing an active part in bringing it about; they will be a part of the relatively

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[6]M. E. Millikan and D. L. M. Blackmer, The Emerging Nations (Boston: Little, Brown and Company, 1961).

> inert mass out of which the leaders of development in their country are trying to fashion something "dynamic and vital."
>
> Countries in a hurry cannot afford the luxury of such an inert mass. They require the active and informed cooperation of their village people as well as their city people. Their human resources are indispensable. Therefore, they are going to have to speed the flow of information, offer education where it has never been offered before, teach literary and technical skills very widely. This is the only way they can rouse and prepare their populace to climb the economic mountain. And the only way they can do it and keep the timetable they have in mind, is to make full use of modern communication.[7]

These explanations are synthesized in a comparison of the "tradition oriented" society with the "modernized" society.

Modernization in the context of the Ethiopian "tradition oriented" society means a voluntary development in which many people will participate, the haves assisting the have-nots. It is a gradual development in constant availability of opportunity. It is an on-going realization of specific needs, which are not satisfied by present conditions, and the invention and/or acquisition of means meeting those needs. Thus, social change as a result of the modernization process is, as Schramm puts it, "the change it will bring about in the whole society and whole man."[8]

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[7]Wilbur Schramm, Mass Media and National Development (Stanford, Calif.: Stanford University Press, 1967), p. 19.

[8]Ibid., pp. 115-74.

Elements in Modernization[9]

One of the outstanding characteristics of a modernized society is mobility. The individual in such a society develops toward becoming what he is capable of becoming. Such an individual is a constant seeker of new ways and not a rejector of innovations on the basis of their not being "applicable to past experience." The mobile personality has a high capacity to interject himself into situations removed from his immediate surroundings. He has the capacity for self-identification with new events in his own situation. Ability to "empathize" becomes the key to his relationship with others.

Unlike the traditional society, the modernized society is further characterized as "industrial, urban, literate and participant." The needs of the mobile person are many and are highly developed in a system of economic interdependence. His horizons are broad and his decisions are mainly his own but he concurs with other individuals who may have a better knowledge of the subject he engages in. The individual in the "participant" society goes to school, works for cash, participates in "government" by stating his feelings in an "open" press and by voting in elections. He has "an opinion" on public affairs and believes his opinion matters.

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[9]Daniel Lerner, The Passing of Traditional Society (New York: The Free Press, 1966), pp. 42-75.

The modern society's system of communication media is another aspect contributing to its character. Unlike the traditional society, the modernized society communicates through mass media to a wide and varied audience while the traditional society addresses a group. The traditional society is dictated by the "power that is," while the modernized society obtains its information from distinguished and authoritative (professional) sources.

In the modern society, the individual is of high significance in measuring achievements, meeting deadlines, and planning for the distant future. His vocation is a constant rush to "save time." "Time and tide wait for no man," harbors deep meaning in his daily operations. Modernization, in terms of the characteristics outlined, is not all favorable. It has its problems, its unforeseen consequences, and better experiences and can be attained by standing the test of time. Modernization entails a tremendous amount of perseverance and endurance.

It is not the purpose of this study to discuss the great virtues and outstanding historical contributions of the Ethiopian society, nor to develop a "model" for the modernization process. It is rather to investigate the role and potential of an airborne television system as a contributor toward modernization. Lerner suggests a three-phase model of modernization in society as a whole. It includes "urbanization," "literacy," and "media participation" which lead to "political participation." These

phases have their merits and applicability in only certain parts of the world. The need for a "high powered" literacy campaign in some countries may never necessitate the transfer of population to urban centers but rather the creation of community centers in rural areas. On the other hand mass media can effect change in rural areas and hasten the "modernization" process within the rural and/or traditional society.

What an Airborne System Can Contribute in the Modernization Process

In Ethiopia's "tradition oriented society" an airborne system can be made to give observers a sense of participation, which approximates face-to-face contact. In addition it can reach virtually the entire population, including the very old, the very young, the less-educated, and the less-intelligent. Literacy and schooling are not prerequisites for audience participation in this medium. The medium can not only be a powerful reinforcer, but it can also redirect existing behavior patterns or attitudes into new areas. If it enjoys the desired monopoly, it may in time effect considerable change in attitudes and behavior.

An airborne television system can be beamed to the desired audience in such a way as to lead the participant to engage in personal confrontation with the truth about his situation, in relation to highly developed people around him, so that in the end he, in his own way, can be

made to come out with his own knowledge of himself. The task of the broadcast designer is to find the listener where he is, sometimes seeking entertainment, and then give him what he needs: education, culture, information, etc. Effective use of the medium means the addressing of individuals rather than just "the masses" of people. This will help the individual develop his own self-concept, for education is by nature border-crossing; it knows no difference between people; it is for all. This is what a tradition oriented society needs for safe progress toward modernization. Television is a medium with undisputed potential which can cut through ethnic, religious, and social barriers. Its intelligent and effective use can contribute to the modernization process.

Effective use of television calls for a serious look at planning, production, reception, and training. The use of an airborne system for education and national development is only possible if there is close integration of the efforts of all agencies concerned.

It is generally accepted, although very much based on empirical evidence, that producing attitudinal change via the mass media is a very difficult venture. Whatever the means used--interpersonal communication, the educational system, or any other agency--established values and attitudes are hard to change. In fact, the mass media are at a disadvantage since subtle adjustments for

particular audiences as signaled by communication feedback are particularly difficult for a mass medium.

