

FM AND FREEDOM OF THE AIR

BY ALAN BARTH AND EUGENE KATZ

WHEN you switch on your post-war radio, there may be many new voices on the air. The Moody Bible Institute, the San Bernardino, California, high schools and the Cleveland Board of Education have applied to the Federal Communications Commission for licenses to operate radio stations. R. J. Thomas, President of the United Automobile Workers of America, has sought permission on behalf of his union to establish six stations in as many cities; and the CIO has advised local chapters of all its constituent unions to survey their areas with a view to filing applications for commercial broadcasting franchises. Even the Communist Political Association and the New York Congregational Churches, according to recent press reports, intend to enter the broadcasting field.

For the most part, if these voices have been heard at all in the past, it has been only occasionally and as a special dispensation from those who now control the broadcasting instruments. The basic reason for this is one of purely physical limitation.

We have reached a virtual, if not

an absolute, saturation point in what is known as the standard radio broadcast band — the portion of the spectrum between 545 and 1605 kilocycles used for commercial broadcasting by means of amplitude modulation. A single station in this band requires a channel ten kilocycles wide, in order to operate without interference from other stations. There is room in this area, therefore, for a total of only 106 channels. By limiting the power and span of transmitters, the Federal Communications Commission has managed to divide the 106 channels in such a way as to permit the operation of 947 broadcasting stations.

The scarcity of channels in relation to the demand for them has naturally inflated the value of existing stations. The most valuable possession of a radio station, consequently, is not its broadcasting studios or its transmitter, but its exclusive license to use, within a limited geographical area, a certain portion of the ether. The New York *Times*, for instance, last year paid \$1,000,000 for Station WQXR, New York, while the Washington *Post* bought WINX, Washington, D. C.,

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for half a million. Both of these are only low-powered stations without network affiliations. Such prices explain why labor unions, colleges, Chambers of Commerce, municipalities, churches and minority political groups rarely control broadcasting facilities.

But the new voices seeking a means of expression are not interested in the standard radio broadcast band. When they talk of applying for station licenses, they are thinking not about amplitude modulation, but about frequency modulation—a means of broadcasting in the almost untenanted upper reaches of the radio spectrum. It is as though a new communications continent had been discovered and suddenly opened up for colonization.

II

In 1936 Major E. H. Armstrong invented a new radio technique, frequency modulation, or FM, which utilizes the higher radio frequencies far above the standard broadcast band. Commercial operation of FM stations began in 1940, when the FCC assigned forty high-frequency channels to the new system and authorized it to proceed. In spite of wartime curtailments, by the close of 1944 the Commission had licensed forty-six commercial FM stations and granted seven additional construction permits. About 500,000 FM receiving sets were in the hands of the public. As of May 1, there were 392 applications on file with the FCC for licenses to build FM transmitters.

And manufacturers are unanimous in their intention to install FM in the majority of postwar receiving sets.

In the proposed allocation of frequencies announced by the FCC on January 15 of this year, ninety channels were set aside for FM broadcasting. Apart from its static-free, high-fidelity reception characteristics, FM differs from amplitude modulation, or AM, in two important respects. First, its signal strength in the receiving set needs to be only twice as strong as interfering noise (or an interfering signal from another station) to provide satisfactory reception, while the ratio of signal to noise in AM receivers must be in the order of 100 to 1. This means that FM stations sharing the same channel can be placed much closer together without causing serious interference, thus permitting a far greater number of stations than are now possible on the standard broadcast band.

Second, it is far less subject to the phenomenon called skywave, which causes interference and complicates the spacing of AM stations. The effect of skywave is to make the radio signal audible at much greater distances at night than during the day. An AM signal, which is audible in the daytime at a distance of only 100 to 150 miles, at night travels upward and is reflected back to the earth, becoming audible several hundred, or even a thousand, miles from the transmitter. The resultant interference on shared AM channels makes a station's effective night-time service area much

smaller than its day-time span. Because of the comparative absence of skywave in the higher frequencies in which FM operates and because of FM's relatively low signal-to-noise ratio, an FM station has about the same coverage day and night. Consequently, a single channel can be shared by more stations and with better reception.

With ninety FM channels, we can have in the United States somewhere between 3500 and 5000 additional radio stations — possibly even more — depending on the licensing policy adopted by the FCC. This should mean as many as twenty-five or thirty new stations for New York, Chicago, Los Angeles; ten or twelve for such cities as Atlanta, Dallas, St. Louis, Minneapolis; and one or more for small cities which now have restricted radio facilities, or none at all. The multiplication of stations may make a dozen new nationwide networks possible.

