

The Davis Amendment and The Federal Radio Act of 1927: Evaluating External Pressures in Policymaking

In March 1927, the Federal Radio Commission (FRC) undertook the task of sorting out the interference problems and setting a regulatory agenda which would shape the nascent broadcasting business in the United States, a business that was less than seven years old. Conceived by Congress as a hurried solution to the interference problems of 1926, the Federal Radio Commission undertook the unenviable task of creating a new agency without any resources allocated to it. Additionally, the full membership of the Commission was not ratified by the Senate and it lost two of its members within the first year. It is not surprising to discover, therefore, that the work of the Commission met with dissatisfaction among members of Congress, distrust by the public, and attempts to rifle specific agendas through by large broadcasting and radio manufacturing interests.

The original legislation creating the Federal Radio Commission called for a one-year tenure for the agency, subject to reauthorization by Congress. During the reauthorization hearings, Representative Ewin Davis (R) of Tennessee charged the FRC was doing the bidding of the large broadcast interests and that the agency had failed to meet its mandate to create service for all Americans.

Davis introduced an amendment to the reauthorization bill that declared all Americans were entitled to equality of radio broadcasting service, both of transmission and reception. The amendment called for equitable allocation of licenses, wavelengths, time, and station power to each of the states according to population within each zone. The purpose of the amendment was to make the intentions of Congress clear to the members of the Federal Radio Commission.

Before and after amendment's adoption, public relations campaigns both for and against the implementation of the amendment's provisions heightened public awareness of both the Federal Radio Commission and the problems that it faced. Posturing about the difficulty involved in trying to implement the equality of service provisions led the Federal Radio Commission to become reactive to the influence of various members of Congress, to the pressures of the electronics industry, and to the needs of smaller regional broadcasters. The reactive stance helped set the mode of operation and the public posture for the Commission for the first years of its existence. The outcome of the Commission's work between the years 1927 and 1933 resulted in the creation of a local/ regional broadcasting service that relied heavily on a system of large and small broadcast stations that carried network provided, commercially oriented radio programs designed primarily for commercial entertainment.

A reading of the trials and tribulations of an upstart federal bureaucracy might make for an interesting, even nostalgic look at the birth of radio regulation, but one could question the importance of studying the adoption and

implementation of the Davis Amendment now. Broadcasting historian Susan Douglas reminds us that we can look at "old articles about radio fever as fanciful and misguided stories of little consequence, or we can take them seriously, and analyze the connections they reveal between technology and ideology."¹ As the Federal Radio Commission was being created there were powerful institutional forces seeking to influence the decisionmaking process. Their roots were political, economic, technological, and social, and the interaction between those influences produced a situation calling out for regulatory control. Congress responded with compromise legislation, written broadly, allowing independent commissioners the freedom to develop a new systematic paradigm for regulating broadcasting in the United States. However, In the *End of Liberalism*, Theodore Lowi writes that compromise legislation which marked the beginnings of many regulatory agencies often called for unclear, contradictory goals. Lowi found many regulatory statutes were void of meaningful guidelines beyond the abstract requirements to serve the 'public interest.'² Did the vague, compromised language that created the Federal Radio Commission make it impossible for a new structure of broadcasting to develop? Would the FRC Commissioners have the ability to separate their regulatory responsibilities from their political responsibilities? Were the technical limitations of the medium destined to define the solutions possible to the equalization clause?

Through an examination of the issues and problems that compelled the Federal Radio Commission to adopt certain policy decisions that met the legislative requirements of the Davis Amendment, I hope to illuminate some of the unintended consequences of deliberate legislative acts. The FRC began the regulation of wireless communication, and today's industry is still bound in some ways to the regulatory stances carved out during these early days. For example, the Federal Communications Commission is still bound by the regulatory procedures started by the FRC. Could a study of the initial controversies illuminate our knowledge about the commission's expectations for structuring the industry, along with the resultant outcomes for reducing interference? As a corollary, can we discover any insights regarding the industry's expectations from the commission?

Karl Popper suggests that the study of linkages between intentions and outcomes can produce insights into why the actions of historical actors who set out to accomplish one set of goals might produce unanticipated or contrary results.³ Popper's suggestion holds promise for the study of broadcast regulation. For example, did the Commission's desire to create a quick solution to meet the rigid requirements of the Davis Amendment contribute to the notable reduction of nonprofit broadcast stations?⁴ Was there a concern by the FRC or consulting engineers that the new technical plan described in General Order 40 could only be met by commercial stations able to buy expensive new equipment to meet a set of more stringent technical regulations? Such a proposition, though not definitively accepted in the current literature, is not without possibility.⁵ Still, such a proposition opens a speculative, but viable set of explanations as to why commercial broadcasting emerged during the earliest days of radio and why a more public service orientation in radio did not surface until the creation of the FM band.

Surprisingly, while some scholars have focused on either the history or the workings of the Federal Radio Commission, few have focused on the significance of the external pressures on the Commission that may have prevented it from resolving the interference and technical problems in its own way and within its own time frame.⁶ If we examine the interests, motivations, and behaviors in the institutional setting of the Federal Radio Commission against the interdependent interests and motivations of Congress, the large broadcast trust, and the National Association of Broadcasters, we may gain insights into the decisions and the decisionmaking process?

This paper will briefly outline the events that occurred before, during, and after the passage of the Davis amendment, look at the interaction among the various players, and identify the interests they sought to further. Finally, I will examine the decisionmaking process of the Commission in deciding how to implement the equality of service requirements of the Davis Amendment.

I. The Federal Radio Commission. The First Year

According to the first *Annual Report of the Federal Radio Commission*, "a wholly new Federal body was called into being to deal with a condition which had become almost hopelessly involved during the months following July 3, 1926."⁷ Congress had failed to create proper legislative oversight earlier in 1912 when it gave supervisory responsibility to the Secretary of Commerce and Labor. This failure to provide proper regulatory oversight came back to haunt Congress a decade later when Secretary Hoover found he lacked the authority to revoke station licenses, assign power levels or times of operation.⁸ Radio's growth was explosive.

Congress needed to do something fast; the question was 'what to do?' Lowi reminds us that regulation is only one of several ways governments seek to control society and individual conduct. And since there are some specific purposes that are best pursued through regulatory techniques, we should be able to observe a distinct set of political-process consequences associated with this kind of government commitment.⁹ Scholars disagree as to why legislators wanted an independent commission. There may have been some reluctance to trust the Secretary of Commerce and Labor since Hoover was seen as closely aligned with large broadcast interests.¹⁰ After consideration, perhaps Congress decided that an independent regulatory commission could best deal with the seemingly intractable interference problems that had developed as a result of the breakdown of the Radio Act of 1912.¹¹ Or, perhaps Congress was reluctant to adopt any of the earlier bills retaining the supervision of the Secretary of Commerce since they failed to gain partisan support in Congress. However, when Attorney General Donovan declared the existing regulation unconstitutional, the mounting interference crisis made radio reception almost impossible in many parts of the country. Amid mounting complaints from the rapidly growing broadcasting industry and local constituents who were eager to listen, legislators moved to create emergency legislation.¹²

Representative Wallace H. White (R- Maine) sponsored a bill in the sixty-ninth Congress giving authority to the Secretary of Commerce to grant licenses, assign wave lengths, and allot time to broadcasters while Clarence C. Dill (D-Washington) sponsored a bill in the Senate that created an independent five member commission to have almost total control over broadcasting. Though both bills passed in their respective houses, the conference committee was unable to reconcile the difference before adjournment of the first legislative session.¹³

Continuing public outcry about the deteriorating listening situation around the country forced legislators into action. A compromise was reached early in the new year; the Radio Act of 1927 passed and was signed into law by the President on February 23, 1927. The Act incorporated parts of both house and senate bills by creating a the five-member commission on a temporary one-year basis to assign broadcast license and bring order to the chaos of the airwaves. After the initial one-year period, licensing authority would revert back to the Secretary of Commerce, while the FRC would act as a sort of Court of Appeals for broadcasters. According to the Act, certain non-policy functions were to remain with the Commerce Department.¹⁴

The Radio Act of 1927 gave the Commission authority to grant or deny licenses as would best serve the public interest, assign frequencies, times of operation, and power output. Section 9 of the Act instructed the Commission to remove inequalities in geographic distribution of broadcast facilities that had developed prior to the Act. Congress succeeded in appointing three of the five commissioners, and *The Outlook*, a news magazine of the period, claims that politics played a part in preventing several of the commissioners from gaining confirmation. At the end of the legislative session the Federal Radio Commission was only partly filled and had no appropriations budget. Other government agencies assisted with personnel and space as the Commission struggled to begin the task of creating a new federal agency without resources.¹⁵

Documents of the early days of the Federal Radio Commission show that one of the first issues discussed was a plan for frequency allocation and a timetable for implementation. This was necessary because section one of the act automatically terminated all existing licenses.¹⁶ Following a precedent set by Secretary of Commerce Hoover, the FRC held hearings in late March to solicit opinions from broadcasters. The focus of these discussions centered on the issues of allocation and the engineering concerns surrounding the interference problem. McChesney notes that these sessions were dominated by testimony of corporate-affiliated radio engineers.¹⁷

The outcomes of these discussions are reflected in the actions of the Commission and a plan they begin to implement. For example, General Order 11(amended by General Order 13) issued on May 21, 1927 terminated all licenses, required all stations to file applications concerning their current status, and made radio stations subject to the provisions of the Radio Act of 1927. Included in the minutes for the meeting of May 21 is a statement that recognizes that "no scheme of reallocation which does not at the very outset eliminate at least four hundred broadcast stations can possibly put an end to interference."¹⁸ This early declaration by the Commission suggests

that the FRC recognized the need to clear broadcasting interference through attrition of stations, reallocation of assignments, and reauthorization of power outputs. However, the actions of the FRC during this first year illustrate a much more conservative body.¹⁹ It may be that given the tenuous nature of the commissioners' appointments and the lack of funding, the newly formed agency did not want to rock the boat. It may be that coercive actions from Congress or industry made the Commission tread lightly, but during the first year few station licenses were revoked.