> At the same time, it is no less generally known that the media can be much more effective in initially forming attitudes than changing them once they are set. We should argue that attitude formation looms particularly large among the changing peasantry of a developing society. Through the media, travel loss of community isolation, and other exposure to change, the peasant is encountering, typically for the first time, a world he never really knew. He is called upon to react to situations and stimuli never before encountered, to form attitudes regarding phenomena outside his previous experience and for which his village culture provides far fewer guidelines than usual. Attitude formation constitutes a much larger protion of his personality dynamic than is the case with many other people. And the mass media seem to play an especially ample role in such processes of attitude formation. To judge their impact solely in terms of their capacity to alter existing attitudes is to underestimate their force.[10]

Certainly, the use of television is an expensive business, and if it is employed as an elite toy, sacrifice of scarce resources for it is unthinkable. But the potential of television is so tremendous, properly used, that Ethiopia may not be able to afford not to use it.

Such a project is, of course, not something that will materialize and show results in a matter of months or a year. A considerable amount of investment, manpower, and time will be necessary to create such a system. Yet the end result in terms of education (including literacy), in terms of training teaching skills of all kinds, in terms

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[10] F. W. Frey, Media and Rural Development in Turkey, Report published by the Center for International Studies (Boston: Massachusetts Institute of Technology, 1966), pp. 196-97.

of developing attitudes necessary to function both as workers and consumers in Ethiopia's economy, and, finally, in terms of the development of the sense of a commonality of nation-hood and the pursuit towards goals which the great majority of the population feels it can subscribe to and towards which it feels impelled to work, makes the adaptation of an airborne system for such instruction worthy of serious consideration.

As Dr. John Ivey, the first president and presently Chairman of the Board of the Midwest Program on Airborne Television Instruction in the United States stated, " . . . this new combination of air power and instructional power well may be what many of the emerging nations of Africa, Asia and Latin America have been seeking--a proven, economical use of modern technology to hurdle in a short time the educational gap which keeps them out of full participation in the benefits of the rapidly approaching Twenty-First Century."[11]

"[An] airborne educational system, carefully developed to get the proper 'cultural fit' in the respective areas where it might be installed, offers a penetrating and forceful way to energize educationally pre-scientific cultures, currently faced with disparate shortages of teachers, schools, and educational facilities."[12]

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[11] Ivey, "Educational Marriage of Airplane and Television."

[12] Ibid.

Television closely approximates regular teaching in a conventional classroom situation for teaching basic facts and skills. In a classroom situation one needs a competent assistant to the learners. The scarcity of such adequately trained teachers means that their talents are limited to a few dozen individuals. In the case of television, such competence can be multiplied hundreds of times, and by the use of unlimited numbers of receivers, dozens of learners can benefit simultaneously.

The broadcasting of programs by the use of an airborne system using several channels can cover large geographic areas encompassing thousands of square miles without the installation of coaxial cables, repeaters, and other elements which are necessary for the extension of the coverage area of earthbound transmitters. This calls for dependable receivers which, at present, can be mass produced at the income level of the average wage earner. They can be battery-powered and thus overcome the handicap of rural areas where electricity is not available.

Television as a medium is versatile, and the visualized lessons have a grade scope which is far beyond what one gets from the printed page alone. The same medium can channel adult education, teacher education and fundamental education. Added to this is the possibility of rendering vocational skill training, literacy, health, and other community development programs.

Other Considerations

Perhaps one of the most fundamental questions to be asked in evaluating an airborne system's effectiveness for education is the question of standardization of equipment, its installation (including costs), and guarantee of function and maintenance. The other fundamental aspect is the area of training nationals to handle the administrative, programming, and technical aspects of the project.

This paper will not discuss technical considerations of the airborne system other than endorsing its effective use and the promising results it can bring. However, in the interest of organizational efficiency and the minimizing of cost for the purchase of equipment in large and practicable quantity, it is strongly recommended that standardization of equipment be maintained to the greatest possible degree. Furthermore, serious considerations should be given to encourage the production locally of as many parts of the project as possible. This may be in the form of establishing small scale industries, assembly lines, or clearing house establishments. The provision of items by industries established in Ethiopia will contribute to the enhancement of the Ethiopian labor economy. Agencies, government organizations, and/or foundations which may be involved in the development of such undertakings should consciously think in terms of aiding not only the program but also in developing and supporting Ethiopian industry in the form of technology and capital.

Finally, there is the area of training. At this stage the need for trained nationals who would in the long run conduct the program can be emphasized. The basic areas of training concerned at the outset would be in: (a) studio and production, (b) transmitter operation which is the airborne system, and (c) receiver maintenance.

These need to be developed in collaboration with experience in airborne operations.

Concluding Remark

There are many real problems and many decisions to be met if this system is to be adopted. The decision that the enhancement of the educational system of a developing country, hence of its national development, should include consideration of television as its main medium is one of these. Every developing country is under some pressure to effectively reap the benefits of television. The consideration for deciding what kind of equipment to use is much like that of radio except for higher costs. Therefore, if the airborne system is to operate in Ethiopia all of these costs and training needs must be faced squarely and well in advance.

The cost of television for educational purposes can be met by support from several sources. On the national level, however, it would be useful to say that the revenues from all mass media in the country could be very effectively used to support such a program. This would include the

production of entertainment programs and useful commercials to be aired in such systems.