If 5000 new stations can be created, the broadcasting ambitions of the CIO and the Moody Bible Institute, or, for that matter, of Tom, Dick and Harry, are something more than pipe dreams. For this means that broadcasting facilities will actually be obtainable, and the cost of obtaining them will be greatly lowered. It will be reduced to the actual cost of buying transmission equipment, with the far greater expense of acquiring a scarce frequency entirely eliminated. Several years ago, although the deal was never consummated, the United Au-

tomobile Workers negotiated for the purchase of station WJBK, Detroit, for \$750,000. Using an FM channel, they will soon be able to establish their own station for less than one-tenth of this lordly sum.

III

In commercial broadcasting we have interpreted freedom of the air, as we have traditionally interpreted freedom of the press, to mean freedom from governmental — that is, from political — control. But as Clifford J. Durr, a member of the Federal Communications Commission, pointed out in the fall issue of the *Public Opinion Quarterly*, "There may be limitations upon freedom of speech other than political limitations."

The radio industry has been quick to level the charge of censorship at efforts of the FCC to impose any regulation upon the content of its programs. Yet radio station owners themselves exercise an absolute censorship. They determine what shall be broadcast and therefore what ideas shall come to the public through the channels of communication they manage. The nature of their censorship is reflected in the voluntary code adopted by the National Association of Broadcasters. This code provides that free time should be given for the discussion of controversial issues of public interest, without regard for the willingness or ability of the proponents to pay for the use of broadcasting facilities, but that no time

should be *sold* for this purpose. Individual stations' interpretation of the NAB's generous ruling, however, has usually resulted in putting the stamp of controversy on nearly anything challenging to the interests of broadcasters as business men.

According to the NAB Code Manual, for example, "Discussion (or dramatization) of labor problems on the air is almost always of a controversial nature." By a somewhat surprising logic, broadcasters until lately concluded that, since labor problems are controversial, any program sponsored by a labor union must be controversial, too. There was no such feeling, however, about programs sponsored by business organizations or presenting management's point of view. In recent months — perhaps in response to broad hints from the FCC — the attitude toward labor programs has been significantly liberalized.

Controversy is, to be sure, a troublesome thing for station owners. Obviously, life is at once simpler and more profitable for them if they leave controversy alone and sell their time to advertisers. And such portions of their time as it seems expedient to devote to public service can be given to thoroughly non-controversial causes such as Community Chests, War Bonds and Blood Banks. The tendency to shy away from giving time to advocates of ideas is fortified by the consideration that, under the self-imposed code of the industry, it involves the donation of an equal amount of time to those opposed to

the ideas. Radio tends, in consequence, to be devoted almost exclusively to entertainment of an unprovocative variety, the merchandising of things rather than of thoughts, and the publicizing of worthy but non-partisan projects. It affords little opportunity for the expression of unconventional points of view or for the stimulation of public awareness of our deeper social and economic problems.

Radio, in its present incarnation, is also inadequate to the needs and problems of America at the local level. The 947 owners of broadcasting franchises have not unnaturally chosen to locate their stations in the places where they seem likely to make the most money. Usually this has meant the abandonment of small towns for larger ones. Many communities are thus deprived of any local radio service. This trend, together with the network affiliation of most stations, has operated to divorce radio from local interests, making it oblivious of local talent, local cultural concerns and local issues. Thus radio programming has been directed in large part toward the lowest common taste denominators of a diffuse national audience.

These are shortcomings which flow almost inevitably from the scarcity of broadcasting outlets. Restricted use is a concomitant of short supply. Certainly within its chosen orbit American radio has performed magnificently. It has surpassed in program variety, in quality of production and in news coverage the radio systems in

operation anywhere else in the world. But the fact remains that its facilities are simply not now available to a wide enough range of viewpoints and interests. The expansion made possible by FM presents, therefore, an implication of great social importance: the functioning of radio as a genuinely democratic instrument in postwar America.

IV

FM stations for which postwar construction permits are now being requested fall into four different economic groups, which must be understood in order to estimate the real social impact of FM.

The first — and to date the largest — group of applicants are owners of existing AM radio stations. Most AM station owners feel that they must get into FM in order to protect their present AM investment. They can do so with every advantage. “The reasons for this,” says the FCC report on proposed frequency allocations, “are clear. An existing AM licensee can build an FM station more cheaply than others by utilizing the same buildings, studios and the like. He can operate an FM station more cheaply by utilizing common personnel. During the first period of FM development, when FM receivers in the hands of his public are few and advertising revenues insufficient to cover costs, he can offset his expenses against revenues from AM operation — which may be a very great ad-

vantage under present tax conditions.”