Throughout much of 1927, the FRC acted less like a regulatory body and more like a technical agency. Documents indicate the FRC moved congested stations to less congested spots (frequency assignments) on the radio dial rather than reducing the number of licenses. A series of channel assignment changes made during this period helped some; however, the overall problem of overcrowding and interference was not eliminated.²⁰ These early orders moved various stations from one allocation to another to alleviate interference problems among 'local listeners.' However, as the winter approached, rural areas still suffered from significant interference. General Order 19 provided for the large scale transfer of station assignments to clear all frequencies between 600 KHZ and 1000 KHZ from 'heterodynes' (sic) and other interference.²¹ However, the intention of the Commission was to hold the industry in status quo while the agency sought recognition and money from Congress to execute its charge. Testifying to an oversight committee of the House, Commissioner Skyes stated,

(W)e concluded it was our responsibility under the law to first give a fair trial and see if it were possible to let all of these stations live....(I)f we had denied 150 or 200 station licenses at that time, in my judgment and in the judgment of the commission, we would have had so many law suits and possibly temporary injunctions granted against us that practically the whole of the broadcast band would have been tied up....²²

Analysis of FRC General Orders and Minutes during its first year indicates that the Commission attempted to resolve the various interference problems on an ad hoc basis.²³ These attempts produced mixed results in the various regions of the country. FRC rulings seemed to ignore their responsibilities under Section 9 of the Act and instead ensconced commercial broadcast interests, particularly the large chain broadcasting stations and affiliates.²⁴ Members of Congress charged the Commission with favoring large broadcasters from the East while discriminating against the listeners in the South and West.²⁵ Commissioners vigorously denied the charges but when the new Congress convened, oversight hearings and newspaper accounts of public reaction to the Federal Radio Commission indicate that it had not succeeded in fulfilling its goals.²⁶ A House report reflected the displeasure of its members:

The set-up in the broadcasting field which it was believed at the time the radio act was passed could be worked out in a year's time had not been effected. We are confronted with the dilemma of continuing the commission in authority for another year during which it is hoped the situation may be improved.²⁷

In hindsight, it appears that the Federal Radio Commission did not see that political problems would develop as a result of its policy of maintaining the status quo in broadcasting while trying to resolve most interference questions on a case-by-case basis. One could argue that without the legislative mandate of proper funding and a fully confirmed commission, the FRC lacked the political clout to resolve the technical problems it was created to fix; thus the commission argued that it tried to avoid legal challenges which might further prevent implementation of the Act.²⁸ Congress, on the other hand, recognized the dissatisfaction among its constituents very clearly and sought to rectify the situation during the Commission's reauthorization process. Led by members from the south and the west, Congress amended the FRC's reauthorization bill to correct broadcasting's geographical imbalance.

II. The Fight Over the Davis Amendment

The Seventieth Congress took no pity on its stepchild. Rosen says the two members most responsible for the creation of the FRC fiercely attacked its lack of accomplishments. Clarence Dill chided the 'cowards and dullards' for their inability to develop a plan to reduce broadcast stations while allowing themselves to succumb to the influence of the radio trust. Representative White complained that the FRC policies had complicated the situation. Both White and Dill echoed their colleagues by insisting that the only solution to the interference problem was the elimination of some broadcast stations. Led by Representative Davis, Congressmen from under-represented regions of the country protested that the FRC had failed to distribute facilities equally among the states.²⁹

During an oversight hearing, Representative Davis served notice to Commissioner Sykes that he intended to change language in the Act to remove any vagueness about the Commission's responsibility.

Mr. Kading:do you not think it would be very important to act upon the suggestion of the chairman of preparing an amendment to be introduced in Congress clarifying the matter (interpreting equally of service)?

Commissioner Sykes: Personally, I would be glad, of course, if Congress would clarify it. I would not like to have to undertake to draw the amendment, though; I would have to leave that to you gentlemen.

Mr. Davis: In other words, your opinion is, naturally, even from the point of view of the commission itself, it is highly important for whatever statutory provisions are enacted for your guidance to be unambiguous and about which there can be no controversy or conflict of opinion.

Commissioner Sykes: I would be delighted, Judge, to see it at my rest.

Mr. Davis: I want to state I am in thorough accord with that and, so far as I am concerned, will undertake to effect that result.³⁰

With the introduction of the Davis Amendment to section 9 of the Act's reauthorization bill, a political debate ensued over the precise meaning of the 'equality of service clause' and whether passage of the reauthorization with its

inclusion would create a better radio service or hamstringing the Commission in its work. Depending on what interests one held, the amendment was designed to either destroy broadcasting or save it. There seemed to be little middle ground. For example, Senator Dill said the language of the new bill made it unworkable and impracticable and blamed the FRC for disregarding the equitable service provisions of the 1927 law.³¹

Industry leaders lobbied heavily against the amendment provisions. David Sarnoff, Vice-President of Radio Corporation of America, stated, "(I)t is my hope that Congress will not pass a bill, the technical provisions of which, to my mind cannot be of help either to the listening public or to broadcasting stations."³² Even members of the Federal Radio Commission got into the fray. Commissioner Caldwell stated that the "rider would wreck our present wonderful radio broadcasting structure" and claimed the amendment "is not practical and must be discarded in the search for a way to reduce the number of stations." Meanwhile the *New York Times* speculated, "(W)ill the Ides of March in 1928 go down in history as a turning point in 'radio'?"³³

The heated debate crossed party lines making it difficult to assess relative support for the bill. Support for the bill appeared to be tied to supporting regional constituent desires for either more radio service or for maintaining the status quo. For example, Representative White, a powerful Republican from Maine aligned himself with Representative Davis, a Democrat from Tennessee. House Democrat McKeon from Oklahoma stated that if the "house failed to adopt the 'equitable distribution' provision he would offer a resolution call for an investigation of the (radio) 'trust'."³⁴ All of these congressmen had constituents who desired better local service. But, House Democrat Emanuel Celler from New York said, "the amendment which the committee made to the Senate bill, to my mind, will put radio art into a straitjacket."³⁵ During February the FRC undertook several measures to appease southern supporters of the Davis Amendment.³⁶

Outside organizations with an interest in radio also lobbied Congress against adoption of the Amendment. The *New York Times* covered the reauthorization bill extensively. At one point it described the political maneuvering in Congress as if it were describing a battle scene:

Honors are even in the radio war being waged in Congress. Commissioner Caldwell opened the hostilities with an attack on the Watson bill. A few days later Senator Dill raided the Commissioner's position. Reinforcements in the form of Representative Davis, Tennessee, came to the Senator's aid. Just when it seemed the Commissioner might be forced to beat a strategic retreat, the National Association of Broadcasters, Inc. hurled its shock troops in the breach caused by Davis' flank attack on the Commissioner's left while Senator Dill was hammering his front. It appears radio is in politics!³⁷

Despite the best efforts of the NAB, the radio 'trust' and members who opposed it, the reauthorization which included the Davis Amendment's 'equitable distribution' requirements passed by a large margin on March 28, 1928.³⁸ The clause amended Section 2 of the Radio Act to read:

....that the people of all zones.... are entitled to equality of radio broadcasting service, both of transmission and of reception, and in order to provide said equality the licensing authority shall as nearly as possible make and maintain an equal allocation of broadcasting licenses, of bands of frequency or wave lengths, of periods of time for operation, and of station power, to each of said zones when and in so far as there are applications therefor: and shall make a fair and equitable allocation of licenses, wave lengths, time for operation, and station power to each of the States, The District of Columbia, the Territories and possessions of the United States within each zone, according to population.³⁹

The FRC was directed to carry out the equality of service requirement "by granting or refusing licenses or renewals of licenses." As if to make it clear that the Commission should do its bidding, Congress set all the Commissioners' terms for expiration on February 23, 1929. The message from Congress seemed to be 'get it done in a year or we'll get new commissioners.'

With all of the apparent opposition to the Davis Amendment why did this version of the reauthorization bill emerge from committee and pass? Rosen suggests that it passed to appease Southerners who threatened to delay a vote on the reauthorization legislation. It may be that some members worried that a defunct FRC would mean that the United States would plunge into further broadcasting chaos without a regulatory body. Legislators did not want to face that eventuality and since the Commission's authority had already expired, this appeasement may have been the expedient political accommodation necessary to reinstate the FRC. Other members of Congress were concerned that without passage of the reauthorization, administration of radio would revert back into the hands of the Department of Commerce.⁴⁰

III. The Davis Amendment and the Allocation Plan

With the passage of the amendment, the Commission members now faced the problem of implementing a plan they had publicly criticized. However, faced with the reality of the situation, the Commission had to formulate a plan to meet the specific requirements of the amendment. Louis Caldwell, Chief Counsel of the Federal Radio Commission, wrote, "(I)t would be hard to conceive of a more baffling problem than the one which Congress imposed upon the Federal Radio Commission by the so-called Davis Amendment."⁴¹ Caldwell complained that before the amendment the Act allowed the Commission a certain latitude in making its license distribution among the different states; the flexibility was now gone because of the rigid requirements set forth by the new language.

Nevertheless, faced with the specific requirements of the Davis Amendment, the FRC undertook steps to devise an allocation policy that would bring station assignments into compliance with the newly amended Radio Act. There was disagreement among the Commissioners as to the precise meaning of the amendment. The majority of the commission construed it as requiring immediate reallocation of the broadcast band while Commissioner Robinson claimed the amendment required the Commission to adopt a policy to be followed in the future where equalization would be attained where ever possible. The commission also grappled with the question of whether the amendment required an equality of the number of licensed stations without regard to division of time or whether two or more stations dividing time could be balanced against one full time station in another zone.⁴² Each interpretation created a problem for the FRC since each interpretation called for a different engineering calculus.

