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THE POLITICS OF FLUORIDATION IN SEVEN CALIFORNIA CITIES

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We have an audience of dentists tonight, from the dental convention in town. You know, I've always wondered. . . . How many of you are in favor of the fluoridation of water? . . . Uh, huh. And how many against it? . . . Nobody? Gee, I thought it was a controversial issue. Jack Paar

AS A HEALTH MEASURE, the fluoridation of community water supplies has been approved and enthusiastically endorsed for over a decade by virtually all the important health people and organizations in the country. Its value is being verified by an increasing number of experiments, surveys, and studies.

Yet at the same time it is being rejected more and more consistently by voters at the local level. There are 11 communities in California which have voted favorably on fluoridation in referendums, while more than 25 others have considered the idea at the ballot box and rejected it. Since 1957 there have been at least 16 fluoridation referendums in the state, and in all but two of these the measure was rejected.

It is the purpose here to consider this curious phenomenon, to analyze its causes and effects, and to draw some conclusions about its implications for other issues in the political arena.

Fluoridation, its proponents assert, is a safe, well-tested, economical procedure for markedly improving the dental health of children through the addition of fluoride salts to the water supply in the ratio of one part of fluoride per million. At higher concentrations a cosmetically undesirable stain appears on the teeth, a condition called "fluorosis," but this problem can be avoided if the concentration is carefully controlled.

Several points should be made about the political nature of this issue:

1. The health benefits of the measure are remote and statistical, and directly accrue to a segment of the population which is not included in the electorate.

2. Fluoridation itself, while it *benefits* only some, *affects* everybody in a most vital manner — through the very water that is consumed.

3. The measure is chiefly sponsored by people who are not ordinarily active in the political arena — health professionals. Thus the issue is not linked in the voter's mind with any particular political personality or party — it is, in this sense, seen on its own merits.

4. As it has developed, the proposal is not subject to compromise. The "pros," after extensive consideration, resolutely reject alternative methods of mass distribution as grossly unworkable, dangerous, or both. And there is no way of fluoridating only that part of the water supply which is intended for children.

5. The measure as presented to the electorate is rather simple and clean-cut. Unlike a political candidate, it has no personality, family, or dog. Unlike many other

ballot measures, it presents few problems of legalistic obscurity or of financial complexity.

6. Essentially, fluoridation is not a money issue. While financial arguments are sometimes heard, rarely (if ever) has the installation and upkeep of fluoridation equipment been of great financial concern to the solvent city, and a bond election has apparently never been required.

In this investigation of the fluoridation controversy,[1] seven California communities were selected which had held fluoridation referendums. These communities and especially the campaigns in each were subjected to analysis and then compared. It was hoped that this procedure would avoid some of the problems which are found in much of the previous work on the subject. Most of this work is based on more or less detailed case studies of individual campaigns (and almost always ones in which the "antis" win). Often neglected in these studies are certain vital data such as community voting history, other issues on the same ballot, and positions of such groups as parties, churches, unions, and fraternal organizations. In addition, they often tend to be overly influenced in their generalizations by specific idiosyncrasies of the situation under study. Finally, such studies, because of their selected emphases, are not comparable. As Peter H. Rossi has asserted, "Only through a comparative approach, studies of large numbers of decisions on comparable issues, will it be possible to go beyond the particular. . . . Research on decision making should be extensive rather than intensive and comparative rather than the case study technique." [2]

At the other extreme, there are studies which compare communities, but do so only with respect to certain rather superficial characteristics, such as population size, median age, educational level, and average income. The most extensive of these has been done by William A. Gamson and Peter H. Irons, who analyzed four sets of data including information on some 609 communities distributed throughout the nation. They conclude, "The relationship between the different variables examined and outcome on fluoridation has been quite weak." Their suggestion for further research is essentially that carried out in the present study: "A systematic study in a series of communities of who does what, when, and how in the course of a fluoridation controversy, appears to be a better investment of resources than a continued search for fixed demographic attributes." [3]

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[1] This investigation was supported by the School of Dentistry, University of California, Los Angeles; and by a Public Health Service fellowship from the National Institute of Dental Research, Public Health Service. The advice and encouragement of Dwaine Marvick and John W. Knutson of the University of California, Los Angeles, is gratefully acknowledged.

[2] "Community Decision Making," *Administrative Science Quarterly,* 1 (1957), 436–38.

