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in Contemporary America

Institute of Urban & Regional Development
University of California, Berkeley

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RP 156

Urban-to-Rural Diffusion of Opinions in Contemporary America¹

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Recent studies indicate continuing cultural differences between residents of larger and smaller communities. This paper argues that these differences persist because they are constantly generated anew. Innovations emerge in metropolitan centers and diffuse from them to smaller places, so that there is always a gap between the two. Predictions from this model are evaluated with poll data, covering 20 years, on changing social attitudes. The results are consistent with the predictions. Patterns in the rates of opinion change indicate a hierarchical diffusion model in which early adoption and/or rate of diffusion are positively associated with community size.

A debate continues in the sociology of community on whether cultural differences among settlements of varying sizes are vanishing in modern societies. One position is that differences in beliefs and behavior between residents of large and small communities are nil or soon to be nil (e.g., Sjoberg 1964). The other view is that cultural differences persist because they are continually generated anew by some intrinsic feature of urbanism. A specific thesis of this kind is that cities concentrate and intensify "deviant" subcultures. These subcultures produce and then disseminate innovative cultural forms within the cities and from the cities to less urban places. Yet, even as the new forms are being accepted in the hinterland, the cities are breeding still further innovations (Fischer 1975; Glenn and Alston 1967, p. 399). The conclusion is that "cultural differences between urban and rural persons are persistent" (Fischer 1975, p. 1336).

Previous research has provided some evidence for the latter position. There are notable size-of-community differences in beliefs and opinions even in contemporary America (urbanites are less conservative than rural

¹ This research note has been substantially abbreviated from a longer report (Fischer 1977), available at cost from the Institute of Urban and Regional Development, University of California, Berkeley, California 94720. The work was supported in part by a small grant from the University of California, Berkeley, Committee on Research, and by the Institute of Urban and Regional Development. I want to thank Professors Sidney Verba and Ann Swidler of Harvard University for providing access to the data and the Roper Center for its assistance. Helpful comments were provided by Paul Burstein, Ron Burt, Elihu Gerson, and Alan Pred, but they are not responsible for remaining errors.

persons) that cannot be completely explained by individual characteristics such as age or education.² And a few studies suggest that size-of-community effects have not been declining here (e.g., Willitis, Bealer, and Crider 1973 and Williams, Nunn, and St. Peter 1976). This paper builds on the earlier studies in two ways: first, it outlines a model explaining why and how urban-rural cultural differences are continually generated; second, it evaluates that model—in a preliminary way—by predicting and testing patterns of changes in attitudes within populations of varying urbanism. Early in the history of an opinion's development, acceptance increases more rapidly in large than in small communities; late in its history, acceptance increases more rapidly in smaller places. The model is elaborated from a "subcultural" theory of urbanism (Fischer 1975, 1976). The evidence consists of aggregate results from Gallup Polls (AIPO 1954–1976) for over 20 years: the distribution, by size of community, of individuals' responses to various questions on moral and social issues.³

A MODEL OF PERSISTENT URBAN-RURAL CULTURAL DIFFERENCES

Elsewhere, I have presented a theory of why urbanism tends to generate innovation and unconventionality. The variety of population types in cities, their concentration at "critical masses," and their intermingling foster invention and the propagation of invention (Fischer 1975, 1976). Here I will briefly expand the analysis to the diffusion of cultural inventions. The form of diffusion to be considered is hierarchical, the "flow" of innovation from one community to another in proportion to the communities' functional importance (strongly related to size).⁴

Just as the probability of innovation is associated with urbanism, so is the probability of its adoption and, therefore, the course of its diffusion. This happens for two reasons. (1) Personal contact and network density both within and between communities increase with size.⁵ (2) The probability that a subculture receptive to and nurturing of the innovation exists is also associated with community size. Thus, diffusion from the community's innovative subculture to "conventional" groups will commence sooner in the larger cities. The process of diffusion does not mean that in the end the urban-rural differences disappear. Diffusion takes time. During

² Two recent studies are Glenn and Hill (1977) and Roof (1976; see review in Fischer 1976, pp. 192–97).

³ For this paper, I have not sought to partition effects and trends any further than by time and community size or to allocate effects to any other factors.

⁴ The other general form of diffusion is the neighborhood effect, in which diffusion spreads across space from its origin.

⁵ For example, a resident of Los Angeles has a greater chance of contact with someone from Chicago than with someone from Springfield (holding distance constant).

that time, yet newer forms, some perhaps in direct contradiction to the prior ones, are emerging in and diffusing from the urban centers.