At the end of March a working group from the Institute of Radio Engineers (IRE) submitted a memorandum to the Commission describing a plan for classifying the 90 broadcast channels into three groups of licenses. The plan called for the creation of national, regional and local broadcasting services. Under this scheme licensees would be apportioned equally to all five zones.⁴³ The study was reported out on April 6, 1928, when the Commission asked radio engineers, under the supervision of Dr. J. H. Dellinger of the U. S. Bureau of Standards for their recommendations to implement the allocation plan.⁴⁴

Also during this time the Federal Radio Commission began to solicit the expert opinion from members of the Institute of Radio Engineers such as L. E. Whittemore, in addition to using experts at the U. S. Bureau of Standards, Captain Guy Hill from the Army Signal Corps. and the other engineers from consultative or technical groups.⁴⁵ The obvious complications of the equalization clause required the Commission to attempt to become more sophisticated in its approach to solving the radio interference problem. But, now the Commission found itself facing increasing pressure from Congress.⁴⁶

By April 1928, the initial plan proposed by the Institute of Radio Engineers was fleshed out. Briefly, the plan created a zone-based allotment scheme for the 90 channels available in the standard broadcast band. It called for the creation of 50 high powered stations that would operate on 'cleared channels.' Ten stations were to be assigned to each zone of the country. Because these stations were assigned the sole use of the channel (clear channel) during the nighttime, no heterodyne interference would occur and reception of these high powered stations would reach into the furthest sections of rural America. The remaining 36 channels would be divided between stations that served the regional and local needs of the various zones. Each zone would receive 10 of these secondary channels. Because these secondary stations were lower in power, engineers believed it would be possible to assign more than one station to each region of the country.⁴⁷

The Institute of Radio Engineer's plan did not meet with widespread approval from either Congress or the broadcasting industry. There were two major problems with the plan. First, it called for a maximum of 340

stations, a reduction of nearly 350 stations from the current allocation. Secondly, new higher powered clear channel stations did not fit into the scheme envisioned by members of Congress seeking to appease their constituents. Ewin Davis, author of the equalization amendment, lamented "the tentative plan is overloaded with so-called national stations...." Later that April the National Association of Broadcasters, the Federal Radio Trades Association and the Radio Manufacturers' Association proposed a wholly different interpretation of the Davis Amendment. The NAB, fearing a reduction in the number of licenses, offered a plan that attempted to maintain the status quo of assignments as much as possible. The National Electric Manufacturers' Association and other broadcasting station groups also submitted various allocation plans to the Commission.⁴⁸ No one plan seemed to meet the specific requirements of the equal allocation clause. While the IRE's plan seemed to have the inside track because it had the support of J. H. Dellinger, the *New York Times* reported members of the National Association of Broadcasters were disenchanted with the proposal, calling it too theoretical. The NAB and NEMA also called for an investigation of the agreements made by members of the radio trust.⁴⁹

Why was a logically designed plan, incorporating some of the best engineering theory of the day, unacceptable to those with political or industry influence? There were major obstacles to implementing the engineers' proposed solution. First, equalization would require the Commission either to target zones with more stations and reduce the number of licenses in those zones, or increase the number of licenses in the zones that were under served thereby increasing the number of stations and the interference level overall. The former plan would rile Congress by eliminating many constituent radio stations. And, while the latter plan might be a political expedient, it would not eliminate the interference problems that the FRC was created to resolve. In either case, there was also some concern that whatever plan was adopted, the plan would permanently freeze the number of broadcasting stations.

Similarly, the equalization clause required making the number of licenses allotted to the various zones proportional to the populations of the states within each zone. Thus it was possible that even though a zone may have the correct number of licenses, once the FRC decided whether to increase or decrease the number of licenses, the zones would have to redistribute those licenses among the states if their number did not reflect the correct population ratios. Further, while the engineer group's scheme began to address one of the equalization requirements of the Davis Amendment, the division of power allocations among the zones, their plan also needed to address station power and time division within the zone and among the states based on population.⁵⁰

The FRC felt obligated to start the process of reducing the number of licenses in order to implement the new allotment scheme.⁵¹ General Order No. 32, issued on May 25, 1928 asked for 164 broadcasting stations to show cause why they should continue to be licensed. Most of these stations were located in highly populated states in the East and Mid-West. No stations from the South were included in the Order. Over the summer a number of licenses were disposed and other stations included in this group had their hours of operation or power sharply curtailed.⁵² While the engineering staff under J. H. Dellinger grappled with the difficult problems posed by the

equalization clause, the Commission provided an outwardly visible demonstration that it was dealing with the questions of allocation and division of service by eliminating small and marginal broadcasters.⁵³ Ready to avoid controversy for its actions, the FRC issued two lengthy documents on August 23 and September 1, 1928 describing the Commission's application of a vague public interest standard in reviewing the stations examined in General Order 32.⁵⁴

Hugh Slotten contends that the engineers' view became dominant because key members of the commission believed that rancorous political debate would be avoided if the solution was based primarily on the use of technical reason. Engineers interpreted the "public interest" standard as one that provided the best possible service based on engineering standards and technical efficiency.⁵⁵ Since Congress failed to define the meaning of public interest, the technical definition could be construed as easily as any other definition. Supporting this thesis is the fact that some Commission members argued that equalization and reallocation were fundamentally technical problems demanding technological solutions.⁵⁶

Slotten's thesis is enticing but not wholly supported by the engineering facts reported out in the Federal Radio Commission's Annual Reports for 1928 through 1931. For example, the broadcast section of the FRC's annual reports of 1930 and 1931 under C. B. Joilleff and V. Ford Greaves detail a much more complex matrix of engineering data than previously included under J. H. Dellinger in General Order 40. Also, the Commission abandoned the quota system that it applied in 1928. Starting with General Order No. 92 issued June 17, 1930, a 'unit system' of evaluation to determine equalization compliance was adopted that included information about type of channel, power, hours of operation, and other considerations. The unit system provided a richer data set for analysis, but it also provided some indication that true equalization would never be achieved.⁵⁷

IV. General Order 40 - Making Lemonade out of a Lemon

On August 30, 1928 the Federal Radio Commission issued General Order 40, a plan outlining a quota system for the reallocation of broadcasting stations. Immediately the Commission began a public relations offensive to convince politicians, broadcasters, and the public alike that the scheme was the best possible solution to meet the equalization requirements specified in the Amendment.⁵⁸ On September 4, 1928, Chief Engineer J. H. Dellinger submitted a memorandum to engineers detailing the principles of the allocation plan. Three days later Dellinger issued a second engineering analysis of the plan. The second analysis, made by John V. L. Hogan a well known radio consulting engineer, supported Dellinger's engineering assertions. Hogan states, "I feel you and your Commissioners are to be congratulated upon having withstood criticism until this time when you are prepared to rearrange the broadcasters with the least possible disturbance of established services and the greatest improvement of the status of listeners, consistent with the law."⁵⁹

Dellinger's memoranda and the supporting engineering opinions are significant for several reasons. First, they were meant to reassure those broadcasters who survived the earlier round of cuts that the status quo would be maintained as much as possible by providing a permanent, definite basis of station assignments for each zone and locality. Thus, any station that survived the license hearings of the past summer would find an allocation on the allotment table under General Order 40.⁶⁰ Secondly, Dellinger outlined a strategy for implementing 40 high powered stations on clear channels, a plan meant to bring greater listening choice to rural America while further entrenching the interests of the radio trust. Third, the plan placed several blocks of regional and local services on different parts of the dial to minimize inter-channel interference. This reallocation allowed larger metropolitan areas to have more station assignments. Finally by using the 'borrowing' clause of the Davis Amendment, some Commissioners hoped to keep licenses for stations in zones that were currently over quota by borrowing those frequencies from other states in the same zone that were under quota. This maneuver was meant to placate broadcasters and audiences in metropolitan areas who were used to having a diverse number of stations to choose from.⁶¹

While the plan implemented guidelines specified in the report of the Institute of Radio Engineers generally, General Order 40 specifically acknowledged the importance of meeting its political obligations as well adhering to the Commission's earlier decision that no existing stations would be abolished as a result of the new allocation. To reinforce the notion it was meeting its responsibilities as a regulatory arm of Congress, the FRC in its Second Annual Report specifically outlined the outcome of license reductions as part of its attempt to meet the requirements of the Davis Amendment. Documents of the Commission show that this strategy was developed in August before the actual announcement of General Order 40.⁶²

In implementing the equalization plan, the FRC needed to meet specific regulatory requirements in the Act allowing stations an opportunity to appeal the frequency assignment change if they were displeased by their new frequency. Such a move would reduce litigation and possible court challenges to the allocation scheme. The Commission stated it would give stations an opportunity to examine the new assignments and challenge the potential changes, thus all station licenses were extended until November 11, 1928. The details of the plan were sent to broadcast licensees on September 11th. In that memorandum, Acting Chairman Sykes tried to assure broadcasters that the Order was a starting point, not a final solution. "(I)t is the desire of the Commission that any broadcasting station which is dissatisfied with its assignment under the reallocation should have an opportunity to be heard and to demonstrate that public interest, convenience or necessity would be served by a better assignment," he notes.⁶³ In addition to proffering good will for the new plan and hoping to head off a court challenge, the Commission wanted to examine the effects of the reallocation which up to this point were only theorized on paper. A second temporary licensing period was established to allow the engineering staff time to fix unforeseen problems after the stations moved to their new frequency assignment.⁶⁴