The Commission, in the report just quoted, did not mention another advantage enjoyed, at least at the outset, by AM station owners. They have programs, already bought and paid for, to broadcast over FM. Failure to mention this advantage was no oversight. On the Commission’s unannounced policy in the matter depends the economic and program character of the FM satellites of existing AM stations.

If the FCC permits satellite FM stations to duplicate the programs of the parent AM stations, these additional FM transmitters will produce no additional program service. They will merely permit the listener who prefers FM reception to tune in these programs on his FM receiver. As more homes are equipped for FM reception, a larger portion of the audience of these AM-FM stations will listen to their FM signal because of its higher quality reception. In most cases, the owner of AM-FM combinations will not wish to program his FM station separately because doing so would put him in competition with himself for the attention of the listening audience. He would rather use his program assets, which in most cases include network affiliation, to build an audience for a single program schedule.

If, on the other hand, the FCC forbids program duplication and enforces separate programming, proprietors of AM-FM combinations will face a colossal problem. They will be

compelled to build two program schedules, each a divisor of the other's audience. Faced with this situation, they may try to program their stations to appeal to entirely disparate groups — aiming one station at small town and rural audiences, and the other at urban listeners. In searching for subjects of interest to sizable, but not overlapping, audiences, executives will be compelled to appeal to specialized tastes and, at least in many radio periods, to abandon any attempt at broad popular appeal. This is something most stations have hitherto not had to do.

What is more likely in the case of the AM-FM combinations, however, is that the FCC will permit duplication of programs for most of the day, increasing the hours of enforced separation as the number of home FM receivers increases. The radio industry can be expected to resist any large number of enforced hours of separate programming, but the FCC will probably insist on an expanding minimum.

The second group of FM stations will be commercial stations operated primarily in support of existing commercial or non-commercial enterprises: department stores, insurance companies, newspapers, labor unions, chambers of commerce, churches, political parties. These will be subsidized. They can be less than self-supporting and still be worth their expense to the sponsor because of the publicity given his commodity or his cause.

To succeed in their purpose of pub-

licizing a commodity or a cause, whatever it may be, they must win an audience. They cannot successfully compete in programs of general appeal with the network shows of the AM-FM combinations. To get an audience, they will have to produce specialized programs beamed at limited but well-defined groups whose attention will be useful to the parent organization. While the UAW, for example, will not be able to produce comedy programs which compete successfully with Jack Benny, or symphonies which compare with the New York Philharmonic, they will be able to attract union members to programs of peculiar interest to automotive workers. They may even be able, in such cities as Flint, Pontiac and Detroit, where auto workers are the backbone of the community, to attract general listeners to whom news about auto workers is important. In labor controversies, moreover, these stations could be very influential in giving widespread publicity to the union point of view.

The third category of FM stations comprises those without benefit of AM parent or sponsoring organization. Undoubtedly many enterprisers, attracted by the impressive earnings of AM radio, will want to try commercial FM. Those which serve areas with inadequate radio services will prosper, in proportion to the population in the area, by delivering hitherto inaudible programs including, in some cases, network programs. Those which venture into the larger cities where networks are now fully represented

will be compelled to employ new program methods and material.

They will have to turn to city hall, juvenile courts, employment bureaus, to local institutions and issues of any and all kinds for interesting situations. They will have to produce programs for the hobbyists: stamp collectors, gardeners, bridge players; and for special audiences such as pre-school children, Negroes, home students of trades, arts and languages.

Radio feature services, that is, producers of recorded programs, will be quick to capitalize on this new market and will develop dramatic, musical and instructional series which these stations can afford. Indeed, two of the larger recording companies, World Broadcasting System and Associated Music Publishers, anticipating the almost insatiable appetites of two or three thousand new program directors each with twelve or fifteen hours a day to fill, have already begun to produce such programs.

V

Finally, in this roster of radio applicants, we come to the non-commercial educational stations. Of the ninety channels assigned to FM, twenty have been set aside for education. These channels will accommodate about 1000 stations. A survey by the National Education Association disclosed that more than one hundred school superintendents are now operating FM stations or expect to do so soon after the war. Twenty-six teachers' colleges

and thirty-five of the forty-eight state universities have either applied for FM construction permits or are actively considering such applications.