Some of these ideas about urban-to-rural diffusion are commonplace—with regard to material items. It is generally accepted that innovations tend disproportionately to diffuse from urban centers to their hinterlands. In this paper I apply these ideas to the diffusion of cultural items. It is also generally accepted that adoptions of an innovation follow an elongated S-shaped growth curve. If we combine this information with the theoretical argument that diffusion is associated with urbanism, we can derive a model such as that illustrated in figure 1.

The horizontal axis represents time; the vertical axis marks the percentage of a given population that has accepted an innovation, which in this paper means endorsing a particular opinion. The solid curves represent different populations distinguished on theoretical grounds: people living in large urban places, those in small urban places, and those in nonurban places. By assuming that the three populations are of equal size—which is roughly true in the data described below—we can simply average the values for the three groups to obtain the national percentage, the unweighted mean. That is represented by the broken line. Finally, three "periods" have been arbitrarily designated in terms of the national mean.

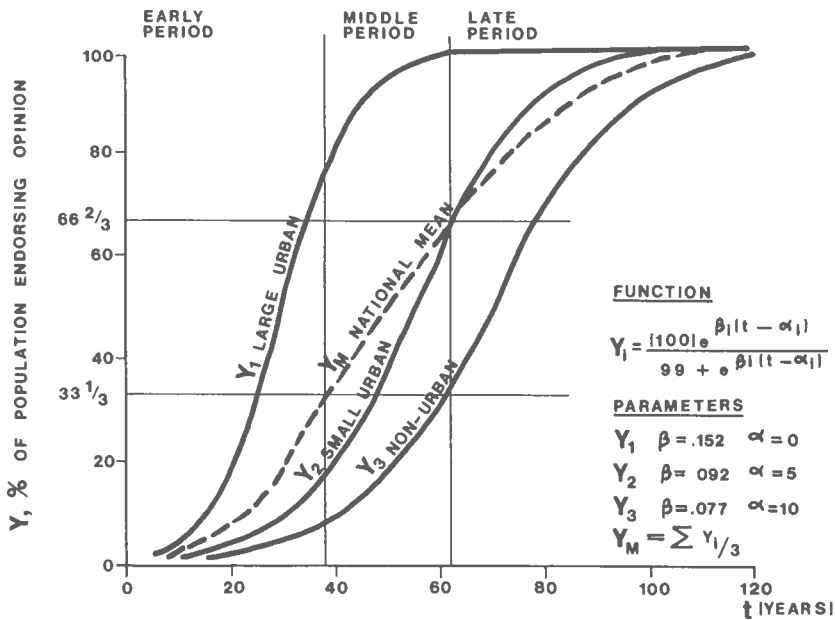


FIG. 1.—Hypothetical curves showing diffusion of opinion within communities of different sizes.

The period when less than one-third of the nation endorses the opinion is called "early"; the period between one-third and two-thirds acceptance is "middle"; and the last period is "late." (Does this process lead irreversibly from 0% to 100% acceptance? No; see discussion later.) Below, specific issues are placed within each period.

The particular values and shapes of the curves are arbitrary, but their general features are both fundamental to diffusion processes and validated with material diffusion.⁶ Figure 1 suggests that new opinions emerge first and fastest in the more urban places, and urban-rural differences widen, but that, as acceptance becomes virtually complete in urban areas, it accelerates in less urban places, and differences narrow.

With a sufficient number of data points, one could simply fit the facts to the formulas and assess the adequacy of the model. However, data of that kind are not available. In order to do some curve fitting, I abstracted the logistic curves of figure 1 into line segments in figure 2. I broke up the curves according to the periods identified before and drew straight lines approximating those sections of the curves. This procedure simplifies the analysis. It does so without losing information since, as it turns out, most of the opinion time series examined below fall clearly into one of the three periods. And this procedure permits some relatively specific predictions, to wit: (a) early in the spread of an opinion, the rate of adoption is positively associated with urbanism; (b) in the middle period, the rate is curvilinearly related to urbanism, with the most rapid acceptance occurring in the moderately urban categories; and (c) late in the spread of an opinion, the rate of diffusion is inversely associated with urbanism.

DATA

The data are simple cross-tabulations of answers to Gallup Poll questions by size of respondent's community. I examined the Gallup Poll from 1965 through 1976 for questions that tapped the domain of social beliefs and behaviors, indicating people's adherence to, or deviation from, traditional views and mores.⁷ The chosen items were traced as far back as 1953. The

⁶ The function of fig. 1 is drawn from Coleman's (1964, p. 43) logistic eq. 4.4. The populations are differentiated on both parameters—rate of diffusion and starting point—thereby assuming that the less urban a population, the later the process starts and the slower it proceeds. I believe that either assumption would suffice for the purposes of this theory and this paper. (Note that the specific parameters have been picked only for illustration.)