The Commission used several strategies to disseminate positive information about the equalization plan to the general public. For example, the October issue of *Congressional Digest* was given over entirely to a discussion of the problems of radio reallocation. On the day of the reallocation, Commissioner Orestes Caldwell issued a lengthy statement to the public stressing several previously mentioned points that: 1) engineering experts created the plan, 2) small town and remote listeners would benefit greatly, 3) dissatisfied broadcasters could challenge the assignment, and 4) some time would be required to evaluate the effects of the change.⁶⁵ At the same time, Dellinger issued a press release attempting to explain the benefits of the plan to both general and technically sophisticated readers. In the New York *Herald Tribune*, Dellinger suggested that listeners would find it helpful to make lists of the old and new dial assignments side-by-side for easy comparison while in the *Journal of the Institute for Radio Engineers* he analyzed the allocation scheme for the technically minded.⁶⁶

Outwardly the Commission appeared pleased with the response to reallocation although almost immediately following the announcement of General Order 40, numerous complaints were filed with the Commission. Boasting about the benefits of the new allocation scheme under General Order 40, Commissioner O. H. Caldwell stated: "Congress handed us a lemon and we have proceeded to make lemonade out of it."⁶⁷ Immediately following the issuance of the Commission's reallocation scheme, broadcasting stations began to protest the plan. Many complained that the plan did not constitute an equalization as required by the Davis Amendment. The Commission had to set several hundred cases for hearing. Meanwhile political pressure mounted in Congress at the same time as various interest groups expressed displeasure with General Order 40. On November 22, 1928, a resolution passed requiring the FRC to report back to the Senate on or before December 15, 1929 detailing the number of licenses, power allocations, number of frequencies, and periods of time for operation among all five zones.⁶⁸

V. After Equalization: Analysis of the Commission's Choices

Analysis of the implementation of General Order 40 poses several problems for broadcast historians, and legal, science or political policy analysts. Mark Gilderhaus reminds us that the historian displays a bias through the mere choice of subject matter and Carl Becker observes that since the actual past is gone, the world of historical analysis is an intangible world.⁶⁹ What the historian chooses reflects what she/he thinks is important. Yet, public interest theory, the basis upon which we provide assessment of regulatory success or failure, is predicated precisely on those fault lines, e.g. on interpretive views of the events, legislative histories, the people circumscribing the agencies, and the specific laws analyzed during specific time periods. Robert Brett Horwitz notes that within this perspective, the public interest is assessed as either a theoretical standard or as a historical fact of the regulatory agency's birth.⁷⁰

The Federal Radio Commission's birth was a difficult one. It was the result of rancorous debate, inadequate funding, and political manipulation. The Commission was created to deal with immediate and long-term structural

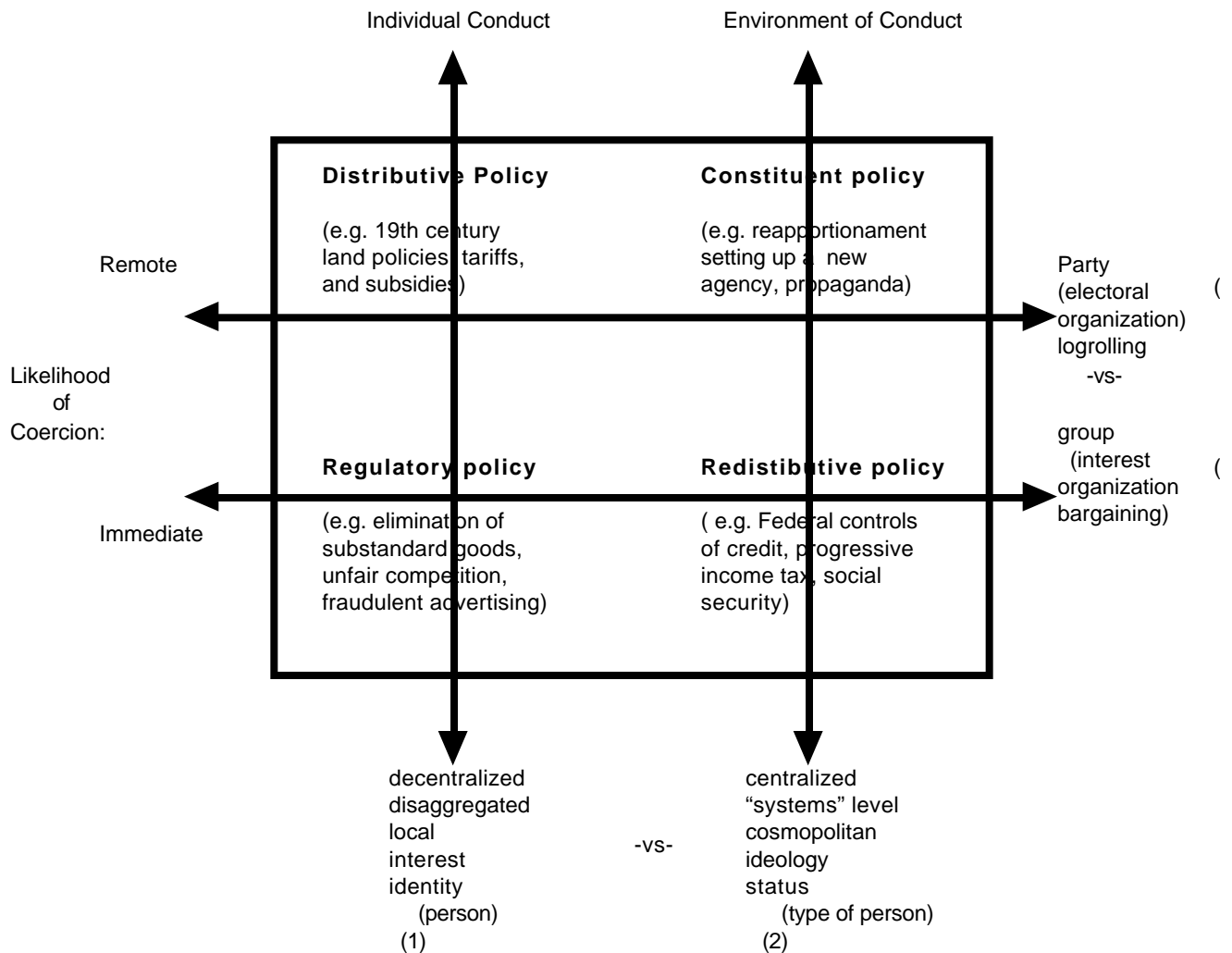
problems. Thus, given the circumstances of the Commission's birth, the amazing growth of radio as a means of communication and as a social institution, and the powerful lobbying interests of the radio trust and the NAB, the implementation of the Davis Amendment provides significant material to analyze. Several different theoretical frameworks provide potential for conceptualizing the importance of the events, for analyzing their long-term significance, and for explaining the behavior of the regulating agency.⁷¹ Public interest theory provides us with the opportunity to view the events surrounding the implementation of the Davis Amendment as one of the resolution between the conflict of the needs of private corporations and the needs of the general public. We could deduce this based on the above stated history surrounding the passage of the Davis Amendment.

While applying public interest theory would allow the reader a historical understanding of those events, the application of such an analysis fails to provide a richness of detail in defining the various influences played upon the commission. For example, the growth of the radio industry during this period seems to fail to conform to the mold of the small, individual producer as embodied in the Jeffersonian idealism of public interest theory. During this time, radio was largely controlled by large industrialized companies such as RCA, Westinghouse, AT&T and General Electric.

The application of the 'progressive' phase of public interest theory reflects the altered economic conditions created by large corporations, situations not unlike the growth of radio during the period leading up to the formation of the FRC, but the technical interference problems and the 'equalization' requirements of the Davis Amendment effectively remove this means of analysis as a viable explanation for the promulgation of regulatory policy as embodied in General Order 40. On the face of it, the specific actions of the FRC generally seem to support the large radio interests as opposed to reflecting the work of an interventionist-type commission designed to protect powerless consumers.⁷² Thus, the FRC does not seem to act like the Federal Trade Commission, or other similar regulatory agencies.

In "Four Systems of Policy, Politics and Choice," Theodore J. Lowi defines a model of capture theory that details likely policy outcomes based on the influences and types of coercion applied in given circumstances. This kind of analysis is useful because it allows one to look at the behavior of the actors and apply a schema to explain the events or outcomes as a result of the application of coercion, policy directives and/ or politics upon the regulating body. Figure 1.0 describes the four potential policies (and their political effects) that could be adopted by an independent commission such as the Federal Radio Commission as a result of the various potential influences. Under such a schema, if you looked at the policy it would be possible to gauge the immediate influences upon that policy or upon trying to change that policy. For instance distributive policy would be likely to influence individual conduct as opposed to the environment of conduct throughout a whole segment of an industry or industrial sector.

TYPES OF COERCION, TYPES OF POLICY, AND TYPES OF POLITICS

fig. 1.0⁷³

To apply this schema to the Federal Radio Commission, one could analyze the nature of radio licensing and assess its potential benefit to the licensee. After doing so, it is possible to deduce the type of policies being applied to the broadcasting industry. For example, one could analyze the effects of the application of federal policy with the onset of radio licensing starting about 1912. The Wireless Act of 1912 provided for little regulatory oversight. Licensing was primarily a record keeping function assigned to the Commerce Department. As can be seen in figure 1.0, early licensing would be considered 'Distributive'. In this case government is giving away (or licensing) a property right. The determinations made for a distributive policy type generally depends on individual conduct (e.g. is the applicant a suitable license holder?). One would conclude that the likelihood of coercion upon the policymaker, the giver of the license, is as remote as the likelihood of coercion by the government upon the licensee. Since the Secretary of Commerce essentially granted radio licenses when the individual or party applied for one, we can see

that in real life little coercion would have been applied. Why? Because no test was required for licensing and the license was not a limited resource in 1912, little coercion would occur.

