UNIVERSITY OF NOTTINGHAM
Department of Agricultural Economics

LEADERSHIP AMONG FARMERS

GWYN E. JONES*

* Paper read at a Conference, under the auspices of the Agricultural Education Association, on "The Communication of Scientific and Technological Ideas in Farming", Seale Hayne Agricultural College, April 13th-16th, 1964.

Leadership Among Farmers

GWYN E. JONES *

The verb " to lead " has a variety of meanings. In common usage it tends to be used loosely and imprecisely, often with emotional connotations. Consequently, the nouns " leader " and " leadership " do not have a single, precise meaning. The sociologist in observing the phenomenon of leadership must therefore provide his own definition, aiming at greater precision. A recent sociological definition is that: " Leadership refers to a complex process whereby a relatively small number of individuals in a collectivity behave in such a way that they effect (or effectively prevent) a change in the lives of a relatively large number." [1] Even this is too comprehensive a definition for most practical purposes, since various *types* of leadership exist. A prime distinction can be made between formal and informal leaders. Formal leaders are those who, by nomination, election or promotion to positions of power and authority, are seen to be responsible for decisions and resulting action. Such leaders exist within nearly every public or private organisation and institution in Western society, from small village institutions to international businesses and organisations.

My concern in this paper is not with any kind of formal leadership, its structure and the manner in which it works among farmers. The kind of leadership in which I am interested is of an informal nature. A leader of this kind may be performing a leadership function unwittingly and unintentionally. In terms of the general definition quoted, he would be one of a relatively small number of individuals in a community or other social group who, knowingly or unknowingly, intentionally or otherwise, personally influences the actions and thereby to some degree changes the lives of several other members of the group. This kind of leader has been variously termed " an opinion leader ", " a fashion leader ", " an information leader ", " an initiator ", " an adoption leader ", " an influential ", or " a local influential "; or more picturesquely as " a tastemaker ", " a spark plug ", " a decision-clincher ", or " an energizer ".[2] Subtle differences exist between these terms, each having been coined for a particular situation, but they are near enough to synonymity to illustrate the meaning intended in this paper.

* University of Nottingham, Department of Agricultural Economics.

The significant word in the present context is "influence", and particularly personal influence which results from a face-to-face exchange between two individuals. In a world of rapid change, or, of more relevance to this paper, of accelerating technological change in farming, individuals (farmers) need to consult each other to make sense of much that is new. This interaction between individuals is to varying degrees a normal situation in every community. Much of the recently evolved theory on leadership and communication, and of the methods used to measure and isolate the processes involved, is based on a fuller appreciation of the significance of social interaction.

But interaction between individuals within any group of people invariably follows a pattern, basic to which is the fact that selection occurs. The phenomenon of leadership arises out of this fact. If in a given group of people* no one talks to, nor otherwise interacts with, anyone else (an unlikely situation) no leadership can be present. If, on the other hand, everyone discusses everything equally with everyone else (an equally unlikely situation in practice) there are again no leaders since no particular individuals are apparently any more influential than any other. But in most groups, which would be of known size and composition, a few individuals are usually selected more often than the others by the members of the group. The few may be selected, for example, as sources of information of a particular kind, or they may be sought more frequently than others as someone with whom to discuss problems in specific fields, or they may be used more as exemplars in particular aspects of human activity.

This basic thesis has been of prime importance in the development of the study of sociometry,[3] one aim of which is to isolate leaders, especially informal leaders, and to measure their influence. Investigations in this field have been mainly conducted among groups of men in the armed forces, classes of school children, and work teams in various industries. Techniques have been evolved in such situations to determine who influences whom, why a certain pattern should exist, and how the process works. Some studies have also been carried out among farmers, many of which have added substantially to the methodology of sociometry and the verification of sociological theory, as well as being of value in a better understanding of the communication process and the way it works among farmers. For any advocate of farming change, whether propagandist, salesman or adviser, it is of practical importance to understand and appreciate the function of leader farmers as disseminators of new knowledge and information about new practices within his group.