The high cost of television receivers will prevent private ownership by the majority of the populace. This will make viewing necessary in public places such as community centers, schools, group centers, etc. This calls for a very serious consideration of the development of serious and wholesome public programs, including entertainment.

Such development of programs may include programming for the schools during the day, adult and community oriented and rural oriented programming during early morning and late afternoons and the evening time devoted to public affairs and entertainment type programs. This approach, as supported also by Schramm is based on the need to develop television programming to satisfy the desire for television on the part of all of the population.[13]

There is no question but that the effective and honest use of the airborne system can reach more people, with greater speed and efficiency than any other communication medium today.

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[13]Schramm, Mass Media and National Development, p. 231.

CHAPTER VIII

FEASIBILITY EXPLORATION FOR THE USE OF THE AIRBORNE SYSTEM

Cultural and Political Feasibility

Ethiopia offers an enormous potential for pioneering airborne television as a national service. Ethiopia is a strong, rapidly developing nation with a heritage dating back to biblical times and with rich cultural resources. She is an acknowledged leader among the nations in her part of the world. She has a good record of progress in modern times. The development of a unified system of education, her aim in designing a one-language curriculum for the primary school, and, above all, the real problems faced by Ethiopian education make such a nationwide educational television system feasible. National commitment to dealing with and solving these problems is equally real.

Ethiopia's ancient culture, its people's mode of thinking and behaving, has long been preserved, maintained, and promulgated by her institutions, the Church and the political government, the rights of which are vested in

the person of the emperor. A sincere conviction on the part of the political government and established institutions such as the Church, can account very heavily as determinating factors for the feasibility in terms of the socio-political aspect in considering a national system of television coverage. Television is a most potent tool of mass communication and literacy education in many of the developing countries because it reaches all, including groups and people isolated and resistant to the usual ways of fighting illiteracy. In educating the general populace in such intimate areas as family planning and hygiene, where institutions are not favored by many, and where topics such as sex and reproduction are still treated as "taboo" and carefully hidden from public view, the intimacy which television offers would appeal to many.

Ethiopia is perhaps the only country in Africa with a large number of ethnic groups where one or two have imposed their rules, culture, language, and general outlook on life on the rest and yet has preserved (through institutions and the Monarchy), indigenous national institutions, undisplaced by western thoughts. Such deep-rooted, cultural heritages can be adapted to modern times through the use of television.

Modernization, however, used here in terms of a fuller and a richer life for man, should never neglect its ends by becoming strictly cognitive by making dominant the instrumental consideration, thereby causing the very matrix

to become flat and dry. In the case of Ethiopia, the tremendous evocative powers which are immanent in her language must be unleashed. Its national "mentality" should be regarded not as an obstacle to modernization but as potential to contribute to the continuing of her social organization and the continuing richness of her expressive culture, as a beneficial agent. This, however, does not mean that television should be used to maintain a culture as static. No culture is static. But a gradual transformation of a culture must be borne by the educational system which at present is itself at a low ebb. It is, furthermore, unrelated to actual life. Education is essential in the mobilization of human resources and prepares the populace for a desirable change. It is through education that an awareness could be brought about and foster a rational and intellectual climate for national development. Such basic groundwork in terms of political and social situations is feasible.

The aim of a national system of television coverage in Ethiopia should be to, through education, close the gap between the elite and the vast number of "peasantry." All people should be able to participate in national, social, economic, and political affairs. This can be done by the raising of their aspirations and developing a desirable attitude in them. The present political system as well as its social organizations are conducive to such development. If this opportunity is missed now, it may well be that such

a national system may never become a politically and culturally feasible undertaking in Ethiopia.

Geographical Consideration

The 492,557 square miles of Ethiopia's land surface, its physical features, and national boundaries are described in Chapter III. In terms of a total coverage by the use of an airborne system, there are certain physical problems which will have to be resolved by other means. In regions of the country where there are mountain ranges, coverage by ground-based transmitters built with studied and appropriate specification should be affected. These can, for example, be built to operate on frequency other than the ones being used for airborne television broadcasts in the same area.

Technical facilities can be misused if they are not geared to a system based on knowledge of human learning and human development. The facility must be developed to carry educational content that is pertinent to the development of individuals and must equip them to use resources at their disposal to the maximum. This is a time when physical barriers are most insignificant to a determined undertaking. The mountains of Ethiopia have long been the excuse for many who purposely evaded their responsibility for her development. Today Ethiopia's physical features stand only as a symbol of "challenge" inviting the creative talents and dedication of those Ethiopians in whose hands lies the key to Ethiopia's emergence into the twentieth century.

Development of the Airborne System in Other Countries

Airborne television broadcasting was developed in the United States and tested shortly after World War II. From 1961 to 1966 instructional materials were broadcast under the auspices of the Midwest Program on Airborne Television Instruction, Inc. (MPATI). Implications of the MPATI project are far wider than the United States midwest. As a step beyond the limited coverage of ground-based television and still short of the enormous coverage of satellite television, airborne television offers an alternate method to any country that wants to use television on a large scale.

Other than in the United States, airborne television instruction has been considered for use by Turkey and India.