[3] "Community Characteristics and Fluoridation Outcome," *Journal of Social Issues,* Vol. 17, No. 4 (1961), 73–74. A preliminary note by S. Stephen Kegeles on similar research he was doing on 583 referendums in 509 communities suggests "general agreement with the Gamson-Irons conclusions." He agrees that, "in general, the correlations appear low and support their conclusion that types of data other than demographic are demanded." "Some Unanswered Questions and Action Implications of Social Research in Fluoridation," *Journal of Social Issues,* Vol. 17, No. 4 (1961), 80. Maurice Pinard has also done some work using demographic data on 262 cities which had also been examined by Gamson and Irons. He concludes that city size, turnout, growth rate, ethnic and racial composition, occupational and power structures, and conditions of the labor market are related to fluoridation outcome. He uses a somewhat questionable technique of juggling dichotomies with interval data to arrive at these conclusions some of which are contra-

Data in each of the seven communities analyzed in this study were collected through interviews and documentary analysis. The major interviews were of leaders of the pro and anti forces. These were conducted in a conversational manner with the interviewer seeking to get information enough to fill in as many of the "blanks" as possible in a list of categories for comparison. Each side was asked both about itself and about the opposition. The interviews ranged in duration from an hour to four and one-half hours. In most of the cities one or two other people, including city managers, health officials, and newspaper editors were also questioned about the fluoridation controversy. Their testimony, however, was generally less valuable because, since they were less closely involved, they tended to have vaguer and more secondary information. One respondent (but only one) was clearly lying, and one (but only one) terminated the interview abruptly — he became suspicious that the interviewer was a spy from the "fluoridation promoters" of the Aluminum Company of America.

The most helpful documents were the local newspapers. News items provided data on the campaigns and on the history of the issue. In addition, the newspapers were influential instruments *of* the campaign by means of letters to the editor, political advertising, and editorials. All of the towns had local newspapers and back issues for all of them were available either through the newspaper office or the local library. Newspapers in five of the communities had clipping files which proved to be extremely helpful. In every case, the newspapers for the period of the campaign were gone through page by page to obtain some idea of other issues and attitudes that were involved at the time, as well as to secure information on the fluoridation controversy itself.

Other documentary help came from a variety of sources. City and county records, including departmental reports, election statistics and minutes of relevant meetings, were analyzed. Files, reports, scrapbooks, and propaganda of both sides were generally available for inspection (in two cases complete files were given outright to the interviewer). General reference works, such as the *Municipal Yearbook,* reports of the Census Bureau, and Ayer's newspaper directory were used for background information. Publications of the State Department of Public Health, and of local dental societies were also helpful. Finally, research into some of the aspects of the campaigns in Palo Alto, Long Beach, and Pomona, had been done previously and this was carefully examined.[4]

This approach seemed adequate in each community to fill in the appropriate blanks of an outline of "categories for comparison." These categories had been worked out previous to the beginning of the research from an examination of the

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dictory to the results Gamson and Irons derive using less wasteful correlation techniques. Pinard's cutting points, the selection of which he nowhere justifies, sometimes vary from table to table and often are rather far from the median. "Structural Attachments and Political Support in Urban Politics: The Case of Fluoridation Referendums," *American Journal of Sociology,* 68 (March 1963), 513–26.

[4] James E. Brinton and L. Norman McKown, "Effects of Newspaper Reading on Knowledge and Attitudes," *Journalism Quarterly,* 38 (Spring 1961), 187–95; Douglas W. Stephens, "Why Fluoridation was Defeated in Long Beach, California," *Oral Hygiene,* 48 (May 1958), 30–33; Mt. San Antonio College, "Pomona Fluoridation Survey" (May 7, 1956), 10 pages, mimeographed.

existing literature — especially of fluoridation campaign case studies [5] — and they were amended and altered during the research that they might better fit the needs of the project.

The seven cities were selected more for convenience and vote result than for any other reason. A definite attempt was made to get a set of communities in which the fortunes of the measure had varied widely. Four of the cities finally selected were in Los Angeles County, and all were south of San Francisco. The cities varied considerably in size, but it was found no more difficult to deal with the campaigns in the large cities than to deal with those in the small ones. None of the cities had had a previous fluoridation referendum and none was fluoridated at the time of the campaign. There were active anti campaigns in all the cities except Los Banos.

TABLE 1

THE SEVEN CITIES

City	*1960 Population*	*Characterization*	*Year of Vote*	*Pro Vote Percentage*
Los Banos	5,272	Rural	1957	68
San Luis Obispo	20,437	Independent City	1953	56
Palo Alto	52,287	Suburb	1954	55.5
Manhattan Beach	33,934	Suburb	1960	44
Long Beach	334,168	Central City	1957	41
Pomona	60,157	Suburb	1957	36
Glendale	119,442	Suburb	1953	28

