

ANNE WILLEM VAN DEN BAN

*Locality Group Differences in the Adoption of New Farm Practices**

This study tests the hypothesis that the social organization and culture of locality groups are major factors influencing adoption of new farm practices. The differences in level of adoption for the townships studied cannot be explained by individual socioeconomic characteristics such as educational level, farm size, or net worth.

A case study was made of a low-adoption and a high-adoption township to explore reasons for these differences. Farmers in the low-adoption township were of Calvinistic Dutch origin and those in the high-adoption township mainly of Norwegian and German Lutheran origin. Possible direct religious influences on adoption are discussed. These Calvinistic farmers consider themselves the stewards of God on the earth. This makes changes in farm practices a decision for which they need greater certainty than would usually be required. However, the difference in the adoption of the two townships seems to be due primarily to the greater social isolation and stronger social control characteristic of the Dutch township.

The author is a research officer in the Department of Rural Sociology of the Agricultural University at Wageningen, Netherlands, and made this study during his leave as a research assistant at the University of Wisconsin.

RECENT analyses of the adoption of new farm practices have emphasized individual differences in the characteristics of early and late adopters. Theoretical considerations and also some empirical evidence suggest that the kind of social structure in which a farmer lives should be at least as important as individual differences. It is surprising that sociologists studying the problem have made relatively little use of this essentially sociological approach. There are, however, at least two

*This paper is based on research done under Wisconsin Agricultural Experiment Station projects 842 and 925. The author is indebted to Professor Murray A. Straus for his assistance in this study and for making available the data of the Wisconsin Farm and Home Development Study, and to the people of Alto and Deerfield for their information and friendliness.

studies which have taken this approach. Marsh and Coleman found that the neighborhood of residence in one Kentucky county importantly affects the adoption of new farm practices.¹ This county was restudied five years later by Young and Coleman.² They found that (1) the farmers in the high-adoption neighborhood had a more scientific orientation in farming matters and made more use of different information media, including other farmers, than those in the low-adoption neighborhoods; (2) as in Marsh and Coleman's study and in an unpublished Dutch study, the opinion leaders were most ahead of the average farmer in the adoption of new farm practices in the high-adoption communities. On the other hand, in the Netherlands the author was unable to find significant differences in the adoption of new farm practices between agricultural areas.³ These studies raise two questions to which this paper intends to give a partial answer: (1) Do the type of locality group influences reported for Kentucky apply outside that state or region? (2) What is the *process* by which locality groups influence the adoption of new farm practices?

LOCALITY INFLUENCE

This analysis is based partly on data available from the Wisconsin Farm and Home Development Study.⁴ An area probability sample was interviewed in 1954, consisting of 900 farmers drawn from nine counties. Forty-seven townships were selected at random and all farmers were interviewed who were under 45 years of age, who received at least half of their cash income from farming, and who had been farming ten years or less. The locality unit used for this study is therefore the governmental unit, the township. Such an arbitrary unit is undoubtedly less meaningful for the problem of this study than a social unit like the neighborhood. Therefore, if the township of residence is found to have an influence on the adoption of new farm practices, it seems safe to assume that neighborhoods would have an even larger influence.

As a first step, the 47 townships were divided into four groups

¹C. Paul Marsh and A. Lee Coleman, "The Relation of the Neighborhood of Residence to Adoption of Recommended Farm Practices," *Rural Sociology*, 19 (1954), 385-390.

²James N. Young and A. Lee Coleman, "Neighborhood Norms and the Adoption of Farm Practices," *Rural Sociology*, 24 (1959), 372-383.

³A. W. van den Ban, *Regional Differences in the Adoption of Some Farm Practices* (Department of Rural Sociology, Agricultural University, Bull. 9; Wageningen, Netherlands, 1958), p. 63. In Dutch with a summary in English.