Turkey

In 1966 a proposal for the incorporation of a total concept of instructional television for Turkey furnished by Fenni Ve Gama led to the "creation of the possibility" for the use of the airborne system aimed at demonstrating how airborne television instruction could provide superior instruction and Turkey could raise its educational level of a nation-wide basis in the shortest possible time. The following objectives were set forth:

1. Formal education (elementary, secondary, and college levels).
2. Teacher training instruction.
3. Literacy instruction for adults.
4. Adult education for vocational skills.
5. Mass audience instruction in health, sanitation, agriculture, family planning.
6. Cultural and social affairs programs.

In addition, the project would also make long-range development of human, physical and cultural resources, and eventually become a permanent part of the educational, economic, and social structure of the nation through which full national development is to be achieved.

Organization of the Project.--Organizational as well as technical considerations for the Turkish project called for guidance and consultative assistance from MPATI personnel who would work with a proposed government agency which would be administratively responsible, seeing to it that all aspects of the government were represented in the overall plan.

It further called for another advisory body which would be responsible for the content of the materials. It would include experienced and competent persons from among the educational, cultural, and community leadership or Turkey.

Another aspect of the proposed airborne system for Turkey was that it called for training and participation in the work by Turkish personnel, alongside MPATI personnel. This included production work and technical work, as well as the development of teacher training.

Distribution.--The Turkish proposal called for the use of a three-station airborne television network to cover all of Turkey. All systems, designs, and alternatives for all of the proposed designs were developed by Westinghouse Electric Corporation in a document entitled, "Westinghouse Airborne Television System--Application of Airborne Television in Turkey."[1]

Although proposed in 1966 the implementation of the proposal still awaits approval by the Turkish government.

India

A "systems design" group at the Indian Institute of Technology has developed a preliminary design for an advanced system for communication and mass education for India's development.[2] The systems design group approaches

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[1]Westinghouse Electric International Company, "Westinghouse Airborne Television System--Application of Airborne Television in Turkey," Baltimore, Maryland, November 1, 1966.

[2]Advanced System for Communication and Mass Education for India's Development, Indian Institute of Technology, Kanpur, June, 1969, edited by B. Prasad and J. P. Singh.

the development of the program with the recognition of an urgent need for mass education and communication media for "creating awareness among masses for affecting social change and for inculcating desired attitudes and attributes necessary for national development."[3] The group strongly supports the idea that an "attitude change" is a prerequisite for any successful national development.

Major objectives of the proposed system include:

1. Mass communication of information to create the social and political awareness necessary for citizens' participation in the social, economic, and political transformation of the country and to inculcate desired attitudes and attributes.
2. Formal education for the entire population in the age group 5-14 years in phased manner.
3. Vocational training.
4. Literacy training and continued education.
5. Civilian and military long distance communication channels for telephony, data, and facsimile transmission.
6. "Meaningful" entertainment.

To fulfill the above objectives the systems design group, upon investigation of several methods, has chosen a "hybrid" airborne--satellite system--airborne television for regional coverage and a satellite for nation-wide

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[3] Ibid.

program distribution and communication purposes. Low UHF band terrestrial transmitters would be employed to provide television coverage to zones that may not be satisfactorily covered by the system for reasons of economy and limitations resulting from aircraft's inability to cover zones below the circling area. A satellite in the geo-stationary orbit will be used for "real time national television programs and for long distance inland voice, data, and facsimile transmission."[4] The system includes fifteen medium power ground stations to be used to compliment the system in areas of unsatisfactory coverage.

This system provides two channels in the ultra high frequency (UHF) band for eleven hours a day and proposes that 87.2 per cent of India's population would be able to receive programs in their regional languages.

The proposal for the use of the hybrid airborne-satellite-system is figured to cost a total of $445.5 million. This includes 35 DC-6B aircraft with broadcast equipment; an ACME Satellite in the geo-stationary orbit; 1140,000 UHF receivers and 800,000 windmill generators for unelectrified areas. In addition, fifteen ground stations for transmission to the aircraft and three high-powered ground stations for satellite reception and satellite telemetry would be required.

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[4] Ibid.

The proposed system could be put into full operation by 1976.

Among advantages which the proposed hybrid system offers to India is a possible successful technical solution to the language problem--India's present difficult political and social issue. The system proposes that regional broadcasts would make people receptive towards television programs and could be used to gradually develop in people a habit of switching to evening time national hookups which will essentially employ Hindi. This, the group believes, will develop empathy and tolerance in people and will gradually lead to the disappearance of the language problem, with Hindi remaining India's linking language.

The organizational choice for the proposed system is an autonomous non-profit organization regulated by an act of parliament and financed by the government.

CHAPTER IX

THE PLAN

A proper implementation of a system that is being suggested here, calls for primarily an extensive development in depth of a technical system responsive to the needs and desires of the educational system and its planners. Software planning should meet the objectives of the system. Together with such planning, the hardware limitations, the economic feasibility, and the social and political constraints would form the ground for planning the desired program.

The type of airborne system facilities for transmitting and receiving materials and their distribution, channels and all the other technical considerations still remain to be developed and will not be discussed here. As is the case with the development of most facilities, it is relatively easy to formulate plans for technical hardware based on current state-of-the art technology; and given adequate funds, it is also relatively easy to transform these plans into an operational entity which will function reliably. On the other hand, development of educational programs and the design of instructional materials presents

a much more difficult challenge. There may be rules and formulas which can be followed, but these are often times confounded by subjective evaluations which may frequently be based only on empirical judgments. Subjective evaluations may turn out to be at such variance with one another that a lack of unanimity may result which could frustrate efforts to develop coherent materials. Even assuming adequate basic agreements, the empirical judgments employed may turn out to be inaccurate, thus resulting in ineffectual materials.