* A collection of people would be a better term in this case, since the word *group* implies a certain degree of cohesion and interaction.

If the presence of one or more such leaders in any group is accepted, then it is also necessary to accept the notion that the flow of new information proceeds in steps. The leader obtains his information from outside the group (first step), and then passes it on to those who rely on him as their source (second step). This is the simple model of a two-step flow of communication.[4] But current research is indicating that there may be several levels of leaders within a group. The informant of a particular number of individuals may in turn receive his information from another leader within the same group or community; and this could occur several times before sources of information outside the group become important. The flow of information thus becomes multi-stepped,[5] or a chain of influence is created,[6] as information percolates through a social group by inter-personal communication.

Two further observations of a theoretical nature on personal, informal leadership, of the kind being discussed, are necessary before proceeding to discuss examples within farming in more detail. First, leaders are usually influential in a relatively narrow sphere of activity rather than in any comprehensive sense.[7] Thus there is probably no such person for farmers in any particular community as a leader in all aspects of their personal, farming and communal life and leisure. No one could be so versatile. There may be one or more leaders in the more restricted sphere of farming alone, but it is more likely that separate leaders exist, who are different individuals, in, for example, dairy farming, grassland management, the production of particular crops, machinery, etc.

Secondly, it might appear reasonable to expect the information leaders among farmers to be the most progressive farmers in their communities, or the early adopters of new practices (or the innovators) in their particular groups. But the correlation is by no means exact. Nor should one expect it to be exact. All innovators are not leaders, nor are all leaders innovators.[8] This is a point which will be developed later. Informal leaders, however, are in no sense a small body set apart from the main group of their acquaintances. Rather, for an individual to be selected as an informal leader by his peers or neighbours, it is also necessary that his values, and attitude, and most of his opinions and activities are not radically different from those of the group as a whole.[9] Or, more probably, he may be " the man who comes closest to realizing the norms the group values highest."[10] Moreover, " the leader is a strategic element in the formation of group opinions: he is more aware of what several members think; he mediates between them; and he represents something like the ' typical ' group-mind."[11] There is a certain amount of paradox in this since, on the one hand, the leader is being cited as a best reflection of the group's ideals, and, on the other, as the creator of those ideals. Both positions, co-existent in a single individual, are possible. Arising from the

congruence, it is likely that a leader will be assigned a relatively high status or prestige in his community or by his group. This possibility is reinforced by the fact, demonstrated by numerous empirical investigations, that an informal leader generally differs from other members of his group in having a wider range of contacts outside the group. It follows from this that a leader not only acts as an intermediary in channelling information originating outside to his group, but that the other members of his own group are usually seeking their information, opinion or advice from individuals who have a higher status than themselves.

This is borne out by some of the most detailed work on informal leadership among farmers, which has been conducted by Lionberger and his associates at the University of Missouri. In one of the most important reports[12] it is shown that most of the " local influentials " have a relatively high prestige or status in their community. Farmers in the lower prestige categories tend to seek information from selected other farmers who are in higher categories; none of those whose prestige position is low are regarded as being influential. A considerable degree of interaction also exists among farmers in the higher categories in the process of information giving and receiving, a feature which is absent among low prestige farmers. Those relatively high status farmers, who are not regarded as influentials, tend to be among the most active seekers of information. However, a high proportion of farmers (55.4%) do not enter into the information seeking interaction, and it is significant that the proportion of such non-seekers rises markedly down the prestige scale (Table 1).

RELATIONSHIP OF PRESTIGE TO THE PROVISION AND USE OF INFORMATION IN A FARMING COMMUNITY

(based on Lionberger and Coughenour[12])

TABLE 1

Prestige Rating*	Total	NUMBER				PERCENTAGE		
		"Local Influentials"	Seekers	of whom included among "Local Influentials"	Non-seekers	"Local Influentials"	Seekers	Non-seekers
High	56	16	32	11	19	28.6	57.1	33.9
Medium	123	7	50	1	67	5.7	40.7	54.5
Low	101	0	32	0	69	0	31.7	68.3
Total	280	23	114	12	155	8.2	40.7	55.4

*High = categories 1—3;
Medium = categories 4 and 5;
Low = categories 6—11.
} of Lionberger and Coughenour.