⁴See Murray A. Straus, *Short Term Effects of Farm and Home Development in Wisconsin* (Madison: Department of Rural Sociology, University of Wisconsin, 1958 [processed]); and "Managerial Selectivity of Intensive Extension Work," *Rural Sociology*, 24 (1959), 150-161.

according to their average adoption score. Chi-square analysis shows that adoption scores of these four groups differ significantly ($\chi^2 = 116$, $df = 9$, $P < .001$). Can these differences between the average adoption scores of the townships perhaps be explained by the individual characteristics (such as low or high education) of the farmers in these townships? To answer this question, the sample was classified according to educational level (grade school or less, some high school, and high school completed). Then the four groups of townships were compared separately for each of the education categories. The difference between townships remained significant within each of these education groups at least at the .02 level. The same is true for similar analyses holding constant 4-H Club membership, size of farm, and net worth.

A weakness of this analysis is that education, 4-H membership, farm size, and net worth are not independent. Therefore, each farmer was given a score on the basis of these four individual socioeconomic factors.⁵

Differences between township groups were then selected by comparing the proportion of "high adopters" (those with adoption scores of 47 or more) in the four groups of townships for each of these "prediction score" categories. Table 1 shows that regardless of the individual prediction score (that is, looking at Table 1 column by column), there is a significant difference in the proportion of "high adopters" between quartiles of townships.

This indicates that a farmer with a high level of education, on a large farm, and with a high net worth, but residing in a township with a low level of adoption of new farm practices, will probably adopt fewer improved practices than he would if he farmed in a township where the average adoption level is high. The question that needs to be answered is: what are the reasons for these differences among townships? To explore some of the possible answers to this question case studies were made of two southern Wisconsin townships which were similar in soil productivity, but which differed considerably in their adoption scores.⁶

| | |
|---|--------|
| ⁵ This prediction score is based on: | Points |
| 4 farm size groups | 0-3 |
| 4 net worth groups | 0-3 |
| 3 groups for the education of the farmer | 0-2 |
| 2 groups for membership in 4-H | 0-1 |

The weights given to each of these factors were arbitrarily chosen, but there are some indications that these weights are not too important if the factors are clearly intercorrelated. See H. R. Cottam, "Housing Scales for Rural Pennsylvania," *Journal of the American Statistical Society*, 38 (1943), 406-413.

⁶The reasons only townships in southern Wisconsin were selected were partly a matter of research economy, but mainly that farmers in northern Wisconsin have different circumstances, including poorer soil and climatic conditions, from those in the southern part of the state. Many townships in northern Wisconsin have a considerably lower average adoption score than the low-adoption township selected for the case study.

Table 1. Relationship between township of residence and percentage of "high adopters" in the township, with individual characteristics controlled

| Adoption level of township | Percentage of "high adopters" among farmers with individual prediction scores of: | | | | | Total (N=903) |
|---------------------------------------|---|-----------|-----------|-----------|-----------------|---------------|
| | 0+1+2 (N=212) | 3 (N=142) | 4 (N=171) | 5 (N=168) | 6+7+8+9 (N=210) | |
| Lowest quartile of townships (N=166) | 13 | 10 | 25 | 45 | 30 | 23 |
| Second quartile of townships (N=256) | 28 | 52 | 42 | 63 | 64 | 48 |
| Third quartile of townships (N=233) | 42 | 49 | 50 | 56 | 79 | 56 |
| Highest quartile of townships (N=248) | 58 | 77 | 60 | 64 | 88 | 71 |
| Total (N=903) | 35 | 46 | 46 | 58 | 72 | 52 |
| X ² | 23.8 | 27.2 | 11.7 | 3.3 | 35.9 | |
| P | 0.001 | 0.01 | 0.01 | 0.5 | 0.001 | |

Average adoption level of the township independent of prediction scores and adoption scores: $X^2 = 101.9$, d.f. = 27, $P < .001$. See: M. W. Tate and R. C. Clelland, *Nonparametric and Shortcut Statistics* (Danville, Ill.: Interstate Printers and Publishers, 1957), pp. 75-76, for the technique used to compute the over-all X^2 .

THE LOW-ADOPTION TOWNSHIP

Alto Township in Fond du Lac County is clearly distinguished by the fact that the population is mainly of Calvinistic Dutch origin.⁷ Both husband and wife were of Dutch origin in 82 per cent of the families interviewed. In 12 per cent either husband or wife was Dutch, and only 6 per cent were of non-Dutch origin. These are remarkable figures for a small ethnic group of which the largest part came to the United States soon after immigration started in 1846.⁸

⁷It is only by coincidence that a township was selected whose people came originally from the country of the author.