Moreover, the study of the kind and nature of materials transmitted is a delicate issue which requires a thorough understanding of the situation, the social makeup, and the needs of those who ultimately will utilize it. For a good part of the developed nations, the answer to questions regarding program planning have been given, but they still remain the largest questions for the developing countries. Different communication scholars have put the questions in various ways. Laswell gives this apt description of communication:

> Who
> Says what
> In which channel
> To whom
> With what effect[1]

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[1]H. Haswell, "The Structure and Function of Communication in Society," Mass Communication, edited by W. Schramm (Urbana: University of Illinois Press, 1960), p. 11.

One is reminded that in any communication effort, the content must be studied, and its desired effect must be questioned. This takes into account involvement of values, attitudes, behaviors, feedback, etc., that have to do with the effectiveness of the intended communication.

It must be remembered that communication research done in Europe and the United States may not be applicable to the developing countries of the world, particularly not to Ethiopia due to its rather complex and unique culture. Thus it is that a country like Ethiopia will have to develop her own "model" in the art of communication, applicable to her own cultural and socio-economic background.

Organization

The organization for the design and development of instructional, educational, and public affairs types of programs, therefore, is of crucial importance. This organization should be structured so as to provide maximum assurance that subjective evaluations are broadly based on the firmest foundations of wisdom and experience, and so that goals and priorities are realistically addressed to urgent and practical needs.

The development of such an organization should ideally be the concerted effort and interest of the government's bodies representing education, information, health, agriculture, development, and the university. This organization should exercise, within a legal framework, an

autonomy to develop the educational program and define the aims and goals in terms of a national effort. The initial effort should, of course, be aimed at attacking illiteracy.

The rest of the programs should include school programs and adult programs (including adult literacy, community development, information and public affairs, and wholesome entertainment).

It must be remembered that television has no integrity of its own; neither does it have feeling or intelligence;[2] it has no moral or intellectual character of its own, but has ability to communicate if used to that purpose. And if used usefully, it communicates exceptionally well.[3] This is not a time when "manpower manipulation" will work. This is a time when trust must be put in the democratic process and the long-range and sustained developmental progress which results from acquainting the masses with the decision process and seeking their participation in national, social, and political affairs.

Therefore, it is imperative that Ethiopia's leaders put national and public interest first. With a communication research of its own, this department should constantly see that quality materials and quality teachers are used and upgraded constantly.

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[2]Lawrence F. Costello and George N. Gordon, Teach with Television (2nd ed.; New York: Hastings House, 1965).

[3]Ibid.

The suggested organizational body, although with links with the central government (appointment, etc.), should be completely independent of the central government's influence or control. The obvious reason here is that there will be created an immediate conflict of interest between the wishes of the government and the stated responsibility of those that are to administer the distribution of education through the system. In many instances such facilities, when connected administratively with the government, have ended up being instruments of the political government. Government involvement will, further, hinder frank discussions on political issues.

Broadcasting should be entrusted to an autonomous public body with the least of government control. The best institutional example of such an organization may be the British Broadcasting Corporation.

Organizational Set-up

The autonomous body charged with the responsibility for management and the functioning of the system should be organized within the legal framework of the country and promulgated by an act of parliament to maintain, run, and develop the system. It should be composed of an elected ten or twelve members of caliber and distinction among whom an executive director will be named. Elections of these people should be made by the head of state and recommended by the government bodies referred to earlier and by the

university's president. This body will then create its own advisory committee from among members of the government agencies as their needs require.

The elected general director should have as his deputies the following: (1) an assistant director for research and planning, (2) an assistant director for programming, (3) an assistant director for administration, and (4) an assistant director for technical services. These departments will then be broken down to reflect functional divisions.

Such an autonomous body would provide minimum government interference in its daily activity. On the other hand, it would also allow for the participation of government to a considerable extent. Such an organizational set-up is, of course, a radical digression from the traditional hierarchy as discussed in previous sections.

Evaluation and Research

The successful accomplishment of any program depends on a serious examination of its function from time to time. Many broadcasters in the United States as well as in other countries tend to be concerned almost totally with today, improving the world today, solving some of today's problems, getting today's programs on the air. This, of course, is fine. It is, in fact, what gives the educational broadcasting movement in the world its dynamic quality. This trait carries over into the research which

so many persons in broadcasting do or sponsor. The research tends to be concerned with the solution of an immediate problem: Will this group of students learn from this program? While these questions are important and relevant in terms of daily activity, in the long run they inhibit progress in educational broadcasting, as well as in education in general.

The greatest contribution of media to education could be to divert a greater portion of the research effort to problems which go beyond today. One should not be content with the availability of the instructional media, but be constantly searching for general understanding of how people learn from television (and otherwise) rather than simply searching for an answer to the question of what to do today. We must learn to understand human learning. The process of human learning must be investigated and understood.

As stated earlier, the introduction of the airborne system will in itself be carried out in different phases. The initial project or first phase might consist of a single aircraft with its transmitting equipment for transmitting programs over a limited area to a limited number of receiving sets. This project would have as its main objective the demonstration of the feasibility of such a system on a national basis. As a by-product it could experiment with the teaching of literacy and perhaps

present programs designed for training people on their jobs.