THE VOTE

While there is some conflicting evidence, it is reasonably clear who tends to vote for and against fluoridation. Ideologically, those people who might be called "non-economic liberals" tend *slightly* to vote for fluoridation. The "non-economic liberal" is internationalist in foreign policy, integrationist in civil rights, tolerant on civil liberties, and conservative on domestic economic matters. (This interpretation resolves the conflict found by William A. Gamson who notes that the pros tend somewhat to favor school desegregation and foreign involvement, and at the same time to like Ike and to be anti-labor.[6])

People who vote for fluoridation tend somewhat more markedly to have certain sociological characteristics in common: for example, there seems to be some tendency for them to be among the better educated, the younger, and the financially more fortunate. Demographic precinct analysis done in six of the cities (the seventh had

[5] Particularly helpful were Donald R. McNeil, *The Fight for Fluoridation* (New York: Oxford U. Press, 1957); and Committee to Protect Our Children's Teeth, Inc., *Gains and Setbacks: Community Experiences on Efforts for Acceptance of Water Fluoridation* (New York, 1955).

[6] William A. Gamson, "The Fluoridation Dialogue: Is It an Ideological Conflict?" *Public Opinion Quarterly*, 25 (Winter 1961), 531–32; and "Social Science Aspects of Fluoridation: A Summary of Research," *Health Education Journal*, 19 (September 1961), 161–62.

only two precincts) demonstrated these relationships fairly consistently. The newer, suburban areas tended to vote for fluoridation, while the older, poorer sections of town tended to vote against it. The sections which housed many old people in Long Beach, the only city studied in which the aged were concentrated in geographic areas, also were among the most avidly against fluoridation.

From the psychological standpoint the investigations of Gamson [7] and Arnold Simmel[8] seem to indicate that those people who vote against fluoridation also tend to rate low on scales of political efficacy and to have some sense of deprivation relative to some reference group.

Certain of the usual political voting factors, however, seem to have little effect. James S. Coleman cites some statistics which appear to demonstrate a negative correlation between turnout and success of fluoridation, but Gamson and Irons in later and more extensive analysis found "nothing of significance." [9] Insofar as the seven cities are concerned, analysis of vote turnout gives no meaningful pattern. Nor does there appear to be a relation between turnout *by precinct* and vote on fluoridation. Precincts in Pomona were analyzed and the Pearson correlation coefficient was computed comparing turnout and vote result. The turnout varied from 36 to 77 per cent, the pro vote from 15 to 64 per cent. The coefficient of correlation was only —.16.

Analysis comparing precinct results on fluoridation with those on other issues considered by the voters at the same time proved to be equally inconclusive. There was a clear correlation between the vote on fluoridation and that on the other issues (and on certain candidates) in Pomona, but in other cities there was a mixed pattern and in some, such as Long Beach, there was virtually no correlation at all.

These considerations alone clearly are not adequate to explain the vote result. If sociological characteristics, such as education, wealth, and age determine the vote, and if the presence of people with appropriate characteristics has an effect on the city as a unit, cities of high median education, great wealth, and low median age should have a better record with regard to fluoridation than do those of the opposite characteristics. This, as was noted above, has not proved to be the case. Similarly, the psychological correlates of political efficacy or alienation and relative deprivation are also tendency statements which do not alone determine the vote result, for many cities with electorates which have remained relatively stable psychologically (and ideologically and sociologically) have voted more than once on fluoridation, often with widely divergent results.

The effect of these variables is to form a sort of framework. Thus, *all other things constant,* fluoridation is perhaps likely to do better where the voters are ideologically non-economic liberals, better educated, wealthier, younger, and possessed

[7] "The Fluoridation Dialogue . . . ," pp. 526–37; and "How to Lose a Fluoridation Referendum," Document 25, Social Science Program, Harvard School of Public Health (August 1961), 11 pages, mimeographed.

[8] "A Signpost for Research on Fluoridation Conflicts: The Concept of Relative Deprivation," *Journal of Social Issues,* Vol. 17, No. 4 (1961), 26–36; and (with David B. Ast), "Some Correlates of Opinion on Fluoridation," *American Journal of Public Health,* 52 (August 1962), 1269–73.

[9] James S. Coleman, *Community Conflict* (Glencoe: Free Press, 1957), p. 19. William A. Gamson and Peter H. Irons, "Community Characteristics and Fluoridation Outcome," *Journal of Social Issues,* Vol. 17, No. 4 (1961), 73.

with a lower sense of alienation and relative deprivation. But the important variable functioning within this framework and playing upon the variables that make the framework up is the nature of the campaign.[10]

The Fluoridation Campaign

The opinion polls indicate that the pros start with an advantage. When the average citizen in a non-campaign situation hears about fluoridation through news media or conversation, what he hears is more likely than not to be favorable. The Gallup Poll in 1953 found that, of the 61 per cent who had heard of fluoridation and did not have it in their city, 59 per cent favored it, 16 per cent opposed it, and 25 per cent had no opinion.[11]

A poll conducted by a class of sociology students in Pomona gave fairly similar results.[12] (See Table 2.) In this sample of registered voters, 77 per cent had heard of fluoridation. The poll was conducted in March 1956. On April 9, 1957, the voters of Pomona turned fluoridation down by a vote of 36 to 64 per cent. Since it is extremely unlikely that in one year Pomona was invaded by hundreds of people who were poor, poorly educated, old, non-economic conservatives, politically insecure, and/or relatively deprived, it appears that this change of opinion was due to the campaign.