⁸The census of 1910 for Fond du Lac and two neighboring counties with which the people of Alto have some interaction shows about 1,000 persons who were born in the Netherlands and nearly 1,200 with both parents born in the Netherlands. There has not been much immigration since that time.

One of the causes of this group's remaining outside the American melting pot for such a long time is related to its motivation for emigration.⁹ Many left for religious reasons as well as economic considerations. Until 1848 the Dutch king had great influence on the appointment of ministers and the government of the Dutch Reformed Church. This power was exerted in such a way that the church was highly influenced by the Enlightenment. Many of the poorer people belonged to a pietistic movement that did not accept this kind of teaching. They therefore left the Dutch Reformed Church in 1834. The Dutch constitution allowed freedom of religion to the existing churches, but this provision was interpreted in a way that allowed no freedom to establish a new church. Church services of these "Separatists" were prevented by the army, Ministers were fined for preaching, and church members lost their jobs. Many therefore emigrated to the United States. Even after the persecution stopped in 1848 many of the immigrants were Separatists because of relatives and friends already in the United States.

It is understandable that these immigrants were eager to maintain their religious tradition in the new country. However, this is rather difficult for a small group with distinct religious beliefs. What factors have contributed to the ability of Alto Township's Dutch farmers to maintain their separate identity? The church opposes intermarriage with persons from other denominations and, as we shall see, enforces the social isolation needed to maintain religious endogamy.

The religious tradition of these people is based on the conviction that not only a church membership, but especially a personal belief in Jesus, is important. God is considered to be the Sovereign of the earth and man His steward. Every person will be held accountable for the way in which he fulfills this stewardship. This makes these Dutch Calvinist farmers hard-working people who take good care of their homes and their land.¹⁰ It also encourages thrift, because they do not want to waste money they administer for God. They disapprove of dancing and the drinking of liquor (there has been no tavern in the whole township during this century) and unnecessary work on Sunday. A clear indication of the importance the church has for the people of Alto is that 216 families of the Alto Reformed Church in 1958 donated \$50,628 to their church; nearly 100 of them gave 10 per cent of their income. Church services are attended twice each Sunday by nearly

⁹See J. van Hinte, *Nederlanders in Amerika* (2 vols.; Groningen: P. Noordhoff-Groningen, 1928), esp. Vol. I, pp. 83-115, 160-163; Vol. II, pp. 405-578. See also S. Lucas, *Nederlanders in America* (Ann Arbor: University of Michigan Press, 1955), esp. pp. 42-72, 201-205, and 471-637.

¹⁰Therefore the average rather low adoption score of the farmers in Alto does not mean that they make less of their farms than farmers of other ethnic groups do.

everybody and often they attend meetings in church during the week as well.

These Calvinists see all events on earth as an act of God. Weber holds that this belief is one reason for the economic importance of Calvinism, since high income is a sign that one is elected by God for eternal life.¹¹ In Alto there is some inclination to believe that if one asks God in full faith for a reasonable income, He probably will give it. But God's path remains always inscrutable. It would also be improper to ask for more than one really needs. Thus, although Weber saw Calvinism resulting in an increase in aspiration level, in this setting it may set boundaries to the aspiration level.¹²

There are two slightly different denominations in Alto: the Reformed Church, of which about two-thirds of the farmers are members, and the Christian Reformed Church. None of the farm families of Dutch or partially Dutch origin interviewed in 1954 belonged to any other denomination. The Christian Reformed Church is a bit stricter in its teaching and more in favor of isolation from the American society than the Reformed Church. It has its own parochial grade school and has just started a parochial high school, whereas the Reformed parents send their children to the public schools. The co-operation between these two churches is good and intermarriages are frequent.

Education is not highly valued in this community. Only 18 per cent of the young farmers interviewed in 1954 graduated from high school (43 per cent in the high-adoption township). Also at present many farmers let their children drop out of school at the age of 16. A reason for the low value on education is the persistence of a family orientation. Children are expected to help their parents improve the economic position of the family. The individualistic pattern in which the parents give their children as good an education as possible, and expect no financial advantages for themselves in return, is not

¹¹Max Weber, *The Protestant Ethic and the Spirit of Capitalism*, trans. Talcott Parsons (London: Allen & Unwin, 1930), pp. 98-128 and 155-183, esp. pp. 172 and 175.