Clearly, if the decision is made that an educational network is a goal worthy of investment and one toward which Ethiopia should work, a more comprehensive plan is necessary, involving not only such technical problems as transmission, construction of receivers, and servicing of equipment, but also facilities that have to do with distribution and maintenance, programming, and the like. This will involve diversity of interests and skills. Not only must the skills of engineers and administrators be brought to bear upon the problem, but also the skills of educators, of those in the performing arts, and of sociologists and agricultural technicians who are familiar with the socio-economic problems of the rural villages and the country at large. Research into whether television can be utilized either as a means of inculcating attitudes or for developing nonacademic skills, must be done. All this of course calls for a broad and continuing program of research accompanying the development and use of educational material either by the classroom teacher or for functional adult education. Such a program must involve a continuing evaluation of the impact of the material and its continuing refinement in light of the research results.

Doob, in his book, Communications in Africa, expounds in great detail the tremendous importance of

understanding the people to whom one broadcasts.[4] The viewers' language, their comprehension of the abstract, their attitudes and their aspirations in terms of their acceptance or rejection of the materials transmitted, the appropriateness of symbols and vocabularies must all be studied.

Centers for Developing and Producing Programs

The possibility of establishing a number of regional program origination centers needs a systematic feasibility study. When all the technical and geographical requirements are met, at the outset one central production center and gradual development of several regional centers would be able to cover the country. It should be recognized that all of the programs must be pre-recorded on magnetic tape or film in the type of airborne equipment used by MPATI. However, MPATI's planned second generation of transmission projected live programming from the ground. At any rate, a very large portion, perhaps 80 per cent, of educational programming will probably be pre-recorded.

The question of choice of cameras such as the image orthican, vidicon, the plumbicon are all concerns to be considered in connection with the regional and/or central development and production centers.

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[4]Leonard W. Doob, Communication in Africa: A Search for Boundaries (New Haven, Conn.: Yale University Press, 1961), pp. 159-80.

At this stage, however, it is important to state that special attention should be given to the production of school-television programs in order to secure maximum effectiveness in the utilization of these programs in each classroom.

A possible procedure in the preparation of the programs is herewith outlined:

1. A systematic survey of curricula and of text-books and/or materials adopted in the schools.
2. Sending questionnaires to schools on specific school television programs and materials used.
3. Constant conferences for the study of school-television sponsored by schools specially commissioned by the body governing the system through its department for research and development.
4. General meetings for the study of schools television-sponsored by the governing body and by the central government authorities concerned with education.
5. On the basis of audience research, preparation of a rough plan for one to four school years which will be examined and approved by the governing body or the delegated committee.
6. Preparation of an over-all plan for one year approved by a sub-committee (Expert Committee).

7. Preparation of a draft plan for a term to be refined by the Expert Committee.
8. Preparation of telecasting of each program, of lesson plans, including television and other material.
9. Preparation of a draft of teachers' manuals for school television covering a term.
10. Approval of the manuals by the governing body.
11. Publications of manuals and distribution to classes.
12. Broadcasting.
13. Evaluation.
14. Workshops on utilization.

Educational programs for viewers at large or "adult viewers" should include adult literacy, vocational training, entertainment, and public affairs programs. Most of these programs, other than the literacy campaign, will be coordinated with the program contributions coming from government sources and employ the later part of the broadcast day.

Classroom Utilization

At this stage much cannot be said about specific types of receivers which may have to be designed according to local needs in the country. This would primarily be by the use of VHF receiving antennas or basically schools

would be equipped with UHF-receiving antennas and amplifiers which convert the UHF signal from the aircraft into the high frequency (UHF) signal.

In each day's activity the teacher in the classroom must know what to expect from each telecast. The teacher would be provided with a "teacher's guide" which gives objectives of the telecast, concepts to be developed, suggested readings and hints for follow-up work. The teacher in every case will have to be acquainted with the working of the set. This can be done through participation in an orientation workshop on how to use instructional television effectively. This should be part of the on-going upgrading of the teacher from time to time.

In all cases the course content, the teacher's guide and decisions on scheduling time of telecasting are activities in which local school leaders play major roles.

All this requires the guidance and assistance of people with the appropriate know-how and experience.

Ground-Based Stations

Ethiopia has a television service with coverage capability of about twenty-five miles. The purpose and schedule of programming of the station is discussed in Chapter V. As far as its coverage within the area of its reach, it could develop a cooperative service with the airborne system. However, the most effective, practical, and useful step for the existing television station to

take would be to totally integrate its system (both operationally and structurally) with the wider-reaching and more encompassing airborne system. One may even suggest that the existing television station could be the nucleus for the development of the airborne system. If, on the other hand, the present television station is to maintain its present situation, the airborne system's taped lessons would be re-broadcast by the station on a different schedule from the airborne one, thereby increasing school options as to when they schedule a particular televised lesson.

In this connection it should be noted that the experience of Midwest Program on Airborne Television Instruction (MPATI) would be of great value to any potential user of airborne television because it provides a reservoir of operational experience and techniques as well as technical advice.