Using this schema to look at changes in the types of policy illustrates that the Federal Radio Commission actions do not fall into the regulatory policy arena as easily as do other governmental agencies policies such as the Federal Trade Commission or the Interstate Commerce Commission. Both the FTC and ICC were created to use 'regulatory policy' to eliminate unfair practices or reduce the problematic of poorly made or unsafe goods. Clearly the FTC could apply coercion to firms through the use of 'cease and desist orders' and 'consent decrees'. Similarly, the trust-busting ability of the FTC could move to decentralize and disaggregate large trusts.⁷⁴ Applying Lowi's schema illustrates the fact that there is a great likelihood of pressure or coercion applied to the regulatory agency when large trusts attempt to maintain the status quo.

The plight of the Radio Commission appears somewhat different from traditional regulatory agencies, though, when we attempt to plot the influences on it within this schema. The 1927 Federal Radio Commission found itself in a different situation than the Secretary of Commerce did in 1912. For example, if the FRC attempted to use 'Regulatory' policy to break up the increasingly powerful radio trust, it was likely to face the threat of immediate coercion from considerable lobby efforts of the powerful corporations involved in the radio trust. Worse yet, because the FRC was not a permanently established independent regulatory commission, it found itself heavily influenced by various 'Constituent' policy initiatives of Congress because it faced a yearly renewal. Many in Congress were looking for the FRC to reapportion frequencies favorable to them; a bit of redistributive policy with a constituent interest bent. Conversely other members of Congress from the East and Midwest looked to maintaining the status quo. Still others looked for the agency to develop policies that would permit local stations to transmit without the interference problems that plagued radio after 1926. There appeared to be no clear cut constituent decision that would please the majority of Congress possible for the Commission to adopt. And, educational leaders were interested in having the FRC develop redistributive policies that would create the necessary conditions for the long-term growth of radio for educational and informational purposes. Other special interest groups wanted to affect policy, too. Commercial interests wanted to maintain the current system of broadcasting ensuring the growth of powerful radio networks.

The divergent set of interests provided too many countervailing pressures on the infant, unstable Federal Radio Commission. As noted earlier, it was necessary for the Commission to respond to party pressures and interest group pressures of various Congressional constituents, mindful that Congress had (1) failed to confirm several commissioners who were friendly to Hoover, (2) failed to provide funds for the agency's operation, and (3) anticipated that the commission would expire at the end of its term of appointment. A look at figure 1.1 illustrates some potential policy outcomes that might occur as a result of choosing specific goals or favoring the influences of certain politics.

TYPES OF COERCION, TYPES OF POLICY, AND TYPES OF POLITICS

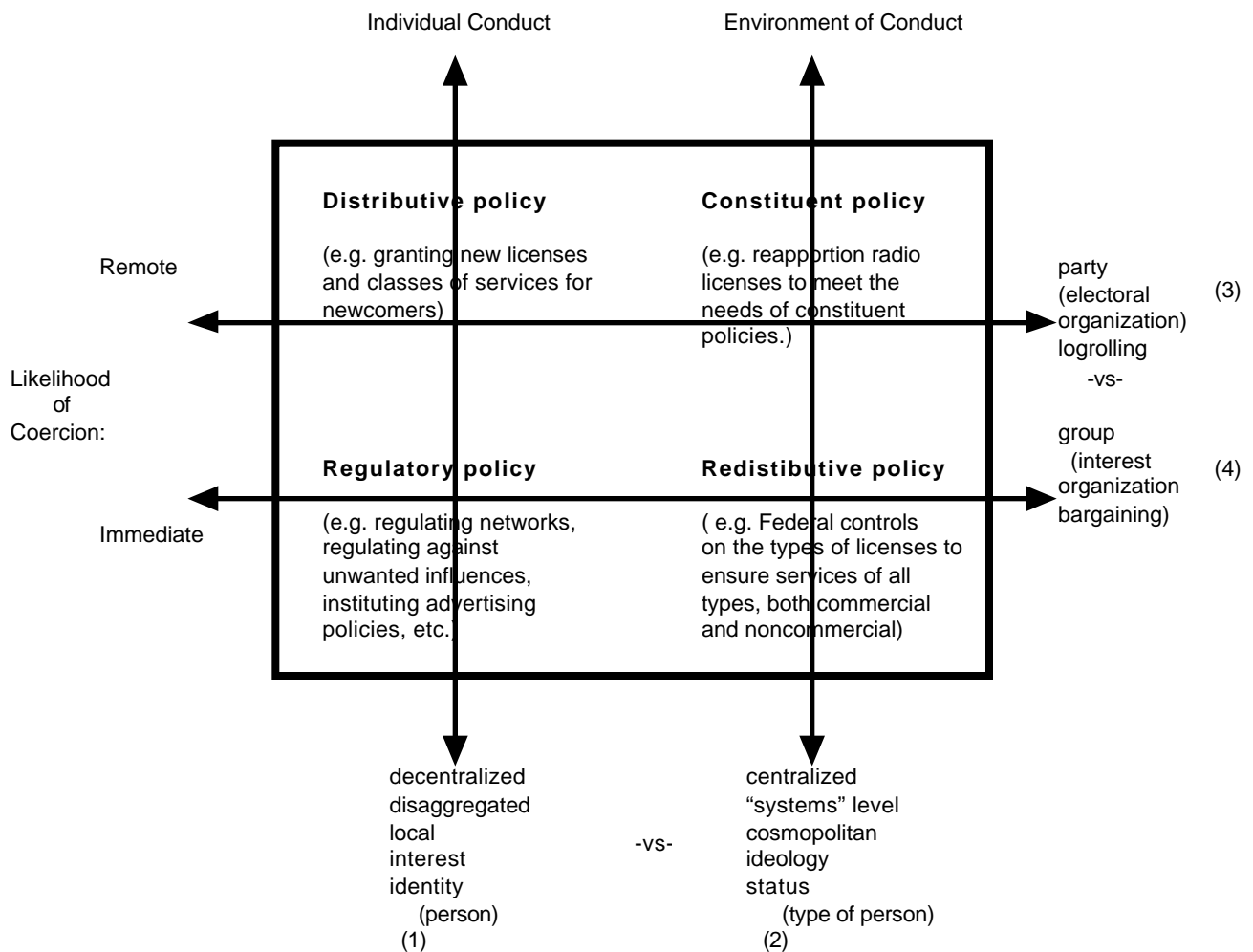


fig. 1.1

Within the framework of this redrawn policy schema one can conclude that the Federal Radio Commission of 1927 is caught between several different factions. The traditional congressional needs versus special interests needs are obvious. On one hand some congressional members, such as Ewin Davis from the South, are applying constituent coercion on the commissioners and would like to see the Commission equalize the number of radio licenses between the northern U. S. cities and southern cities. The pressures put on the Commission by the congressional membership follows traditional logrolling behavior. Adoption of the Davis Amendment's equalization language requires the FRC to act to meet the regional needs of the South and the West. Other congressmen, such as Congressman Dill, wanted the Commission to redistribute the radio spectrum for special interests such as alternative and educational users. One can see that different interests groups apply various forms of lobbying pressure would try to force the Commission to move in a specific direction on this chart. In choosing a political

solution, the Federal Radio Commission would be forced to favor one interest group at the expense of another regardless of the decision it chooses.

The FRC was faced with potential influences outside of Congress as well. The radio trust and some members of the NAB were at odds over potential regulatory policies for radio broadcasting. RCA, for example, was anxious to contain the application of FRC policy that could hamper the sales of radio receivers since it held the patents on the devices or circuits needed to build radios. Licensing fees as a means of paying for programs, such as those imposed by Great Britain, were seen as a deterrent to the sale of radio receivers. And by 1927, the members of the radio trust held the most powerful radio stations, developed chain broadcasting, and had the engineering expertise to improve these stations quickly and dramatically.⁷⁵ RCA opposed policies which disfavored large stations and its radio network. Conversely smaller broadcasters were afraid of the potential and power of the RCA trust. These smaller National Association of Broadcasters members needed substantial revenues from advertising sales to build and expand their program offerings and broadcast facilities. These different factions attempted to coerce the FRC into adopting favorable policies to local or affiliated stations. While RCA would have favored a regulatory commission to ensure high engineering standards and the elimination of smaller nuisance stations, smaller NAB members would have favored a redistributive policy which required the delivery of programming at the local level.

The FRC tried to avoid upsetting the large station interests of the broadcasters and also tried to please the party or regional constituents' interests of Congress at the same time.⁷⁶ This strategy can be seen in the allocation scheme devised for General Order 40. The best channels favored large broadcast interests through the creation of 'clear channel' station allotments while the less powerful regional and local channel allotments could mollify many listeners concerned about their favorite local affiliated stations.⁷⁷ Given those countervailing forces, the strategy for implementing General Order 32 can be seen clearly. General Order 32 essentially reduced or eliminated marginal stations, including educational and special interest or 'propaganda' stations as the FRC referred to them. As a result of the FRC's general policies and the implementation of General Order 32, these stations found their power levels slashed and their hours of operation sharply curtailed. Clearly the actions of the commission are traced along the regulatory and redistributive trajectory; by reducing the influences of special interest groups such as educators and religious groups, the commission eliminated some of the complexity and pressure of resolving the equalization problem that faced them.