⁷ The questions must also have been repeated in virtually the same form at least three times. I then examined the Roper Public Opinion Center files for instances of these questions before 1965. For those items in series that appeared promising, special cross-tabulations were ordered from the center. (I could not use items administered in polls before 1953 because the community-size categories were changed then.) The reader will note that the items listed in table 1 are by no means a random or necessarily

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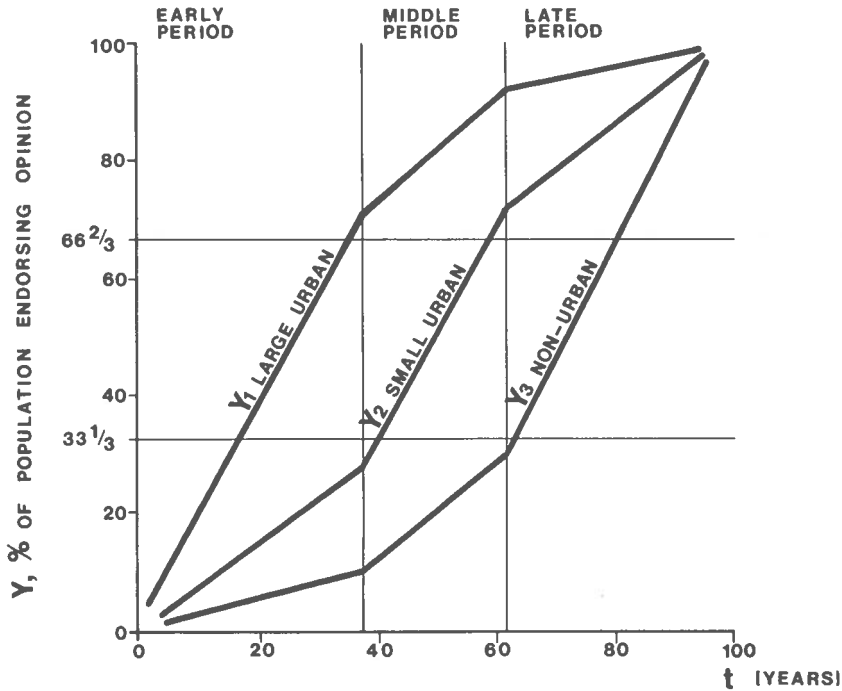


FIG. 2.—Line segment abstraction of fig. 1

final set used is indicated in table 1. For all but the last two, the national trends have been "liberal," and each item falls into one of the three periods. Three categories of community size were defined: large urban—cities over 500,000 and their suburbs; small urban—cities 2,500 to 499,999 and their suburbs; and nonurban.

ANALYSIS

For each item, I calculated the best-fitting regression equation within each community-size category. The dependent variable is the percentage of agreement with the liberal, advancing attitude, and the independent variable is year (minus 1900). The regression coefficient (b), the slope, represents the rate of change for each community type; it is the relative sizes of those slopes, in different periods, that the model predicts.⁸ (In the longer

representative sample of the specified domain. They form a judgmental sample. However, they were chosen before examining the fit of the model.

⁸ Two statistical issues should be noted. (1) The regression equations are intended only as a means of easily drawing the best-fitting line through a set of points. There is no attempt here to explain variance, only to compare trends. (2) The question of sig-

TABLE 1

COMPARISON OF OBSERVED SLOPES TO PREDICTIONS (% AGREEMENT REGRESSED ON YEAR)

ISSUE	YEARS	N OBSER- VATIONS	AVERAGE ANNUAL CHANGE					PREDICTION		MID-YEAR ESTIMATE (%)*				
			LU	SU	NU	Ntl	CONFIRMED?	LU	SU	NU	Ntl	LU	SU	Ntl
Early period. Prediction $b_L > b_S > b_N$:	1969-74	3	3.1	2.9	2.6	2.8	Yes	24	16	11	17	24	16	11
Agree marijuana should be legal.....	1957-68	3	.8	.6	.2	.5	Yes	24	14	9	16	24	14	9
Do not believe in life after death.....														
Middle period. Prediction $b_L < b_S > b_N$:	1954-74	6	.3	.6	.2	.3	Yes	79	63	49	64	79	63	49
Admit to drinking alcohol.....	1958-71	7	1.9	2.9	1.8	2.2	Yes	65	51	44	54	65	51	44
Would vote for Negro for president.....	1962-69	3	1.7	.8	.6	1.1	Mixed	62	59	53	59	62	59	53
Approve abortion for deformed child.....														
Late period. Prediction $b_L < b_S < b_N$:	1961-67	4	1.8	2.0	2.8	2.2	Yes	82	82	75	80	82	82	75
Would vote for divorcee for president.....	1959-64	3	1.4	1.3	1.7	1.5	Mixed	79	76	71	75	79	76	71
Approve dissemination of birth control information														
Reversals and static opinions (no predictions):	1965-76	6	-1.2	-1.3	-2.1	-1.5	...	36	39	38	38	36	39	38
Oppose the death penalty.....	1965-72	5	.3	-.5	-.1	-.1	...	82	72	61	71	82	72	61
Support requiring gun permits.....														