Financial Considerations

The process of building a "ground base" for airborne operations with its technical facilities as well as the development of a unified and working production system would have to be planned and carried out most carefully. The policy planning and program development frameworks would have to be designed with utmost care and cultural and political sensitivity. Furthermore, the creation of a corps of instructors who would be in charge of the

television reception and viewing in the classroom would be a major undertaking. Careful study would be needed on the problem of how to integrate village development programs into the adult education to be presented by television. In many parts of the country no central electrical service exists. If the airborne system is to serve a useful purpose in such areas electricity would have to be made available for receiving sets. Perhaps this problem could be solved by the use of battery-powered receivers with gasoline driven battery chargers. In some areas mountains would be an obstacle to wide-range reception. In this case, as in the cities of the Midwest United States, translators or closed-circuit cables might be necessary. All this needs careful planning for the solution of such ground problems as well as those occurring in the total airborne system.

The cost of an airborne system operation is also an important consideration. At this writing there is a lack of pertinent (technical as well as socio-economical) data required for an assessment of a unified cost of such a system usable in Ethiopia. However, some basic figures based on the experience of MPATI are herewith outlined.[5]

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[5]John E. Ivey, Jr., John L. Perry, and Ben A. Bohnhorst, "This Is Airborne," International Seminar on Instructional Television, Seminar Report (Lafayette, Ind.: Purdue University, October 8-18, 1961), pp. 69-85.

Basically each transmission system consisting of two planes with six transmitters would cost about $9 million. Operational costs for the planes will run about $600 per broadcast-hour. Flying five days per week, eight hours per day, fifty weeks per year would cost about $1.2 million. Given the use of battery driven receiving sets with 2,000 sets per airborne system at $500 per set, the reception cost would be $1 million. Given one or more central pools for reception-set replacement and servicing, and fast transportation for service, logistical support for reception systems would amount to something like $300,000.

The establishment and operation of a program-production facility would vary in cost with the "state of the art" available in the country. In the United States a well-equipped television studio costs about $300,000. For purposes of cost projection, we can assume the need for three studios plus a tape-processing center (an additional $300,000). The total capital cost of the production base would then be about $1.2 million.

A beginning schedule, including repeat telecasts, might be produced for an initial cost of $1.25 million. This figure assumes the possibilities of holding initial costs of programming in the new local production centers to $1,000 per hour (maximum) and a twenty-five-week term, five hours a day on six channels, with each lesson

repeated twice (to make the schedule more flexible or to introduce different languages).

On the basis of these assumptions, the capital cost of such an airborne system would be about $11.5 million, and the cost of the first year's operations about $2,450,000--a total of just under $14 million for establishing the system and operating it for one year. Thereafter, it should be possible to operate the system for less than $2 million a year.

For such investment a nation could beam six channels of television anywhere in a circle 425 miles in diameter. The implications for educational, economic, and mass-media development are most challenging.

CHAPTER X

CONCLUSIONS AND POLICY RECOMMENDATIONS FOR INSTRUCTIONAL TELEVISION DEVELOPMENT

A Point of View

The concept that television may become a powerful communication force is comparatively new in Ethiopia. It is accepted as being logical and inevitable that any new development which seems as far-reaching in its influence on the Ethiopian cultural and educational system as television may be, will disturb many people and make them apprehensive about the future. It is likewise accepted as inevitable that the same factors regarding television which enlist enthusiastic support for it will also enlist equally enthusiastic opposition. In some cases this will result in individuals becoming crusaders for or against it. Being a crusader tends to dull one's ability to engage in rational thinking, but great movements seem to require crusaders as well as rationalists. However, in the long run, the crusader must rest his case with the rationalist. It is the hope of the author that the plan for the development of instructional television, on a wide scale, for Ethiopia

will appeal to the rationalist and will, at the same time, enlist the support of the crusader.

Definition of Policy Recommendations

It is recognized that the data with respect to basic costs and technological feasibilities (for lack of such information pertaining to Ethiopia) are based on The Midwest Program on Airborne Television Instruction. It is further recognized that these assessments might be interpreted differently, depending on one's educational and social philosophy, experience, and professional responsibilities.

The complexity of the problem, compounded by imponderable factors of time, changing conditions, lack of extensive Ethiopian experience with the medium as a communication device, obsolescence of equipment and methods of using it, makes it possible to hold back a set of policies for an airborne television system development plan for Ethiopia. Since the essence of this study is to explore the possibilities for the use of the airborne system in the dissemination of education and information to the Ethiopian people and to detail a workable instrument, the following set of policy recommendations, based upon presently available data, is an endorsement for an organization which the author believes could effectively provide television services to the Ethiopian people.

The Rationale for the Policy Recommendations

The following rationale for the policy recommendations stems from material presented and discussed in previous chapters:

1. Television is an effective, acceptable mass communication device and a significant educational force.
2. As such, it can and must be used to benefit the widest possible audience, and should be directed by a responsible professional staff.
3. The existing structure and purposes of a semi-commercial and government run and controlled television system cannot lend itself to the long-range needs and purposes for the educational use of television in Ethiopia.
4. In Ethiopia, multiple facilities in the form of government-supported, independent television stations are necessary for nation-wide coverage.
5. Nation-wide coverage by the use of the airborne system should be carefully studied in terms of socio-cultural, economic, and technological feasibility.
6. The plan of such a program for public education should have the full support of the government in seeking ways and means for financial

assistance needed to construct and operate television facilities on the basis of an equalization-of-cultural-educational opportunity for all Ethiopians.