This study also showed that the influentials in a community tend to be among the most progressive farmers technologically, but the influentials and the progressive farmers are by no means completely coincident. However, the non-influential progressive farmers are highly active seekers of information from the leaders.[13] Both the most active seekers and the sought are the better educated farmers[14] in the community. Larger farmers are more active seekers than small farmers, but in either case the farmers who act as the source of influence tend to be in the same size group as the seeker.[15]

This, and other studies, have displayed a certain degree of uneasiness over the terms informal leader or influential, however rigid their definitions. This has led to a search for types of leadership, not in terms of the kind of enterprise or technique on which certain individuals provide leadership, but in more precise terms of the *function* performed in the process of guiding particular changes. A tentative solution, which may provide fruitful results, has recently been suggested by Lionberger.[16] He has postulated three types of leadership function which individuals may perform, basing his reasoning on the way information affects the spread of farm practices. His types would also appear to fit into the existing theory of the adoption process of new ideas and techniques. First, there is the " innovator " type, the first individuals in a group to adopt a new practice. Secondly, the " communicator ", who is active in spreading information about the new. And thirdly, the " legitimator " who performs the function of convincing his neighbours and acquaintances of the rightness of an innovation. The innovator, by his behaviour, undoubtedly assists in creating an awareness of a new technique. The communicator, by passing on knowledge, is therefore important at the interest stage in the adoption process. The legitimator, in that his actions are important for another when taking a decision to adopt or reject an innovation, is most influential at the evaluation stage.[17] The three functions may all exist in one leader, although Lionberger's initial study found this to be a rare occurrence. More likely, two functions overlap[18]—the innovator-communicator and the innovator-legitimator: viz the person who is progressive and lets people know what he is doing, but who does not crucially influence the decisions of others, and the person who is progressive and who also has a real influence on the decisions of his acquaintances. To this extent, the real " influential " is the second type, but the innovator-communicator is also a necessary leader in a community since he provides much of the information necessary to carry a farmer's interest on to the stage where he seriously considers and evaluates an innovation in terms of its possible adoption. This second type of leader is also probably more akin to the concept of a leader normally held by sociologists in that he possibly deviates less from community norms than the innovator solely or the innovator-communicator.

Relatively little work on informal leadership among farmers, and the ways in which some farmers influence others, has so far been done in the United Kingdom. What has been done hardly attains the sophistication of the better studies produced by American and Dutch workers. An investigation in Cambridgeshire on the sources of information which influenced farmers' choice of cereal varieties has shown that " other farmers " are a significant factor.[19] Sheppard has not only demonstrated the existence of information leaders among our farmers but also, in the sample selected for his survey of the adoption of grassland techniques, that a close relationship existed between those among their acquaintances whom the farmers interviewed regarded as progressive farmers, " best " farmers, and the farmers used as sources for advice and information.[20] These farmers' assessments were reasonably accurate when compared to objective measurements of the three characteristics, but Sheppard did not develop in detail the reasons for the particular patterns of interactions and selection of leaders.

In conclusion, I should like to discuss briefly some data of my own based on an investigation into the adoption of bulk milk tanks in Lincolnshire, Lindsey.[21] This was an innovation which had no direct antecedent for milk producers, but ten acquired tanks at or near the commencement of the Milk Marketing Board's Scheme in January, 1961. A practical problem, which cannot be accurately answered (since no survey has been made after 1961) is to consider to what extent the ten adopters—the bulk tank innovators—might act as leaders or influentials for the other 61 milk producers in the area who might have adopted the practice at the same time. It can be reasonably hypothesized, on the basis of the previous studies which have been considered, that this will largely depend on the existing degree of selective interaction and discussion of farming between the farmers concerned.