There are program possibilities in these new educational stations never dreamed of in the philosophies of commercial broadcasters. Under university auspices, ideas and information will be aired which would never pass the censorship of stations operating on a strictly business basis. High-school systems can link their separate units for instruction of all kinds and can in turn link themselves with parents and community. Colleges and universities can broadcast courses, for which suitable printed matter will be circulated to aid the auditory instruction, in everything from poultry raising to political science. FM educational stations can become a nationwide university extension whose adult student body may well dwarf the enrollment of the correspondence schools in their heyday.

If only a fraction of these program possibilities is realized, much information, many issues and minority viewpoints which have not suited the program patterns of existing commercial stations are bound to be broadcast. Admittedly, much of the material will be of indifferent quality and limited appeal. No doubt the major networks will continue to attract mass audiences. But there is every indication that, with a multiplication of broadcasting facilities, radio will become, in part, stratified in its appeals, addressing itself to particular types of

audiences in much the same way that magazines are published for selected reader groups.

The *potpourri* quality of current radio shows, whatever their mass appeal in the absence of any alternative, leaves unfulfilled the desires of a sizable audience. Even the most popular of programs today attracts only a minor fraction of the radio receivers within its range. Programs paid for by advertisers are essentially selling programs, aggressive and of specific impact. Their effectiveness is judged by their success in promoting sales of the products advertised. Broadcasters are fond of defending the not altogether lofty intellectual level of their soap operas, quiz shows and variety programs with the argument that because they command a vast audience they must represent what that audience wishes to hear. But this ignores the possibility that the audience's appetite may extend to more substantial nourishment, or that the attention of those not now included in the audi-

ence might be secured by a different sort of menu.

Radio can serve as a genuine instrument of the democratic process only insofar as it furnishes the means for democratic participation in the making of public opinion. New broadcasting facilities will at least give new programs, new ideas and new voices an opportunity to be heard — and judged by the public.

FM can broaden the avenues of mass communication to accommodate the varied traffic of ideas which we need in order to make a successful adaptation to the imperatives of our time. It can democratize the spoken word by making transmission of it easy and relatively inexpensive, just as the printing press democratized the printed word by making books cheap and numerous. Upon the Federal Communications Commission falls the tremendous responsibility of steering the development of this new resource in such a way as to insure maximum diversification and opportunity.



COUGHs are ungrateful things. You find one out in the cold; you take it up, nurse it, make everything of it, dress it up warm, give it all sorts of balsams and other food it likes, and carry it around in your bosom as if it were a miniature lap dog. And by and by its little bark grows sharp and savage, and — confound the thing! — you find it is a wolf's whelp that you have got there, and he is gnawing in the breast where he has been nestling for so long.

— DR. OLIVER WENDELL HOLMES

THE CHANGING MOUNTAIN FOLK

BY JEAN THOMAS

OLD Uncle Bogg Trivitt tilted his hickory chair against the rough log wall of his cabin and let fly a stream of tobacco juice into a clump of blackberry bushes beside the stoop. "Young folks has a heap of new-fangled notions," he spoke more to himself than to me, seated on the step rock, or to Phemie, his wife, on a low stool beside him peeling potatoes. "Now take that thar glass window!" He jerked a thumb toward the new window of his once windowless abode high in the Kentucky mountains. "It's our Jasper's doin's. He's a sailor boy. And the lace curtain is our Marthie Ann's notion. She's j'ined up with them wimmin in white shrouds." Slowly he crossed one bony knee over the other. "I'm bound to own a glass window does let in light. But, me and Phemie made on a right smart spell without it. Though our boy never let up till he got it thar. Had to bust a hole in this side wall big enough to throw a heifer through," he complained.

There was a long moment of silence before Old Uncle Bogg continued.

"Young folks has got a heap o' curious idees outten this war, and some good 'uns, I reckon. Jasper sent back his first govermint pay and give orders. 'Put a glass window in main house, Pa!' he writ, 'so's Ma don't have to stumble around like a blind dog in a meat-house.'" A furrowed line marked Old Bogg's brow. "We no sooner got the glass window sot in, till Marthie Ann sent the fancy curtain to *cover over* it!" He shook his head in perplexity.

Old Bogg's mate smiling complacently paused to whet her knife on the edge of the crock. "That's not all our young 'uns had bought outten their govermint pay. Marthie Ann writ, 'Here's my nurse-woman pay for a whole month. It's for both of you.'"

Again the old man took up the story. "We got all sorts of pretty pic'ters on the floor," he glowed with pride.

I was puzzled until he urged me to look inside.

Proudly he pointed to the new Congoleum rug. In garish colors Pris-

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