TABLE 2

THE POMONA POLL

(in percentages)

	Favor	*Oppose*	*No Opinion*	
Had heard of fluoridation	52.0	19.6	28.4	(100)
Had not heard of fluoridation	21.5	19.6	58.9	(100)
TOTAL*	47.2	19.4	33.4	(100)

* Includes some who gave other than a yes or no answer to the question on knowledge of fluoridation.

Thus, it is clear that a large percentage of the voters, between a quarter and a third, have never even heard of fluoridation before the campaign begins and that of those who *have* heard of it, a full 25 per cent have no opinion on the matter. Furthermore, even though most people who have heard about it are favorably disposed toward fluoridation, it is likely that they are not deeply committed; that is to say, they can change their minds without loss of face before others and without running into problems because of some internal need for consistency. Therefore, the

[10] Benjamin D. Paul concurs with this assessment. ". . . the research needs to be widened to include an analysis of situational variables in addition to personality or demographic variables. Results of successive votes on fluoridation in the same community have differed widely, and it is clear that such short-run variations must be ascribed to differences in the nature of the campaign and other situational features." "Fluoridation and the Social Scientist," *Journal of Social Issues,* Vol. 17, No. 4 (1961), 9.

[11] Poll on April 17, 1953. *Los Angeles Times,* May 22, 1953.

[12] Mt. San Antonio College, *op. cit.* Here 45 students under the direction of Mr. Stanley M. Honer polled a sample of 532 voters (2.89 per cent of those registered).

problem for the pros in the campaign is to align the many uninformed and especially to get the favorably disposed committed.

The antis start behind, but they have some latent support. From 15 to 20 per cent of the public, including those who have never heard of fluoridation, appear to be unfavorably disposed toward the measure. The antis must commit this group, align the uninformed, and in addition, *convert* many of those who are favorably disposed.

There are two more or less separable considerations involved in carrying out these basic strategies. One is the selection of arguments to be used and the emphasis placed on one argument over another. The other is the propagation of these arguments through campaign organization and activity.

Argument

The argument of the pros is rather simple and straightforward: they assert that fluoridation will reduce tooth decay in children. Most of the rest of the arguments are essentially counterarguments: contrary to what the antis say, water fluoridation is safe, technically reliable, economically sound, preferable to other methods of administration, "natural," legal, constitutional, and consonant with individual rights. Because of this counterargument feature, the pro campaigns often appear to be defensive in nature. Also stressed by the pros is the support for the measure from all major national and local health organizations and attempts are made to demonstrate that it has been widely adopted. Finally, attacks are usually made on the antis: their small number and lack of prestige are pointed out, their competence is depreciated, and their motives are questioned.

The antis' argument politically is a very powerful one, given the nature of the issue and the half-interested, open-minded demeanor of the electorate. *To win, they need only to create doubt about fluoridation; they do not need to convince the electorate of all their points.* As was noted above, the dental benefits of fluoridation, while desirable, are remote and statistical as far as the individual voter is concerned and they affect only non-voters. Occasionally the antis deny or attempt to minimize these benefits and make assertions about the statistics used by the pros, but usually they at least tacitly accept that there are benefits. Instead, the assertion is made that there are harmful side effects: increased susceptibility to cancer, structurally weak teeth, kidney ailments, bone diseases, mottled teeth, effects on allergies. There are several respectable physicians and dentists in the country who make such assertions and are used as authority for these statements. Finally, the antis note that anyone who wants fluoride for his children can give it to them in pill form or through dental application. (Since the antis do use scientific authority, such as it is, for many of their claims, it is a mistake to call their approach anti-scientific.)

Given this argument, the voters can be said to make something of a personal cost-benefit calculation. And the conclusion is likely to be, "why take a chance?" The benefit is rather slight and remote to the voter, the potential cost quite high. The antis need only to raise doubt, to demonstrate that "doctors disagree." It is important, thus, to note that a vote against fluoridation is not unreasonable under the circumstances.