A relatively high level of interaction occurred between the bulk tank adopters and the other dairy farmers. Only 15 of the 61 non-adopters had no contact with any of the adopters, while 33 of the 61 knew, and discussed farming with, two or more of the adopters. This high level of interaction may result from the fact that the group being considered includes *all* the larger dairy farmers in the Bulk Collection Scheme area,* who, in a predominantly arable area, were peculiar in the relatively high importance of the dairy enterprise in their total farm economy.

However, the ten innovators were by no means equally selected by the others as individuals whom they knew and with whom they discussed farming (Table 2).

---

* average daily milk production of 50 gallons and over.

SELECTION OF BULK TANK ADOPTERS AS SOURCES OF INFORMATION AND ADVICE ON FARMING BY 61 NON-ADOPTERS

TABLE 2

Bulk Tank Adopters	Code No.:— 1	2	3	4	5	6	7	8	9	10
No. of mentions by non-adopters*	15	3	22	18	3	4	20	10	8	7

* Effectively this covers mentions by only 46 non-adopters since 15 knew none of the adopters. Many non-adopters mentioned 2 or more of the adopters.

A simple diagram of the interactions, with only a slight degree of ordering, depicts a jumble which would appear to contain no pattern (Figure 1).

During the investigation, in addition to asking the 61 non-adopters which of the adopters they knew personally and discussed farming with, all 71 (i.e. including the adopters) were asked to name two or more farmers whom they knew personally and considered as the " most progressive dairy farmers " in the county. On the basis of this latter question those who were selected most frequently,* but who were *not* neighbours of each respondent,** have been regarded as having a relatively high " status " or prestige among this group of dairy farmers.

The three innovators who are most used as information sources, involving nearly 60% of the actual interactions, are also accorded a high " status ". Further, within the group of 71 they are among the most progressive in terms of their dairy techniques and practices. It is significant that two relationships emphasised by Lionberger's work are also apparent here. First, a high proportion of the interactions (30%) occur between adopters and non-adopters in the same " status " group, most of these being in the high " status " group (Figure 2). This also means that within-group interaction is a characteristic of the high " status " group since there are few interactions between non-adopters and bulk tank adopters in lower " status " groups than themselves (Figure 3). Secondly, however, considerable information seeking occurs between non-adopters and innovators in higher " status " groups than themselves (Figure 4).

* Chosen 2 or more times by non-neighbours = High "Status"; chosen once by non-neighbours = Medium "Status".