NOTES. $-b$ = slopes. Predictions derived from fig. 2; see text. b_L = regression coefficient for large-urban populations; b_S for small urban; and b_N for nonurban. LU = large urban places; SU = small urban places; NU = nonurban places; and Ntl = unweighted mean of three size-of-place categories, approximately equal to true national average.

* Percentage of agreement, for middle of the series of years, as estimated from the best-fitting regression line.

paper, I derive, test, and support predictions for equation intercepts as well.) Table 1 summarizes all the results. The opinions are organized by period, with the appropriate predictions noted.

The results for the three periods largely support the model. The patterns of differences among slopes fit the predictions fully in five cases and partly in two. Rates of opinion change differ by degree of urbanism, and those differences, in turn, vary by the historical period of the opinion. This is a complex pattern, but one predicted by the model.⁹ In addition, the figures on the right-hand side of table 1 show the familiar, cross-sectional differences by community size: the larger the community, the more likely that a "progressive" opinion is supported.

Two items in table 1 do not fit the periodization used here. The first seven represent social issues for which there has been a consistent, liberal trend, and urbanites lead the way from traditional consensuses to new consensuses. But, on many issues, there is not a simple movement from one pole of opinion to another. Instead, social changes alter the process, reversing the trend of opinion or blocking it. It is difficult to make straight-forward predictions about intercommunity differences in such cases. Depending exactly on relative rates of diffusion of the nontraditional "wave" versus those of the revivalist "counterwave," one derives different specific curves and predictions (see Fischer 1977). All we can observe, for now, is that patterns of change for such opinions are unlike those of the periods discussed earlier but not inconsistent with the present model.

The death penalty issue is a case of reversal. Opposition to the death penalty almost doubled from 25% in 1953 to 47% in 1966, but dropped back afterward to 28% in 1976, no doubt under the impact of rising fear of crime. We pick up the trend from 1965 through 1976 in table 1. The results there prove little, except in a negative way: the pattern is indeed different from the prior ones. The element most inconsistent with the present model is the rapidity with which opposition to the death penalty dropped in the most rural places. The gun permit issue is an instance of stasis (and also related to fear of crime). From 1965 through 1972 there was virtually no secular change in national opinion on whether people should be required to have permits (-0.1% change per year). We do

nificance tests is a difficult one. On the one hand, many of the equations described below have fewer than five units of analysis—no comparisons would be significant. On the other hand, each observation is based on at least 250 cases. In the end, I decided to present the data without such tests and allow the replication of patterns of results to attest to substantive significance.

⁹ In 1977, Gallup asked both the marijuana question and the alcohol question again. Entering the data for the former accentuated the predicted pattern. The slopes are then 2.7, 2.4, 1.6 by size of place. The data about alcohol are more complex, but also consistent (see Fischer 1977).

observe substantial size-of-community differences, but no noticeable patterns of change.

These two items indicate that the original model is indeed a simplified one and that when public opinion ebbs and flows the patterns of community differences become much more complex. However, where we see a clear national trend, the community components of the change tend to fit the model.

CONCLUSION

The results basically support the model of urban-to-rural diffusion presented earlier, according to which opinions diffuse down the urban hierarchy at a decelerating rate. There are, to be sure, limitations to this analysis.¹⁰ Also, alternative explanations can be offered.¹¹ However, when this study is added to earlier ones, the findings point persuasively to the underlying theory: cultural innovations are born in subcultures of large urban centers, from which they spread to other social worlds in those centers and to communities beyond. The pattern of intercommunity diffusion is also a function of urban size, so that new cultural forms flow "down" the urban-rural continuum, just as do material innovations. This is a continuing process; there are always new opinions, beliefs, and behaviors spreading from the urban centers in the wake of those that went before. What is perhaps most striking about this study is that cultural differentiation of communities by size continues in modern America—telecommunications, highways, national corporations, and "mass society" notwithstanding.

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¹⁰ (1) The sample of issues was judgmental. That this study is confirmed in a few respects by others is, however, encouraging. (2) Replications across time are imperfect, but this should have introduced random error. (3) I could not decompose the trends by race, region, age, and other such variables (see Fischer 1977).

¹¹ In the longer version, I discuss two general alternatives: one, that the structural causes of opinions—rather than opinions as autonomous cultural forms—diffuse from urban to rural; and two, that urban and rural persons vary in receptivity to innovation.

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