The anti assertions about harmful effects are difficult to refute. Each has to be taken individually and the scientific evidence for it shown to be wanting. To do this requires great patience and skill at popularizing, and even if successful, another ill effect with its attendant respectable proponent can always be found by the antis. Thus the pros are driven either to ignore the assertion, hoping that it will receive little publicity, or else to repeat blanket assurances that fluoridation has been more thoroughly tested than any other public health measure — and this is likely to appear as a dodge (besides casting doubt on former public health measures). Probably the best tactic for the pros (if the arguments can't be successfully ignored) is direct, harsh, and sarcastic personal attack on the authorities and the people quoting them. The pros point to the absurdity of some of the more extreme arguments sometimes made by anti-fluoridationists (even if they have not been made in the campaign) and seek to imply that all the arguments are of this sort. This tactic can backfire, however, and takes considerable political finesse.

The public health scientist works with probabilities — indeed, part of the doctrine of science is that nothing can be conclusively proved or disproved. The public, however, with each person making something of a cost-benefit analysis, demands absolute certainty — at least where dangerous diseases enter into the calculation and where the benefit is so indirect and undramatic. Since some people with excellent credentials oppose fluoridation, the question is not certain — so why take a chance?

Some idea of the effectiveness of this anti argument and its power relative to other anti arguments can be gotten from the responses to a question Gamson asked people who had voted *against* fluoridation in Cambridge: "Suppose fluoridation was shown to be perfectly safe and able to help peoples' teeth; would you still be against it?" Of the 43 anti voters asked, only nine answered in the affirmative.[13]

But the antis have other arguments, too. There are moral and religious arguments propagated by Christian Scientists and others about mass medication and freedom of religious practice. There are the arguments of the frugal who are dismayed by the cost to the city of the program (sometimes rather high) and by the perplexing fact that few of the added fluorides will ever reach the children for whom they are intended but will rather be "wasted" in water used to wash cars, irrigate lemons, or bathe dogs. The mechanically inclined, including a few water engineers, complain of the complex problem of engineering and warn of corroded pipes. It was argued frequently in the early years of the fluoridation controversy, but more rarely by the late 1950's, because of adverse court rulings, that the measure is illegal or unconstitutional. A few conservatives, including some physicians, assert that fluoridation is an "entering wedge" for socialized medicine. The problem of dosage is closely linked with several of these arguments: some people because they live in certain areas of the water system, because they drink larger portions of water, or because they eat much fluoride-filled food, will get an "overdose." Some stress that fluoridation is not needed since better dental hygiene and/or diet can cure all dental problems. A few

[13] "The Fluoridation Dialogue . . . ," p. 528. This bit of data incidentally is hardly very supportive of Gamson's own suggestion that these voters opposed fluoridation because the measure "somehow symbolized the buffeting one takes in a society where not even the water one drinks is sacrosanct" (p. 536).

oppose fluoridation because they feel it is "experimental." And some antis assert that the color or taste of the water will be changed for the worse.

The antis have a major problem in determining how to reply to the important pro observation that all important health organizations and virtually all of the local health professionals heartily endorse fluoridation. The reply is made in a variety of ways. One is to attack somewhat off-center by noting the rather extensive success anti-fluoridationists have had at the polls — clearly, everyone does not think fluoridation is a good idea. Another reply is to note that "many" health professionals (a few hundred in the country) and some health organizations, oppose fluoridation. A third is to cite evidence that these fluoridation-endorsing organizations have been wrong before while only a tiny minority opposed — it was once planned to add iodine to the water, the antis say, but this idea was dropped; it was once fashionable, they note, to remove tonsils whimsically; the thalidomide scare can be pointed to as an example of majority error.

Finally, it is sometimes claimed that honest people in the pro ranks, without ever evaluating the anti evidence, have been duped by a handful of conspirators. The major conspirators are usually seen to be members of the United States Public Health Service, and they are occasionally in addition agents of the Aluminum Company of America (which, it is asserted, has excess fluorides to sell) or of the communists, or of both. Accusations of ALCOA or communist conspiracy, however, are far rarer than might be supposed from a perusal of pro literature. They were used in only one of the campaigns studied and had only a limited effect there. The "communist" argument, especially in its most extreme form, is regarded as detrimental to their case by almost all of the leading antis interviewed. As one put it, "The individual voter says, 'You mean my doctor is a communist?' " [14]

An argument (or tactic) used in Palo Alto with effectiveness, was the demand that the pros "guarantee" the safety of fluoridation: if, as the pros say, fluoridation is safe, they should feel confident enough to take the responsibility for any ill effects. So far, the pros have found no politically satisfactory response to this ploy.