** Neighbours have been defined as those farmers whose farmsteads were within 1 mile of that of a respondent.

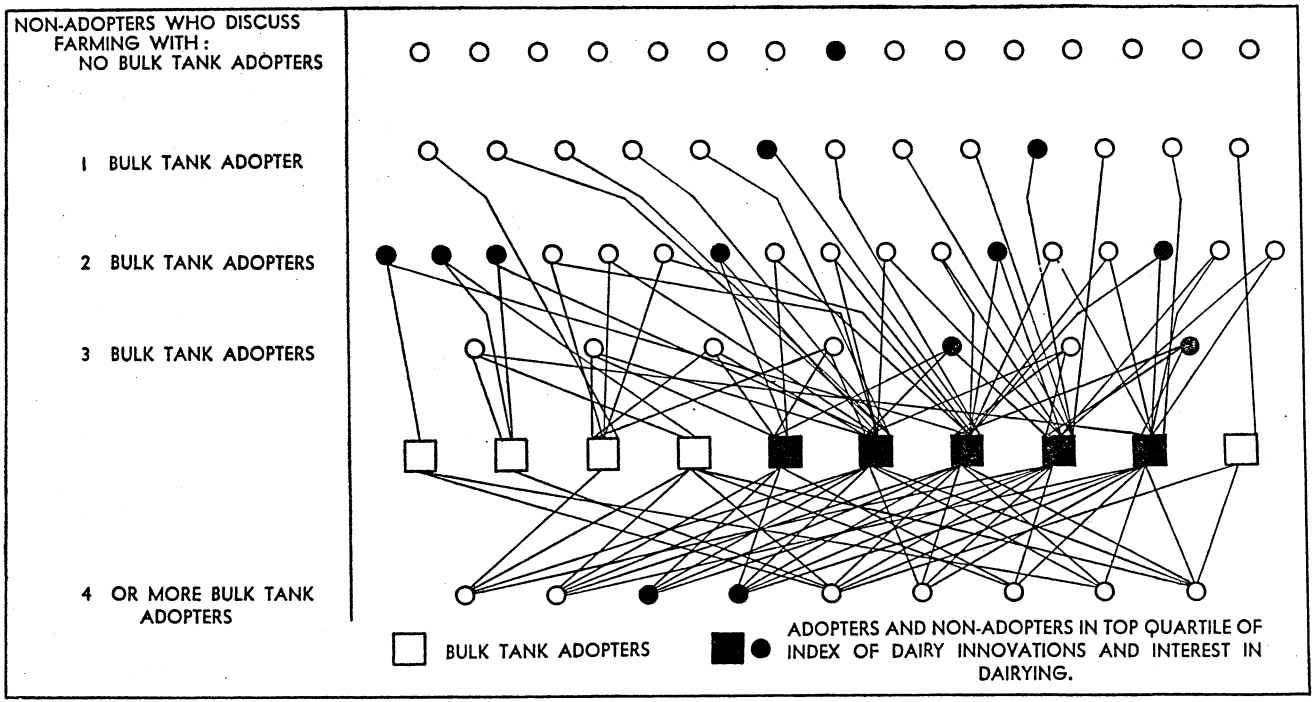

Figure 1
Interaction Network between 61 Non-Adopters of Bulk Milk Tanks and 10 Adopters in Lindsey.