Lowi's taxonomy provides a useful way for using the historical record to assess the normative and empirical implications of radio regulation. This analysis contradicts the notion that implementation of the Davis Amendment would be best served using the very best engineering principles available. Looking at the outcomes, the implementation of the equalization principles becomes an amalgamation of both constituent and redistributive policies. For example, the intention to provide equalization of services to all regions of the country cuts across constituent boundaries, as previously noted in section 3 of this paper. However, Davis' criticism of the radio

commission for failing to reallocate power and frequency assignments of the large radio monopolies suggests the FRC should respond to Congress' desire to apply constituent policies while Dill's criticism that the FRC had not acted boldly enough suggests redistributive policies. Similarly Congress' refusal to confirm Commissioners Caldwell and Bellows suggests that members of Congress were uneasy with the close relationship between those two nominees and the powerful radio industry that was closely aligned with Herbert Hoover. These policy assumptions indicate normative policy goals Congress would have considered in voting the legislation for equalization up or down. However, along with normative assumptions were there Congressional concerns about formative outcomes, too? Did members of Congress assume that the likelihood of coercion on these Commissioners would be so great that they would do the bidding of the radio trust? Such a fear demonstrates one of the classic problems associated with the public interest capture theory.

In capture theory any institution with sufficient political influence will attempt to manipulate the policies of the agency. This may be too simplistic an explanation to understand the decisionmaking processes of the FRC. Any specific policy the FRC developed to help only one segment of the industry, say the large radio trusts, would meet the disapproval of those Congressmen who supported a different constituency, such as small, local stations. Again, Lowi's model provides illustrations of how external influences can be drawn along policy lines. The Federal Radio Commission was being pulled along *several* paths simultaneously. At the end of the first year, the influences upon the commission did not diminish. With the addition of specific equalization requirements in the Davis Amendment, the task that lay before the Commission was more complex politically and technically than ever. The Federal Radio Commission needed to develop an initiative that would free it from the constraints of developing a strategy for meeting the needs of just one of the four traditional sets of influences that are illustrated in figure 1.1. Instead, the Commission decided to focus on a technological solution to the administrative dilemma of having too many political interests clamoring for different policy solutions.

VI. General Order 40: Mixing Technology With Politics

Capture theory can be applied to scientific assessments as well as political influence peddling. Sheila Jasanoff states that bias in scientific assessment is commonly the result of conscious deception by 'experts' or of uncritical acceptance of the industry's viewpoint by agency officials.⁷⁸ Whatever regulations the Federal Radio Commission decided to effect regarding the interference problem, it was faced with the reality that broadcasting had established an important place in the social consciousness of America. McMahon notes that by the time Congress established the Commission in 1927, advertising had become the dominant mode of financing despite listener preferences for alternative ways to support radio programming.⁷⁹ Clearly the broadcasting networks had programming that the public wanted to listen to, and two members of the Commission had industry ties. But, it is the recommendations of the Institute of Radio Engineers that essentially assured the continuance of the large broadcasters by setting up the allocation scheme of several large, powerful clear channel stations in each zone of the country. In many cases

these large stations were already owned or affiliated with the broadcasting networks, either NBC or the newly formed Columbia Broadcasting System.

The decisionmaking process, at first blush, was seemingly based on engineering principles, but it appears to be influenced by political and economic decisions, as well as engineering requirements. For example, during the first years of the FRC, Alfred Goldsmith was both president of the Institute of Radio Engineers and the chief broadcast engineer of RCA. Thus, the recommendations of the radio engineers presented to the Commission must have reflected, at least to some degree, the beliefs of how to best deal with the interference problem from the perspective of the special committee and RCA's chief engineer.⁸⁰ Other members of the IRE committee set up to study the implementation of the Davis Amendment included C. W. Horn of Westinghouse Electric, R. H. Marriot of International News Corp., and L. E. Whittemore of the Bureau of Standards.

Several members of the Commission spoke against the acceptance of the recommendations of the engineers. On August 17, 1928, Louis Caldwell, General Counsel, notes in a memorandum to the Commissioners,⁸¹

3 a. The small stations are not being treated well under the proposed reallocation: it is foolish to think that they will be fooled into believing the contrary....

5. One manifest injustice in the proposed reallocation is the fact that on the whole all the so-called trust stations receive the very best treatment (in some cases the same corporation preserves two or three full-time assignments on the best channels) while the big independent stations in the Middle West are forced to divide time.

7. As a matter of fact, even the proposed reallocation does not come anywhere near complying with the Davis Amendment, under the heading of equality in number of stations.

Also taking issue with the engineers' report, Commissioner Sam Pickard, of Zone 4, wrote, "I feel it is unfortunate that my views on that subject (using the borrowing clause under equalization) are not shared by a majority of the Commission.... My apprehension is that the present effort to approach the ideal.... abruptly limits the facilities of this zone to a margin where stations, previously recognized as rendering worth while service by this Commission, cannot exist. "⁸²

Representative Ewin Davis, author of the amendment, also took exception to the engineers' allocation scheme writing, "....even from the standpoint of getting the National Broadcasting Company chain programs to the various sections of the country, there is no occasion for granting to such stations a monopoly of power or desirable and cleared channels, not to speak of the fact that such an allocation would deprive stations broadcasting independent programs of the share to which they are entitled..."⁸³

Even after adoption of the allocation scheme various influential people spoke out about the adoption of a commercially based systems as mapped out by the IRE and adopted by the Commission. Speaking to the American Academy of Air Law in April, 1931, Bethuel Webster, Jr. former General Counsel to the Federal Radio Commission stated⁸⁴:

One may praise many of the performances of the National Broadcasting, the Columbia Broadcasting System, and originated by some of the chain and a few of the unaffiliated stations, and at the same time deprecate legislative policy and administrative weakness that permit the use of the ether under federal franchise for self-advertising stunts, for the sale of quack medicine, and the exposition of religious or social creeds in which the public generally has no interest.

Whether or not the recommendations of the Institute of Radio Engineers represented the very best solution to the equalization clause conundrum embodied in the Davis Amendment is open to interpretation. Many debated the implementation and the outcomes until the Commission finally abandoned enforcement of the Amendment in 1932. The final outcome, an allotment scheme that provided radio stations of varying powers to serve the United States worked substantially well until after the heyday of AM radio. What is at issue is whether the Federal Radio Commission exercised due diligence in accepting the policy recommendations of a body that was biased in favor of the industry that created it. One could argue that the FRC did not have the ability to proceed in such a technical task since it did not establish its own engineering department until after the recommendations of the Institute of Radio Engineers on August 17, 1928.⁸⁵ But that criticism would not reflect the reality that John Dellinger, who was chief engineer at the Bureau of Standards, oversaw the Commission's technical needs during the interim period and ultimately became the chief engineer for the Commission. While Dellinger's title changed, his work responsibilities did not.

Perhaps of greater importance are the questions that revolve around the way the Commission solicited and accepted scientific advice. Members of the scientific community use a variety of boundary-defining strategies to establish their authority and enhance their stature within scientific area and their professional circle. This behavior can be traced in the relatively new, rapidly expanding field of electrical engineering. Engineers of the Institute of Radio Engineers did this by building professional communities, defining and excluding nonmembers, competing for and asserting primacy of knowledge, and asserting their authority against those who held divergent opinions. For example, between 1915 and 1920 the Institute of Radio Engineers Board, under its secretary David Sarnoff, attempted to influence policymakers to keep radio in the hands of private capital. That effort continued as RCA's chief engineer Alfred Goldsmith succeeded Sarnoff as secretary and then as president of the IRE. McMahon states that IRE's pronouncements confidently stated that "government interference always impedes technological creativity. The Board's assertions left no room for exceptions."⁸⁶ Thus the IRE's policy pronouncements from 1915 through 1930 seemed to reinforce the agenda for corporate entities that ultimately became part of the RCA 'radio trust.'

During the 1930's historian Charles Beard notes⁸⁷:

Few indeed are the duties of government in this age which can be discharged with the mere equipment of historic morals and commonsense. Whenever, with respect to any significant matter, Congress legislates, the Court interprets, and the President executes, they must have something more than good intentions; they must command technical competence.

In this case, the building of a national broadcasting system really required significant regulation before the technical knowledge existed on how to best build it and how best to regulate it. Perhaps McMahon provides the best overview of the significance of the Institute of Radio Engineers' role in the technical decisionmaking process when he concludes that in addition to participating in the invention and development of radio, engineers made it feasible for corporate leaders to achieve vast organizational and physical systems. They shaped both the bureaucratic context in which they worked and, in part, the social uses of the technology they helped create.⁸⁸

Does the analysis of the political and technological implications of the Davis Amendment hold significance and meaning for regulators and policymakers of today, particularly in areas where technology is rapidly changing the environment to be regulated? In *The Fifth Branch*, Jasanoff says the notion that the scientific component of decisionmaking can be separated from the political and entrusted to independent experts has been discredited. To prove useful, those making regulatory decisions need to be informed by an accurate knowledge of the internal dynamics of both science and regulation. She cautions that however rhetorically appealing it may be, no simple formula exists to allow for injecting expert opinion into public policy debate.⁸⁹ This caution should be inscribed for future communication policymakers to remember. Today, the pace of innovation of technology again calls to question the ability of regulators to make adequate decisions about which technologies hold promise for consumers and at what cost, what effects the implementation of new technology might be, and what impact these choices will have on current broadcast and telecommunications institutions.

Regulation restricts users' choice of activities and outcomes through the institutional consolidation of legislative, executive and judicial power in the single apparatus of independent commission. The mode of action can be informal through the companion use of consultative bodies, the adjudication is flexible on a case-by-case basis, and the rulemaking procedures can be formal defining the way participation in a proceeding will occur. Given the ability of the institution to set rules, the complex interaction of influences on the regulatory process and the flexible authority of the independent commission, scholars and consumers alike would be well advised to understand the contingent and socially constructed character of regulatory decisionmaking.

¹ Douglas, Susan J., *Inventing American Broadcasting 1899-1922*. Baltimore, MD: Johns Hopkins University Press. 1987. pp. xix.

² See Lowi, Theodore, *The End of Liberalism* (2nd. ed.). New York, NY: Norton. 1979. Also see Horwitz, Robert Britt, *The Irony of Regulatory Reform: The Deregulation of American Telecommunications*, New York, NY: Oxford University Press. 1989. pp. 31.