¹²Summarizing Max Weber's theory, Gardner Murphy wrote: "For the Protestant . . . the conception of morals became anchored more and more upon the conception of individual successes as a mark of God's favor. . . . If the man prospers, this is because he stands well in the eyes of God" (G. Lindzey, *Handbook of Social Psychology* [Cambridge, Mass.: Addison Wesley Publishing Company, 1954], p. 615).

There are probably many Calvinistic groups who, just like the people in Alto, do not believe that a high income is a sign that one is elected by God for eternal life. Otto Weber wrote on this point: "the opinion cannot be proven, that Calvin's doctrine of predestination has promoted the growth of early capitalism, because this doctrine has taught the people to see economic success as a confirmation of election. This opinion can be found only late in some scattered Puritan groups." *Handwörterbuch der Sozialwissenschaften* [Stuttgart, Tübingen, und Göttingen, 1959], article on Johannes Calvin, pp. 465-466.

generally accepted. It is also rather common for a child who works for wages to give his earnings to the parents for the support of the family and keep only some spending money. This pattern seems to encourage thrift, but it provides perhaps little support for high levels of aspiration and managerial risk taking.¹³

Communication of Alto farmers with farmers of other nationalities is minimal. Those who live near the boundaries of the township may go to a feed mill in one of the neighboring towns and talk with other farmers while waiting for the grinding of their grain, but they will seldom visit in their homes. Visiting is mainly done with relatives and neighbors. Home visiting with neighbors is somewhat decreasing since the disappearance of the threshing and silo filling crews, the appearance of television sets, and the increase in the number of meetings. No indications were found that such home visiting patterns are influenced by differences in social status.¹⁴ Alto farmers are often proud of the fact that the differences in social status from which their ancestors suffered in the old country are not present here.

Alto farmers are reluctant to leave their community. One informant expressed this by saying, "They stick together like glue." This is partly due to the fact that Alto land is more productive than land in most other parts of Wisconsin. It is also due to the strong primary group ties of this area and to the fact that their religious beliefs are accepted here. Therefore Alto farmers are willing to pay a considerably higher price for a farm near the church than for a farm at ten miles distance. In only 26 per cent of the families was either husband or wife born outside Fond du Lac County or Dodge County which borders on Alto. Most of this 26 per cent came from another Calvinistic Dutch community only twenty miles away. One of the results of this isolation is a lack of familiarity with the customs outside the community. One young farmer asked, for instance, "Is it really true that there are quite a number of persons in Madison who do not go to church at all?"¹⁵

¹³The possibility exists that the low interest in education in Alto results from less confidence in progress than most Americans have, because the Alto residents do not see higher level of living as a real improvement in human nature. We were not able to find indications of this view.

¹⁴This is in accordance with the proposition: "In any system, the more homogeneous the members are with regard to value orientation and the smaller the system the less likely that rank and status of the members will vary greatly" (C. P. Loomis, J. A. Beegle, and T. W. Longmore, "Critique of Class as Related to Social Stratification," *Sociometry* 10 [1947], 323). Some recent immigrants from the Netherlands were quite astonished by the lack of differences in social status in the American society—that is, in these Dutch communities.

¹⁵If their history is the main explanation for the social isolation of the Calvinistic Dutch immigrants in the United States, one should expect that the present-day immigrants of this group, who are used to freedom of religion, will not isolate themselves strongly from a Protestant culture. Moreover, the present-day Dutch farmer is used to close co-operation with the Agricultural Extension Service. Tuinman describes the pattern of Dutch immigration in Canada indeed thus: "The Nether-

The lack of contact does not mean that there is a strong antagonism against outsiders, at least as long as they respect the Calvinistic beliefs and "do not swear every other word." The few persons of other nationalities who live in the community are pretty well accepted. One Polish Roman Catholic has even been president of the local Farm Bureau. The county agent is a Roman Catholic, but no indications were found that it would be much easier for a Calvinistic county agent to gain the confidence of these farmers.