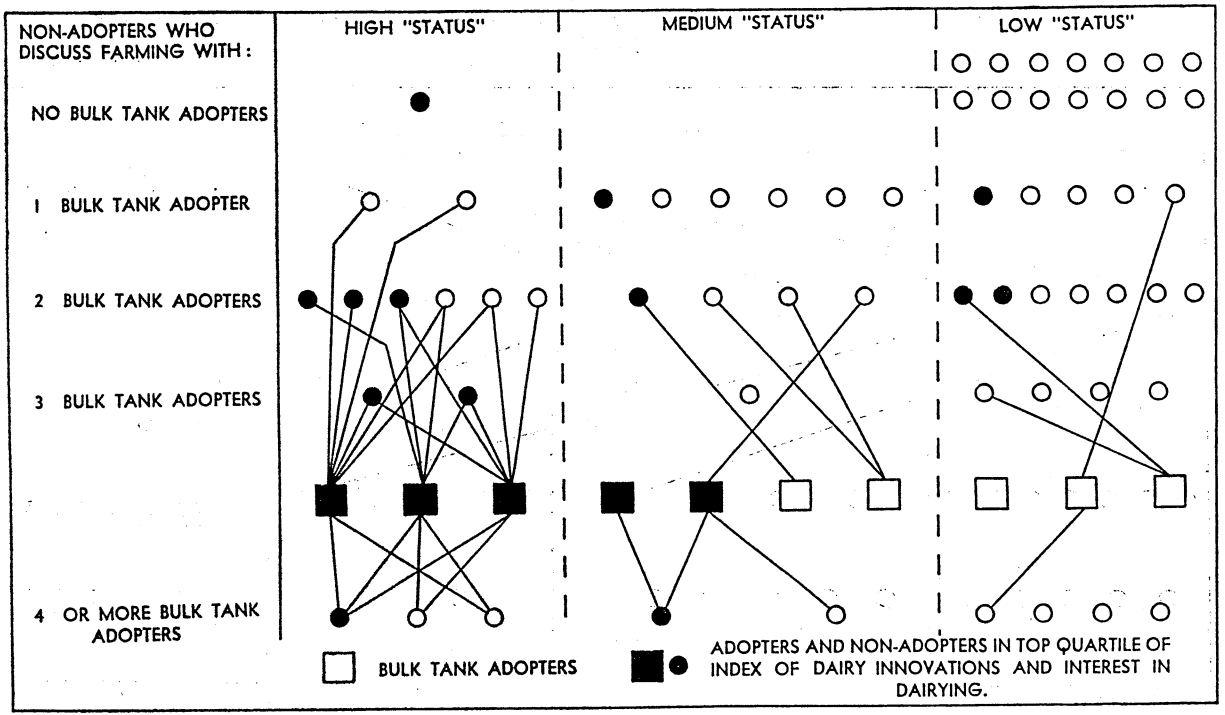

Figure 2

Interaction Network between Non-Adopters of Bulk Milk Tanks and Adopters *within* "Status" Categories.

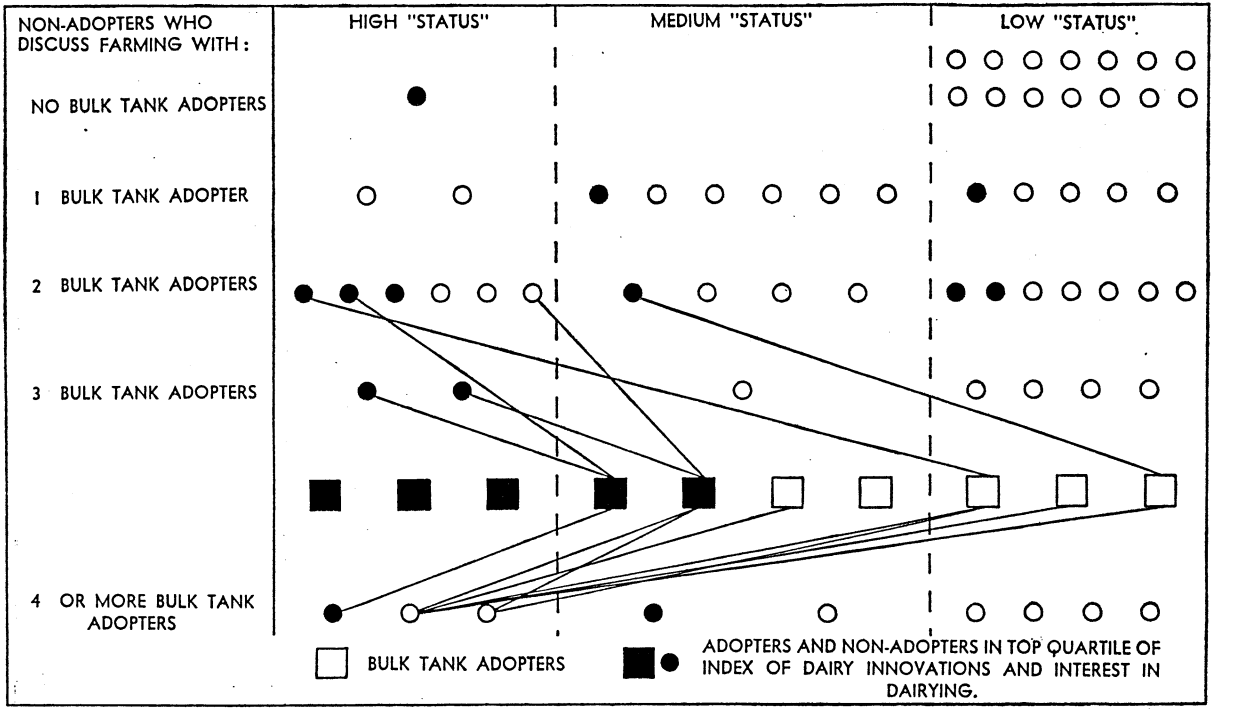

Figure 3

Interaction Network between Non-Adopters of Bulk Milk Tanks and Adopters who are in *lower* "Status" Categories.