Interviewing in a New York community in the midst of a fluoridation campaign, Arnold Simmel asked for arguments about fluoridation. The relative frequencies of the negative arguments as volunteered by his respondents, suggest the effectiveness of arguments about harmful effects and the comparative weakness of conspiratorial and especially of moral arguments. (See Table 3.) [15]

It is possible to get some idea of the effectiveness of the anti argument *as separated from the campaign itself* by looking at the results of the absentee vote in Pomona. The fluoridation issue was the only one in the election for which pro and con arguments were furnished, and, for reasons of printing convenience, these arguments were printed *directly on the ballot.*

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[14] Another argument played down is the Christian Scientist's assertion that his freedom of religion would be violated by fluoridation. Indeed, the antis seemed to believe that it is a bad tactic even to let it be known that Christian Scientists are in the ranks. It was feared that the pros would be able to discredit the cause by calling it a "tool of a religious sect."

[15] Taken from Table 33, II-63. "An Analysis of Opinion on Fluoridation," New York State Department of Health, Albany, New York (September 1961), mimeographed. Simmel notes that "some rare arguments not naturally falling into any of the given categories were excluded."

TABLE 3

EFFECTIVENESS OF ARGUMENTS AGAINST FLUORIDATION

Arguments Against Fluoridation	*Number of Mentions*
Makes water impure	34
Poison	30
Generally negative response	28
Might have long-range effects	25
Bad for teeth or health	22
Not proven	19
Expensive	19
Aluminum companies are behind it	11

Two assertions can safely be made about absentee voters: (1) because of the time and effort required to get an absentee ballot, they tend to be among the more conscientious voters; (2) because of their absence, they miss, to varying degrees, much or most of the campaigning. Due to the first of these assertions, it is reasonable to assume that the absentee would read rather carefully the arguments supplied to him on his absentee ballot — he would also have more time to do so than would the average voter in the cramped polling booth. Due to the second, it is likely that these arguments were his major, if not his only, exposure to the assertions for and against fluoridation.

The precinct results in Pomona demonstrated that there was a "slate" of sorts which included the ballot issues and certain issue-favoring candidates. Thus, the Pearson correlation coefficient for fluoridation and one proposition was .86; for fluoridation and another was .84; for fluoridation and one candidate was .80. Multiple correlation using fluoridation as the dependent variable gave a coefficient of .91. The 111 absentee voters were clearly among those who favored this slate; they supported it far more than did the city as a whole, giving substantial majorities to all the issue-favoring candidates and to all the issues (except fluoridation). Based on regression analysis of the precinct results, they should have given fluoridation a favorable vote of 42.4 per cent.

It is, therefore, a tribute to the effectiveness of the anti arguments as used on the ballot that fluoridation lost among these absentees by almost 2 to 1. The pro vote of 33.7 per cent is even lower than the 36 per cent in the city at large. In only two of the 89 precincts was the residual between actual and "predicted" fluoridation vote so great.

From the viewpoint of the voter the arguments used by the antis in the seven cities, while they varied somewhat from campaign to campaign, were on the whole fairly similar. It appears impossible to make out any particular pattern of argumentation from those used which is distinctly more or less likely to be successful. *What is most deterministic of vote result is the ability of the antis to get their highly effective argument across.* If the antis are able to conduct an "adequate" campaign, that is, if they are able to reach most of the voters with their message through some combination of campaign techniques, they are almost certain to win.

Organization and Activity

1. *How the pros win.* There seem to be two ways in which the pros are able to win out over the anti argument in a referendum situation. The first of these is to have no appreciable opposition. This is not quite as trivial as it sounds, for it is by no means unknown for unopposed ballot measures, even with some active campaigning by the proponents, to be soundly rejected by the electorate. On fluoridation, however, the voters tend to be favorably inclined and, unless opposition arguments are put forward, they will support the measure.

The pro victories in Los Banos (68 per cent) and San Luis Obispo (56 per cent) were of this sort. In the former there was no opposition, but the pros nevertheless organized an extensive campaign of doorbell-pushing, newspaper publicity, and organizational endorsement. It is difficult to imagine how the pros could get a much higher vote percentage than this.[16] There *was* some opposition in San Luis Obispo, but it consisted of one man, a health food store owner, low in prestige, who bought a few ads and made a couple of speeches. The pros on the other hand, campaigned fairly actively, though by no means as extensively as had their counterparts in Los Banos. It seems likely that, had the anti gotten his campaign going, he could have defeated the measure.