A positive side of the strong community feeling in Alto is that social prestige seems to be based to a rather high degree on service to the community and the church. This makes it possible to organize in this township many community activities, including a good consolidated grade school, a strong Farm Bureau with many local activities, and the largest 4-H Club in the county. One reason for the strength of the 4-H Club is that members exhibit at a local fair organized with the help of more than thirty farmers. This fair attracts many visitors from outside the township. Exhibiting at the county fair is impossible because the children would have to be there on Sunday.

THE HIGH-ADOPTION TOWNSHIP

The northern part of Deerfield Township in Dane County was originally settled by German Lutherans and the southern part by Norwegians. Among the Germans not much feeling of belonging to their own ethnic group is left. Ethnic cohesiveness is a bit stronger among the Norwegians, probably because they were not influenced by the anti-German sentiments of the two world wars. Of the farmers in Deerfield interviewed in 1954, 55 per cent were from mixed parentage and 41 per cent also had an ethnic background other than Norwegian or German. Because of the fact that about 40 per cent of the foreign-born Wisconsin population is of German origin and 10 per cent of Norwegian, it would have been much easier here than in the Dutch community for an inhabitant to find a marriage partner within his own ethnic group. Yet the reverse is true.

The Lutheran religion sees man also as the steward for God on this earth, but the preaching in church seems not to stress this part of the Lutherans' religion as strongly as the Calvinists, especially not the point that man is held accountable for this stewardship. Furthermore, church attendance is considerably lower in Deerfield than in Alto. One gets the impression that many farmers in Deerfield see no clear connection between their religion and their way of farming.

In Deerfield visiting is done to a large extent among relatives. Neighbors seem to be somewhat less important and friends more important

landers establish themselves among the population and not in separate communities" (A. S. Tuinman, "The Netherlands-Canadian Migration," *Tijdschrift voor Sociale en Economische Geografie*, [1956], p. 186).

than in Alto. A slight influence of differences in social status on visiting relationships is noticeable. Most visiting is here done with persons within a few miles distance, but in contrast to Alto there are also some farmers who visit farmers at a larger distance, sometimes even more than 100 miles.

Deerfield farmers are also reluctant to move far from this community where they know the land and the type of farming, and where they have their friends. Nevertheless community feeling is much less strong in Deerfield than in Alto and outside contacts including marital ties are much more frequent than in Alto. This is illustrated by the fact that in only 59 per cent of the families interviewed, both husband and wife were born in Dane County or in Jefferson County which borders Deerfield. Farmers' organizations work only on a county basis and not on a township or community basis and the participation is not too widespread.

REASONS FOR THE DIFFERENCE BETWEEN THE TWO TOWNSHIPS IN THE ADOPTION OF NEW FARM PRACTICES

Let us start with cultural explanations for the difference in farm practice adoption between these two townships. Are the values of the Dutch Calvinistic culture less favorable to the adoption of these practices than the Norwegian-German Lutheran values? Other Calvinistic Dutch communities in the United States are also described as conservative.¹⁶

There is always a risk involved in the adoption of new farm practices, and farmers of Dutch Calvinistic origin seem less willing to undertake this risk than other American farmers. The Calvinistic farmer sees himself as the steward of God on the farm the Lord has given him. The decision to adopt a new farm practice is therefore more "sacred" than for a Lutheran farmer. If it goes wrong he will not only lose money, but he also bears the responsibility for this decision toward the Sovereign of this earth. It is understandable that under these conditions he may need more time to gather the information needed to make this decision than the farmers of other denominations who can lose only their own money if their decision turns out wrong.

Let us illustrate this with the example of insurance. A Calvinist sees an accident as an act of God. He therefore has to decide if he is allowed to interfere with these acts of the Lord by taking out insurance. The resolution of this problem now current in Alto is the belief that before one can expect any help of God one must first try to help himself as

¹⁶Hoffer says of Dutch celery growers in Michigan: "The tendency of the typical Dutch farmer not to accept a new practice unless he is convinced it is to his direct and immediate advantage to do so" (Charles R. Hoffer, *Acceptance of Approved Farming Practices among Farmers of Dutch Descent* [Michigan State University Agr. Expt. Sta. Spec. Bull. 316; East Lansing, 1942], p. 11).

much as possible. Insurance is one way to help oneself. However, it has taken somewhat more time to accept insurance here than among farmers who see the decision to take out insurance only as a "secular" decision.