³ Popper, Karl, "Prediction and Prophecy in the Social Sciences" in Patrick Gardiner (ed.) *Theories of History*. New York: The Free Press, 1959. pp. 276-85.

⁴ McChesney, Robert W., *Telecommunications, Mass Media and Democracy: The Battle for the Control of U. S. Broadcasting, 1928-1935*, Oxford: Oxford University Press, 1993. pp. 18-21.

⁵ See Sterling, Christopher H. and John M. Kittross, *Stay Tuned: A Concise History of American Broadcasting*. Belmont, Ca: Wadsworth Publishing Co. 1990. pp. 111.

⁶ For example, Rosen looks at the beginning of radio broadcasting and its relationship to government over an expansive time period, covering the Federal Radio Commission's implementation of the Davis Amendment as a small part of the total work. Rosen, Philip T., *The Modern Stentors: Radio Broadcasting and the Federal Government, 1920-1934*, Westport, Conn.: Greenwood Press, 1980. Louise Benjamin's wonderfully documented manuscript *Ariel's Covenant* (forthcoming) describes how the newly formed commission began and organized itself, and *Congressional Digest's* October 1928 edition takes on the Davis Amendment controversy by describing the problems involved in implementing the specific requirements of the amendment. *Congressional Digest*, Vol. 7. No. 10. October, 1928. pp. 255-286.

⁷ Federal Radio Commission, *Annual Reports Number 1-7, 1927-1933*, Reprinted in *History of Broadcasting: Radio and Television*, Christopher Sterling, ed. Arno Press and the New York Times: New York, 1971. pp. 1

⁸ See *United States v. Zenith Radio Corporation*, 12 Fed. (2nd series) 614.

⁹ Lowi, Theodore J. "Four Systems of Policy, Politics, and Choice." *Public Administration Review*, Summer 1972. 299.

¹⁰ Merritt, Dixon, "To Unscramble the Air." *The Outlook*, January 19, 1927. vol. 145. no. 3. pp. 75-76.

¹¹ It appears that Congress understood the problems involved in this area. See Committee on Interstate Commerce, Sixty-ninth Congress, Report 772, May 6, 1926. "If the channels of radio transmission were unlimited in number, the importance of the regulatory body would be greatly lessened, but these channels are limited and restricted in number and the decision as to who shall be permitted to use them and on what terms and for what periods of time...."

¹² McChesney supra note 4, at 16., On December 7, 1926 President Coolidge said, " the whole service of this most important public function has drifted into such chaos as seems likely, if not remedied, to destroy its (radio's) great value. I urgently recommend that this legislation should be speedily enacted." *Congressional Digest*, supra note 6, at 257.

¹³ Public Act No. 632, 69th Congress, 2d session. entitled "An act for the regulation of radio communications". Evidently both of the original bills appeared to be flawed in granting the regulatory party sufficient control or power over the licensee. The ABA noted that neither "....deals adequately with the difficult problem of reducing interference" and that both bills ought to be amended 'so as to provide for closing up superfluous stations and for paying just compensation to them'. " Air Law Committee, "Interim Report on Radio Legislation," *American Bar Association Journal*, Vol. 12. No 12. December, 1926. pp. 848. Merritt, Dixon, supra note 10. pp. 75-76.

¹⁴ Public Act No. 632, 69th Congress, 2d session. The law created a five member panel appointed to overlapping six years terms. Each commissioner was to be responsible for a geographical 'zone' encompassing a large section of the country. However, the original authorization bill expired one year after passage. The Congress needed to reauthorize the Commission in 1928. In 1929, Congress extended the Commission indefinitely. See *Congressional Digest*, supra note 6, at 265.

¹⁵ The commissioners included Rear Admiral W. H. G. Bullard for the second zone, Judge Eugene O. Sykes for the third zone, and Orestes H. Caldwell for the first zone. Neither Henry A. Bellows of Minneapolis for the fourth zone nor John F. Dillion for the fifth zone was not confirmed by Congress. Though Caldwell actively sought appointment, he was not confirmed by the 69th Congress. (*The Outlook* says that the objection to both Caldwell and Bellows, according to Dill, was they were seen to be under the influence of Hoover. See *The Outlook*, March 23, 1927. vol. 145. no. 12. pp. 356.) According to Barnouw, Caldwell decided to start work under his interim appointment, without salary, hoping to be confirmed in the next session of Congress. Barnouw, Erik, *A Tower in Babel: A History of Broadcasting in the United States, Volume 1 to 1933*, New York: Oxford University Press, 1966. pp. 213. Several other governmental agencies lent support to the orphaned commission. Loaned from the Department of Agriculture, Sam Pickard became the Commission's secretary. The Navy loaned the commission the services of Captain Stanford Hooper while the Department of Commerce lend the services of John H. Dellinger, chief of the Commerce's Radio Division. Benjamin, supra note 6, at Ch.. 6, pp. 2.

¹⁶ Minutes of Discussion of the Federal Radio Commission, April 29, 1927, NARG -173, Box 128, DOA - Executive Director, General Correspondence.

¹⁷ McChesney, supra note 4, at 19.

¹⁸ *General Order 11* issued at a meeting of the Federal Radio Commission, May 21, 1927, NARG-173, Box 128, DOA-Executive Director, General Correspondence. While it does not call for the elimination of any stations, the FRC clearly states that it believes that elimination of interference can only be accomplished by reducing the number of broadcasting stations by 40%. The document also draws special attention to the fact that there are no unallocated frequencies from which to draw upon. Hence, the Commission indicates that it will be reassigning many stations to different frequencies.

¹⁹ Schmeckebier, Laurence F., *The Federal Radio Commission: Its History, Activities and Organization*, Service Monographs of the United States Government No. 65, The Brookings Institution: Washington, 1932. pp. 23.

²⁰ Federal Radio Commission, supra note 7 at 9. See the *Annual Report of the Federal Radio Commission*.

²¹ See Minutes of the meeting of the Federal Radio Commission, June 7, 1927, NARG-173, Box 128, DOA-Executive Director, General Correspondence. General Order 19 issued by the Federal Radio Commission, November 14, 1927, NARG-173, Box 128, DOA-Executive Director, General Correspondence. Special Order 211 issued by the Federal Radio Commission effected the reassignment of many stations to help with the interference problem in rural areas. See Federal Radio Commission, Special Order 211, November 16, 1927, NARG-173, Box 128, DOA-Executive Director, General Correspondence.

²² United States Congress, House of Representatives, Committee on the Merchant Marine and Fisheries, *Hearings on the Federal Radio Commission*, 70th Congress 1st session. January 26, 1928. pp. 3.

²³ This statement is not meant to suggest that the FRC had no plan or organizational conception of what it wanted to accomplish. For example, one of its first actions was to place all stations on even ten kilocycle spacing. Similarly, during the summer of 1927 the FRC separated stations in the same locality by at least five channels. Both of these techniques required some overarching plan. However, most problems were examined on a case-by-case basis. See "How the Federal Radio Commission Brought Order Out of Chaos" by Caldwell, Orestes, *Congressional Digest* supra note 6, pp. 266.

²⁴ See General Orders 10,11,12; Special Orders 5,6,7,8,9, Special Order 211. Federal Radio Commission supra note 5, NARG-173, Box 128, DOA-Executive Director, General Correspondence. See also Herring, J. M. "Equalization of Broadcasting Facilities Within the United States," *Harvard Business Review*, Vol. 9. no. 4, 1930. pp., 417- 430.

²⁵ "Urges Fixing Power of the Radio Board," *New York Times*, January 31, 1928. pp. 18.

²⁶ Rosen, Philip T. supra note 4. pp. 129. See also Schmeckebier, Laurence F. supra note 19. pp. 25. *Time Magazine* wrote that the large broadcast interests would be displeased with the actions of Congress during the reauthorization of the FRC because "(T)he effect may be to cut the franchises of the rich, long-established stations in New and Chicago zones to benefit the Southern and lower-Midwestern stations." "Radio: Opportunity for Service," *Time Magazine*, Vol. XI. no. 15, April 9, 1928. pp. ??????

²⁷ United States Congress, House of Representatives, Committee on the Merchant Marine and Fisheries, *Report on the Federal Radio Commission to accompany S. 2317., Report No. 800*, 70th Congress 1st session. February 29, 1928. pp. 2.

²⁸ Barnouw, supra note 15. pp. 215.

²⁹ Rosen, Philip T. supra note 6. pp. 129.

³⁰ United States Congress supra note 22. pp. 31.

³¹ "Senate Demands Radio Bill Parley," *New York Times*, March 14, 1928. pp. 6-7. (??)

³² "Radio Men to Fight Bill In Washington," *New York Times*, March 7, 1928. pp. 30.

³³ "Radio War Rages Around 'Equal Division' Amendment." *New York Times*, March 4, 1928. pp. 19.; "Ides of March Loom as Day Approaches" *New York Times*, March 11, 1928. pp. 15.

³⁴ "Battle in Congress Opens on Radio Bill" *New York Times*, March 2, 1928, pp. 22.

³⁵ "Will the Davis Amendment Bring Better Radio?" *Congressional Digest* supra note 6. pp. 268.

³⁶ Minutes of the meeting of the Federal Radio Commission, February 17, 1928, NARG-173, Box 128, DOA-Executive Director, General Correspondence. pp. 341, 343.

³⁷ *New York Times*, supra note 33. pp. 19. It should be noted that the *New York Times* was probably not an impartial observer. Since its main readership was New York City, the Times reflected the indignation that the city might lose some radio stations during a reallocation of the Davis Amendment. See "Radio Men Unmoved by Davis Measure," *New York Times*, March 3, 1928. pp. 10.