When there is an adequate opposition, however, the pros can win only if they are able to overwhelm it. This was the case in Palo Alto where the pros spent four to six times as much money as did the antis and organized through the PTA and the Junior Chamber of Commerce what was probably the largest political volunteer group in Palo Alto history. The antis for their part campaigned actively and got out a mailing to all voters, but they were unable, because of deficiencies in money and in number of workers, to buy many ads or to do any door-to-door campaigning. The campaign was especially noteworthy for the continual sarcastic attacks made by the pros at the antis and at their authority. This was intended to discredit anything the antis said by discrediting the antis themselves — a technique which appears to be considerably more successful than point-by-point refutation of the anti arguments. In addition, fear of ridicule helped keep "respectable" members of the community from joining the anti forces. Even with the massive pro campaign and limited anti response, the pros were able to get only 55.5 per cent of the vote.[17]

It should be clear from this analysis that anti attempts in state legislatures to require a two-thirds vote in local referendums would, if successful, virtually eliminate the possibility of the measure being voted in.

2. *How the antis win.* When the pros predominate over but do not overwhelm the anti campaign, when the campaigns are equal, and when the antis predominate

[16] Stanley J. Buckman notes a city in Arkansas which supported fluoridation with a pro vote of 71.4 per cent. The pro campaign there, like Los Banos, was active and unopposed. "How Citizens Can Help the Community Health Team Achieve Fluoridation," *Journal of the American Dental Association,* 65 (November 1962), 638.

[17] The Palo Alto campaign is similar in many respects to the campaign in Newton, Massachusetts, described by Thomas F. A. Plaut, where the pros, confronted with a somewhat better financed opposition than the one in Palo Alto, secured 52.5 per cent of the vote. The pro campaign was called "the best city-wide campaign in the history of Newton" (p. 622). "Community Organization and Community Education for Fluoridation in Newton, Massachusetts," *Journal of the American Dental Association,* 65 (November 1962), 622–29.

— in any of these circumstances, the antis will win. This follows since, as demonstrated above, the anti argument by itself, since it needs only to foster doubt, is more convincing in the political context. If it is presented adequately enough to overcome the initial passive and favorably inclined posture of the electorate, and if it is not overwhelmed by the pros, it will carry the election. A brief description of the campaigns which the antis won should make this clear.

In Manhattan Beach, where the pros received 44 per cent of the vote, the antis came in late with an adequate, but not by any means extensive, campaign. The pros had been organized for two years, but managed to bring forward only a limited effort because of bad luck, apathy in the ranks, and some wasted effort due to amateurish miscalculation. The pro campaign, however, was somewhat more extensive than that of the antis in this unexciting and unexcited election.

Long Beach, with a pro vote of 41 per cent, was the scene of a campaign exceeded in intensity only by the campaign of Palo Alto. The pro campaign was better run than any except, again, its counterpart in Palo Alto (and perhaps Los Banos). The antis, however, launched an even more extensive (and considerably more expensive) campaign which was notable for its eclecticism of argument and campaign technique, for its bombastic nature, and for its frequent wastefulness of effort.[18]

The pro and anti campaigns in Pomona were mild in tone and intensity and about equal in effectiveness, with the anti forces being given an edge in cleverness and organizational skill. The procedure of printing the pro and con arguments on the ballot which was described above, clearly helped the antis. Judging from the election results, it appears that the Pomona voters, somewhat negative by nature (or habit), were rather inclined to vote down any measure having to do with money at this election; they gave the pros only 36 per cent of the vote. Also, unlike any of the other elections studied, fluoridation in Pomona was only a secondary issue in a vigorous campaign.

As might be expected, the campaign in Glendale where the pros secured only 28 per cent of the vote was dominated by the antis. The pro forces consisted of three health professionals who fairly well gave up when they saw that a political controversy was going to develop. The antis put out an adequate, though diverse, campaign.

3. *Techniques of the campaigns.* The various campaign techniques are of differing value to the contending sides. Sample ballot arguments help the antis greatly since the pro and con arguments appear to the voter in this form to be of comparable respectability and to bear in equal measure the seeming stamp of approval of the city clerk. Where sample ballot arguments have been used in California, the antis seem inevitably to have won.

Local newspapers performed several important functions. Editorial endorsement of fluoridation is virtually an essential ingredient (though certainly not a sufficient one) for pro success in a controversial campaign since a noncommittal attitude implies doubt as to the value of the measure. The letters column is especially helpful to the antis because it is free and can be effectively exploited by a few prolific people.

[18] The 1960 campaign in Cincinnati (pro vote: 44 per cent) is similar to that in Long Beach. Sidney Weil, Jr., "Fluoridation: Analysis of an Unsuccessful Community Effort," *Journal of the American Dental Association,* 65 (November 1962), 680–85.