The retarding influence of the "stewardship of the Lord" concept on the adoption of new farm practices is, however, mitigated by the fact that the farmer not only has the calling to work well on his farm, but must also make decisions and accept responsibility for these decisions as the Lord's steward. If one asks whether it is right for a farmer to use credit to increase his farm size, one can get such an answer as: "Sure, the Lord has given him the talents to be a good farmer and therefore it would not be right to waste these talents on a small farm." There are no indications that farmers in Alto use less credit for their farms or are less in favor of the use of this credit than farmers in the high-adoption township in the study or in other parts of Wisconsin. They are, however, less inclined to the use of credit for home appliances. This may reflect a feeling that it is improper to have a higher level of living through credit than the Lord is willing to give them through their immediate income. As in the case of insurance, a time lag factor may be involved. That is, the use of credit for home appliances has started later than the use of credit for the farm business and may not yet have had time to become widely accepted in this community.

The situation in Europe provides another indication that the difference between Calvinism and Lutheranism can explain only a small part of the difference in the adoption of new farm practices between Alto and Deerfield. First, Dutch farmers are more inclined to adopt new practices than the farmers in most other European countries.¹⁷ Second, there are no indications that within the Netherlands Calvinistic farmers are less inclined to adopt new farm practices than farmers of other denominations.¹⁸ Furthermore, in the region from which most farmers in Alto come farmers have adopted new farm practices

¹⁷See the study of a former agricultural attaché at the German Embassy in the Netherlands: J. Frost, *Die holländische Landwirtschaft, ein Muster moderner Rationalisierung* (Dutch Agriculture, an Example of Modern Rationalization) (Berlin: Paul Parey, 1930); or Colin Clark, *The Economics of 1960* (London: Macmillan, 1942), p. 36. One of the reasons the Dutch agriculture is rather modern is that it depends to a large degree on exports. This makes it difficult for the government to improve farm incomes by price support or import regulations. Therefore nearly 2 per cent of the gross farm income is spent for agricultural research, agricultural vocational education, and agricultural extension.

¹⁸A. W. van den Ban, "Some Characteristics of Progressive Farmers in the Netherlands," *Rural Sociology*, 22 (1957), 206. The religious beliefs of the members of the Christian Reformed Church in the Netherlands are most similar to the beliefs of the farmers in Alto. Some of the members of the Dutch Reformed Church have religious beliefs similar to those of the members of the Reformed Churches in Alto. Many, however, explain the Bible in a much more liberal way and for them the church is of much less importance in their daily life.

to a greater extent than in most other parts of the Netherlands, and a larger proportion of the farmers have attended vocational agriculture schools and courses.¹⁹

Another possibility is that attitudes toward mechanization account for the differences between the townships. Calvinists see laziness as a sin. It might be more difficult for them to adopt new machinery that makes work easier than it is for farmers of other denominations. This can hardly be a reason for the differences in this study, because only two of the sixteen practices included in the adoption score were dealing with farm machinery.

Questions about the use made of the agricultural extension service and the amount of help this service has given showed no difference between the townships. There is, however, one difference in the attitudes of the farmers toward the extension service in both townships. In Alto many farmers have the opinion that farm prices should be regulated by supply and demand and not by government intervention. Apparently one reason for this opinion, of which many farmers are no longer aware, is that during the depression years some crops and livestock were destroyed by the government. Alto farmers believe it is a sin to destroy products that are given by the Lord. Therefore, to prevent repetition of this sin, farmers should manage their own business without government intervention. A few farmers are also afraid that co-operation with the agricultural extension service will lead to similar government intervention in their business.

In Deerfield, on the other hand, many farmers favor government restrictions on production, similar to the ones which work well for tobacco, an important local crop. They reason that supply and demand cannot solve the farm price problem, because in the case of low prices the farmers who remain in business will increase their production in order to maintain their income. This kind of reasoning gives the extension service in Deerfield one difficulty less to overcome than in Alto, but it is only a minor difficulty.