³⁸ After a prolonged debate the bill passed 235 to 135. The vote was split along geographical lines with the majority of the opposition from the heavily populated states of the East and Midwest. See Schmeckebier, Laurence F. supra note 19. pp. 28.

³⁹ 45 Stat. L., 373. section 9.

⁴⁰ Rosen, *supra* note 6. pp. 130.

⁴¹ *Congressional Digest*, *supra* note 6. pp. 262.

⁴² Federal Radio Commission, *supra* note 7. pp. 12.

⁴³ *id*

⁴⁴ "Report of Radio Engineers to the Federal Radio Commission," *Journal of the Institute of Electrical Engineers*, Vol. 17 ??? pp. 556. See also Press Release of the Federal Radio Commission (hereinafter Press Release), April 11, 1928, NARG-173, Box 128, DOA-Executive Director, General Correspondence. By contrast, when the FRC came into being in 1927, it used the same techniques that the Secretary of Commerce had used in the National Radio Conference of the 1920s. Then the Commission asks broadcasters for input to a possible solution to the interference problem. See Federal Radio Commission, *supra* note 7. at 3. Most of the input reflected commercial interests. See also McChesney, *supra* note 4. at 19.

⁴⁵ See Minutes of the meeting of the Federal Radio Commission, April 11, 1928, NARG-173, Box 128, DOA-Executive Director, General Correspondence.

⁴⁶ At one oversight hearing, Chairman Ira Robinson complained of 'political pressure constantly exercised...in all manner of cases' by members of Congress. See Schmeckebier, Laurence F. *supra* note 10 at 57. This pressure, coupled with Congress' passage of the one-year term clause in the 1928 reauthorization certainly illustrated the coercive potential of the legislature on the independent body. See Barnouw, Erik *supra* note 15 at pp. 217.

⁴⁷ Press Release, *supra* 41.

⁴⁸ Federal Radio Commission, *supra* note 7. Appendix 'E' pp. 142- 150. J. H. Dellinger attempted to discredit the plan submitted by the National Association of Broadcasters because it strayed too far from engineering considerations. In writing an analysis of the broadcasters' plan Dellinger wrote, "Several speakers at the hearing emphasized that engineering considerations are not the only ones involved, and that other matters, financial problems, local conditions, etc. make some of the engineering recommendations impracticable. While it is true that the problem of broadcast allocation is too complex to be solved by straight engineering calculation, nevertheless its solution can not be right if it disregards any valid engineering principle."

⁴⁹ *New York Times*, "Radio Allies Offer Allocation Plan," April 23, 1928. pp. 18.

⁵⁰ Federal Radio Commission *supra* note 7. Appendix "E", "Summary of the conference of engineers on April 6, 1928, by J. H. Dellinger" at 133. Dellinger states " (S)ince the law requires equality of the number of hours and licenses among the zones, and, according to population, among the States within each zone, if time is divided on a given channel among several stations in any one State, this division must be duplicated on some channel in every other zone and proportionally in every State."

⁵¹ Increasing the number of stations as a political expedient would have required the FRC to rescinding General Orders 92 and 102 which set forth the method by which equalization would be brought about. General Order 102 prohibited the FRC from allocating more stations to zones that already used its pro-rated share of facilities.

⁵² Federal Radio Commission *supra* note 7 at 150.

⁵³ While Commissioner La Fount moved for the adoption of the basic principles of the Engineer's Plan on July 24, this was really a formality since the Commission had been working on the basic plan since April. Lafount, Harold A., Memorandum, July 24, 1928" NARG-173, Box 128, DOA-Executive Director, General Correspondence.

⁵⁴ Federal Radio Commission *supra* note 7 at 163.

⁵⁵ Slotten, Hugh Richard, "Creating "Radio Paradise": Radio Engineers, the Federal Radio Commission, and Technological Systems"(Unpublished manuscript). p. 21-22.

⁵⁶ During this period and through the fall, Commission members sought public support for the engineers' report. For example, on a tour of Western states, Fifth Zone Commissioner Harold LaFount supported the clear channel concept by stating: "We hear a lot about freakish characteristics of radio, but we know enough about it to realize that one station on a channel produces the desired results." See "West unworried over new waves," *New York Times*, May 6, 1928. xx. pp. 21.

⁵⁷ Herring, J. M., "Equalization of Broadcasting Facilities Within the United States," *Harvard Business Review*, vol. 9, No. 4. 1930. 423.

⁵⁸ Four Commissions supported the plan. Ira Robinson, as noted earlier, voted against the Order believing that the Davis Amendment did not require immediate action.

⁵⁹ "Radio Engineer Analyzes New Broadcasting-Allocation Plan," NARG-173, Box 128, DOA-Executive Director, General Correspondence.

⁶⁰ Memorandum to Broadcasting Committee, NARG-173, Box 128, DOA-Executive Director, General Correspondence. General Order 40 issued August 30, 1928 by the Federal Radio Commission, August 30, 1928, NARG-173, Box 128, DOA-Executive Director, General Correspondence.

⁶¹ Memorandum 180 "To All Persons Holding Licenses to Broadcast" Federal Radio Commission, September 11, 1928. NARG-173, Box 128, DOA-Executive Director, General Correspondence.

⁶² Memorandum to Eugene O. Sykes from G. Franklin Wisner, NARG-173, Box 128, DOA-Executive Director, General Correspondence.

⁶³ Id.

⁶⁴ Caldwell, O. H. "How the Federal Radio Commission Brought Order Out of Chaos" from *Congressional Digest* supra note 6 at 266.

⁶⁵ Orestes H. Caldwell, "Why the broadcasting reallocation was made," NARG-173, Box 128, DOA-Executive Director, General Correspondence.

⁶⁶ Dellinger, J. H., "The New Dial Settings:" NARG-173, Box 128, DOA-Executive Director, General Correspondence. Dellinger, J. H. "Analysis of Broadcasting Station Allocation," *Journal of the Institute of Radio Engineers*. Vol. 16. no. 11. Nov., 1928. pp. 1477-1485.

⁶⁷ Caldwell, Louis G. "The Standard of Public Interest, Convenience or necessity as used in the Radio Act of 1927," *Air Law Review*, Vol. 2, No. 3. July, 1930. pp. 326.

⁶⁸ Herring, J. M. supra note 22 at 422.

⁶⁹ Gilderhaus, Mark T. *History and Historians: A Historical Introduction*, 2nd ed., Englewood Cliffs, N.J.: Prentice Hall, 1995. pp. 80.

⁷⁰ Horwitz, Robert Brett, *The Irony of Regulatory Reform: The Deregulation of American Telecommunications*. New York, NY: Oxford University Press, 1989. pp. 27.

⁷¹ Id. pp. 22. Horwitz provides an outstanding discussion of the different theories of regulation and their specific weaknesses and strengths.

⁷² Id. pp. 121.

⁷³ See Lowi, Theodore J. supra note 9 for a complete discussion of this schema.

⁷⁴ Jome, Hiram L., *Economics of the Radio Industry*, Chicago: A. W. Shaw & Co., reprinted by the Arno Press, New York, 1971. pp. 53. The formation of the radio trust and the creation of RCA occurred largely because of government intervention so as to making the licensing of technology easier.

⁷⁵ McMahon, A. Michal, *The Making of a Profession: A Century of Electrical Engineering in America*, New York: Institute of Electrical and Electronics Engineers Press. 1984. pp. 163. See also Jome, supra note 74. pp. 251.

⁷⁶ During the spring of 1928, the FRC quickly approved power increases and frequency changes for stations in the southern zone but withheld changes in allocation or allotment for stations in the East and Midwest. See NARG-173, Box 128, DOA-Executive Director, General Correspondence. FRC minutes April 11, 1928.

⁷⁷ See a "Memorandum to Mr. Caldwell" which states: "(A)ll the present high-powered stations are backed by large electric or radio interests and were established early in 1921 or 1922. At that time these were practically the only organizations that saw the possibilities of high-powered broadcasting, had the engineering backing and financial ability to undertake such station construction." Butman, Carl, H., Secretary, Federal Radio Commission. NARG-167, Box 7, General Records of J. H. Dellinger. February 2, 1928.

⁷⁸ Jasanoff, Sheila, *The Fifth Branch: Science Advisers as Policymakers*, Cambridge: Harvard University Press. 1990. pp. 15.

⁷⁹ McMahon, A. Michal, Supra note 75. p. 163. Jome notes the probability that indirect advertising will support stations in 1926. Supra note 74. pp. 246.

⁸⁰ McMahon notes that the FRC and the IRE were so close during these early years that two of the five commissioners served as IRE Board members, too. Supra note 75. p. 164.

⁸¹ Caldwell, Louis G. NARG-167, Box 87, General Records of J. H. Dellinger. August 17, 1928.

⁸² Pickard, Sam. NARG-167, Box 87, General Records of J. H. Dellinger. August 31, 1928.

⁸³ Davis, Ewin, letter to the Federal Radio Commission, Federal Radio Commission, *Annual Reports Number 1-7, 1927-1933*, Reprinted in *History of Broadcasting: Radio and Television*, Supra note 7. pp. 134.

⁸⁴ Webster, Jr. Bethuel M. "Our Stake In the Ether," address to The American Academy of Air Law and The School of Law, New York University. April 10, 1931. pp. 9.

⁸⁵ Dellinger, J. H. NARG-167, Box 87, General Records of J. H. Dellinger. August 17, 1928.

⁸⁶ McMahon, Michal A., Supra note 75. pp. 152.

⁸⁷ Beard, Charles A. *The American Leviathan: The Republic in the Machine Age*. New York: Oxford University Press, 1941. pp. 297

⁸⁸ McMahon, Michal, A. Supra note 75. pp. 157.

⁸⁹ Jasanoff, Shiela. Supra note 78. pp. 17.