Newspaper ads, which can also be handled by a few people, were in most cases the major campaign expense of both the pro and anti committees. News coverage by the town newspapers varied in intensity, and was judged in all cities by all the participants interviewed to be reasonably unbiased. The amount of news coverage was, as should be the case, a fairly good indicator of the intensity of the campaign. It does not seem to be possible, however, to predict the vote result simply by analyzing the local newspaper.[19]

In all the campaigns there were efforts by both sides to get speakers before local groups, such as service clubs, PTA's, church groups, and civic organizations. A widespread fear of controversy often makes group leaders cool to this idea and even cooler to the idea of endorsement. Generally speaking, it was far more difficult for the less respectable antis to arrange speaking dates — their best tactic usually was to find out where the pros had spoken or were about to speak and to demand equal time. "Mass meetings" were held in several of the cities, but the audiences were always dismally small and largely made up of the firmly committed. As with the sample ballot arguments, debates tend to help the antis since the debaters appear to be equally respectable and equally authoritative. And the antis, unlike the pros, do not need to "win" the debate to convince voters, but merely to demonstrate that there is legitimate controversy, that "doctors disagree."

Mailings of some sort were used in most of the campaigns. This technique can be exploited by a small band of dedicated letter addressers and envelope stuffers, and thus appealed to several of the anti committees. But it quickly becomes expensive.

Since door-to-door campaigning requires a rather extensive volunteer organization, only the pros were able to do much of it, and in only three of the campaigns — Los Banos, Palo Alto, and Long Beach. In all three cases existing organizations, such as the PTA's, were used as the basis for organizing the workers. The pros in Los Banos and Palo Alto combined this with a highly successful get-out-the-vote campaign. They found, when distributing literature, that it was easy to tell the position on fluoridation of the recipient and those favorably inclined were contacted on election day and urged to vote.

Some representatives of both sides, with very little provocation, would discourse at length about the underhanded "smear" tactics of their opposition. The number of instances noted and the outrage expressed tended to vary with the intensity of the campaign. While these harassments remain vivid and bitter memories for some of the activists, they were not well publicized nor apparently actively propagated during the campaigns and thus their influence on the half-interested electorate would appear to be slight.

The Fluoridation Experience

From this analysis it seems quite possible that a small band of dedicated individuals can destroy at the local level in a referendum situation any measure similar to fluoridation by using unproved charges and appealing to the citizenry's unin-

[19] See Robert Lee Chatten, *The Role of Seven Oregon Newspapers in Local Fluoridation Elections: A Content Analysis* (Master's thesis, Stanford U., June 1957); and James E. Brinton and L. Norman McKown, "Effects of Newspaper Reading on Knowledge and Attitude," *Journalism Quarterly*, 38 (Spring 1961), 187–95.

formed and half-interested demand for absolute certainty in scientific health matters. There are however few, if any, issues which are very similar to fluoridation, and none of these is characteristically handled by referendum.

1. *Chlorination.* According to one biochemist interviewed, opposition similar to that of fluoridation grew in the early days of chlorination also. World War I came, however, and all military areas were ordered chlorinated by the federal government. By the time the war had ended, the measure was widely adopted and the opposition was never able to get going again. An important difference between the two measures is that the health benefits of chlorination are not limited to a small group, but accrue to all.

2. *Sewage reclamation.* This measure which is likely to be pushed more and more in water-conscious California may encounter problems similar to those of fluoridation. The issue is, however, more a money problem than a health one and the benefits, which are financial, not medical, again are distributed to all.

3. *Compulsory vaccination.* Opposition to this measure has and will come from a variety of sources — most of them also active in the fight against fluoridation. Conflict can often be avoided on this issue by moderating the demand somewhat and letting off those who object strongly, something which is not possible with fluoridation. The opposition to the polio vaccines ("polio monkey serums") has, because of this, not been very effective. Also, the benefits of these measures are usually seen to be more widely distributed than are those of fluoridation, since a dangerous contagious disease is usually involved.

4. *Compulsory rabies shots.* The same personnel have been involved in these controversies and in the fluoridation battles in many localities, including Manhattan Beach. Unlike fluoridation, the benefits are distributed to all and the sole recipients of the possible ill effects are dogs, an unenfranchised (though vocal) element of the public. And, as with compulsory vaccination, the issue can be compromised somewhat.

5. *Mental health.* The fate of the Short-Doyle mental health and hospital legislation in California has often been rather similar to that of fluoridation at the local level and the opposition, apparently mostly right-wing, has often come from the same people (Long Beach is an example). Beyond this, the similarity is rather tenuous. The mental health issue is more legalistic than scientific, is more subject to compromise, affects only a few directly, and is considerably more complicated.

Thus, the fluoridation controversy, by its nature, has only limited relevance to other issues. It has transformed communities into laboratories of conflict, but the type of conflict is in many respects unique. Insofar as the fluoridation experience is relevant, however, the problems for the reforming health professional, who must now function politically as well as scientifically, appear to be great.