Having examined all these cultural and religious value explanations we are forced to conclude that the main reason for difference in the adoption of new farm practices between the two townships can probably not be found in differences in values *directly* related to adoption. Instead we must turn to a social structural interpretation. The evidence presented suggests that the key differentiating factor is the greater

¹⁹This area is "De Graafschap" in Gelderland; see A. W. van den Ban, *Regional Differences in the Adoption of New Farm Practices in the Netherlands* (Department of Rural Sociology, Agricultural University, Bull. 9; Wageningen, Netherlands, 1958), pp. 72-84; and A. W. van den Ban, *Vocational Training in Agriculture of the Dutch Farmers* (Department of Rural Sociology, Agricultural University, Bull. 6; Wageningen, Netherlands, 1957), pp. 66-78 (both in Dutch with a summary in English).

social isolation of Alto township.²⁰ It is a well-established fact that mass media and meetings are able to arouse the interest of the farmers for new farm practices. Such media are often not sufficient to induce actual adoption of these practices. This can usually be done only by personal influence. The American extension service leaves this last task to be done mainly by other farmers. But as described above, farmers in Alto talk mainly with a rather small group of farmers. This makes it less probable than in Deerfield that one of them has tried a new practice.

Furthermore, social control seems to be stronger in Alto than in Deerfield. Each person is better known and more closely integrated into the closed community of Alto. Personal gossip is more prevalent. Perhaps the idea of Christian brotherly love makes the people in Alto more concerned about what their neighbors are doing and more inclined also to help them by preventing mistakes by warning them not to adopt a new practice that will not work. Furthermore, the unselective social interaction in Alto and the lack of differences in social status seem to make it more difficult than in Deerfield for a progressive farmer to select a membership or reference group who are also interested in the adoption of new farm practices. These make it more difficult for Alto farmers to try a new practice before they are quite sure that it will work. On the other hand, one result of the stronger social control in Alto seems to be that as soon as a practice is accepted by some leaders, it can spread rather rapidly.

We conclude therefore that difference in the adoption of new farm practices between the townships studied can be only partly explained by differences in individual characteristics or by values directly affecting farming. Difference in social structure seems to be more important, and particularly the social isolation of Alto and the relative absence of social class differentiation, the familistic pattern, and the stronger informal social control which result in part from this isolation and in part from the particular configuration of historical, economic, and religious factors which have given rise to and supported this pattern of social organization.

CHANGE AND INDIVIDUAL DIFFERENCES

Each of the two townships studied is changing and there are considerable differences among farmers within both communities. There

²⁰The pervasive influence of isolation vs. accessibility is a familiar theme in much sociological writing and is given particular emphasis by Howard Becker. See his *Through Values to Social Interpretation* (Durham, N. C.: Duke University Press, 1950). For European studies showing the relationship between social isolation and adoption of new farm practices, see B. Benvenuti, "Farming in Cultural Change" (Doctoral dissertation, Agricultural University, Wageningen, Netherlands, 1960);

are in Alto some farmers who have a higher adoption score and more outside contacts than most farmers in Deerfield. One Alto farmer even had a private swimming pool in his garden and such a farmer was not found in Deerfield. However, on the average there is an important difference between the two areas.

The isolation of Alto is gradually breaking down. Language differences with neighbors have already practically disappeared. Farmers on the borderline of the Dutch community interact with their neighbors and sometimes exchange work with them. Education also has a considerable influence on the breaking down of cultural isolation. At the high school the children learn to know the opinions of children and teachers of other denominations. But they are unlikely to accept these opinions as long as they live at home where they are highly influenced by the values and social control of their own family and neighbors. At college, except at the church-supported colleges, attitude change is often larger, but the college graduates will usually not return to their own community. Most farm families now have television and this provides an influx of the American culture in their homes of which they are not well aware. In all, it seems doubtful that the strong isolation of this community can be maintained for more than one generation longer. With the decline of this isolation should come a gradual equalization in the use of improved farm practices.

H. Mendras, *Les paysans et la modernisation de l'agriculture* (Paris: Centre National de la Recherche Scientifique, 1958); and I. Chiva, "Causes sociologiques du sous-développement régional," *Cahiers Internationaux de Sociologie*, XXIV (1958), 80-88.