7. Some government regulation and coordination of television stations must be expected and accepted. Such regulation, insofar as relationships with a government radio station is concerned, should be facilitated through the Broadcasting Ministry and the Board of Governors of the recommended television organization.
8. Government control can and should be kept to an absolute minimum.
9. Ways and means should be developed to prevent political control of the recommended organization through democratic processes.
10. Regional responsibility for program planning, presentation, and utilization must be accepted and protected.
11. The television station should be administered and operated by the chartered corporate body having a legal status to operate the television station.
12. The Ethiopian Ministry of Information should provide all its services for the television station.

Basic Assumptions of the Policy Recommendations

The policy recommendations have been built upon the following assumptions:

It is significant that people have in this century learned to accept, expect, and demand the benefits of technology to improve their standard of living. In this matter, the Ethiopian public is not an exception. They want to benefit from television's cultural and educational potentialities and at the same time they wish to relax by watching its entertaining features.

1. A development plan is necessary for the orderly and effective development of educational television facilities for Ethiopia.

For an effective development of educational television programs, the writer proposes the creation of an advisory group consisting of individuals selected on the basis of their qualifications, their representation on behalf of the general populace, and on the basis of their influence on the government. The advisory group together with the director general should be responsible for the development of school curriculums, programming, and coordination with local media and interpersonal communication sources. This group would include provincial and central government officials of education and information, the Ministry of Education, representatives from among teachers and school management, and the Ministry of Information.

This committee would meet regularly to evaluate and recommend improvements in the curriculum and the programs. Eventually, similar committees would also be formed at regional levels.

The potentials and capabilities of the airborne system for the dissemination of education to the widest possible audience at the most reasonable cost (as compared with other systems) is herein discussed. The system proposed would eventually give much wider coverage as compared to that of the other systems.

2. Since television concerns all the people, national level planning and assistance will be needed. Orderly step-by-step developments must be directed toward eventually making television facilities available to all the people of Ethiopia. Therefore, any plan for the development of television facilities for Ethiopia must be conceived as a long-range plan, being continuously modified by experience and changing conditions.
3. The existence of a reasonable development plan should allow the possibility for the development of such a system for nation-wide coverage.

The development of such a project may be financed:

a. Through one or several bilateral agreements with countries interested in such a project.

b. Through existing foreign aid channels.

c. Through financial arrangements conducive to such uses and which institutions, such as the World Bank, make available.

Experience and research continually expand and improve the potential applications and use of television. Likewise, experience and research continually improve equipment for telecasting and receiving and reduce the costs of such equipment and its operation.

4. Any "independent" television development plan for Ethiopia, to gain serious consideration among the Ethiopian elite, must recognize and take into consideration the policy governing the Ministry of Information.

It is stated that Ethiopian broadcasting is government controlled. These policy points not only signify the policy of the Ethiopian government, but also set forth a "Bill of Rights" of people regarding the future development of television systems in Ethiopia. As they are basic guidelines which must be part of any development plan for television in Ethiopia, a careful consideration of what is detailed therein must be the basis for the development of the airborne system.

The above considerations, which are theoretical in nature, do not advocate the creation of a new television station in the pattern of the existing television.

However, for all practical purposes the existing facilities could be converted (serving their present function) into a nucleus from which the widest possible coverage could be launched.

In this sense, a television system developed and operated in conjunction with the Ethiopian government's radio and television operation would involve the least difficulty in the process of establishment. The formation of the organizational structure for the development of an airborne television instruction in Ethiopia, requires the following studies and investigation:

1. A study of "savings in school expenditure" if the use of an airborne system is to be developed. This includes investigation in the area of what help television instruction will give the pupil-to-teacher ratio extension, without impairing the quality of instruction.
2. A study of the "economy" of the airborne system for the distribution of audio-visual instructional lessons over a broad region. This includes the investigation of how the airborne television technology developed in the United States can be applied productively to Ethiopia's modern needs in building for the world of tomorrow. It should further include the careful study of the extent of effectiveness

of the airborne system in those countries where it is in operation.

3. A study of the econometrics of such a system. This aspect of the study should take into consideration such details as supply analysis and method of costing. It should further investigate what the implications are for the development of the use (also commercially) of satellite communication channels.
4. A study of the technological feasibility and personnel resources necessary to provide such television coverage. This will include such considerations as equipment and facilities cost, availability of qualified Ethiopian personnel to handle most of the technical aspects of the project and the development of a feasible time table projecting such possibilities. A study of such a nature could serve as a highly desired "outlet" for the technological creativity of the students and staff of the College of Engineering.

There are still psychological and physical handicaps in the development of a nation-wide television coverage for Ethiopia. It is recognized that during technical change, difficulties are inevitable. This thesis gives a general survey of the problems, values, and possibilities

of television and does not offer "solutions" to these problems, but rather indicates how these problems can be approached in order to minimize the difficulties in the development of a nation-wide coverage by a television system to educate the Ethiopian people.

The temper of the time is favorable; the need is great; and the tools seem promising. The next few years will be decisive in establishing whether or not the Ethiopian government's commitment to raise the social, educational, economic, and political state of its people is a tangible reality.

The most important and urgent reform is needed in education. To transform it, to endeavor to relate it to the life, needs, and aspirations of the people and thereby make it a powerful instrument of social, economic, and cultural transformation should be national goals.

There is a tremendous amount of opportunity in this old, yet young country for the communication media to play their part in the advancement and development of the people and nation of Ethiopia. With determination, the challenge this opportunity presents can be met.

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