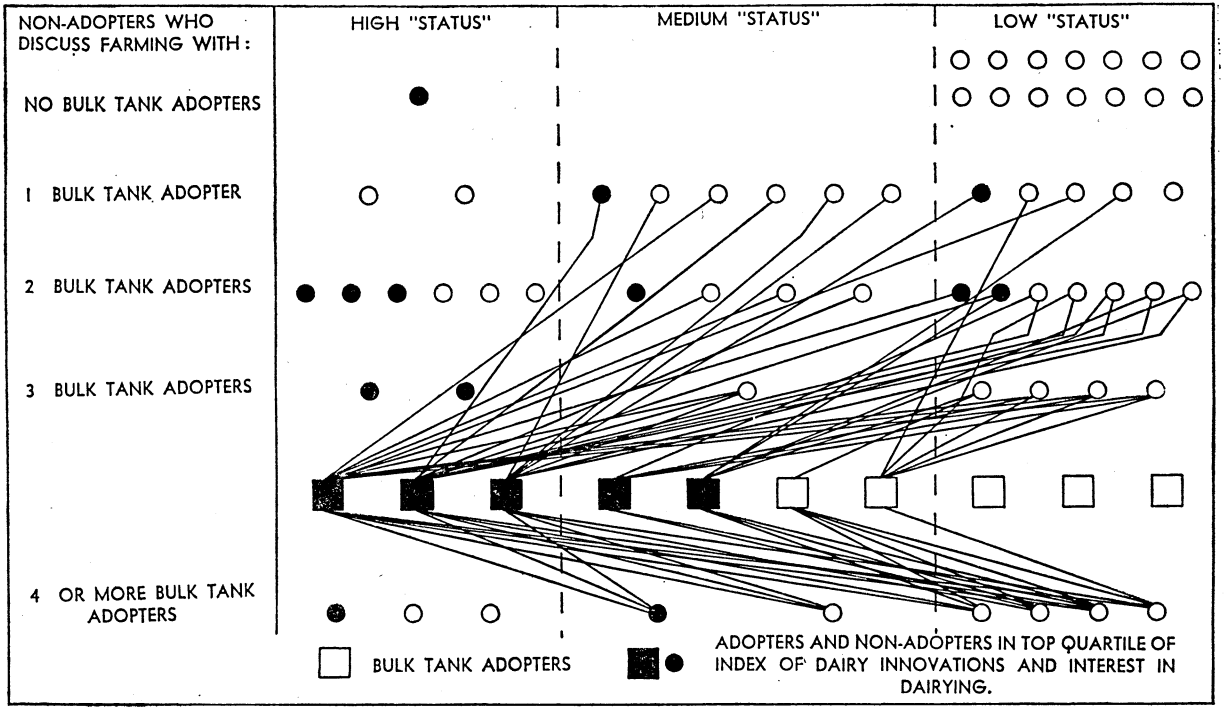

Figure 4

Interaction Network between Non-Adopters of Bulk Milk Tanks and Adopters who are in *higher* "Status" Categories.

It thus appears highly probably that three of the bulk tank adopters could act as informal leaders for a majority of the other dairy farmers in the area. A closer analysis, however, reveals peculiarities associated with two of these. The influence of one is particularly local and covers only a small part of the total area. Yet in this local area he would appear to combine all three of Lionberger's functions—innovator, communicator and legitimator. The other has relatively little local influence, but is known over most of the area. His direct influence is thus probably less than that of the first example. But due to the greater geographical extent of his sphere of influence he probably creates an additional step in the communication flow—he informs acquaintances over a wide area who in their turn influence other, usually lower status, milk producers locally. He is innovator and communicator only.

In summary, it appears indisputable that farmers are active spreaders of information among themselves, but some (usually very few in any community) are more active and influential than others. Thus much new knowledge, originating in research organisations or an advisory service, reaches individual farmers through one or more intermediaries. A stepped-flow of communication is therefore set up. It would seem to be desirable for professional advisers and other advocates of change to be not only aware of this but to understand the mechanism in some depth. It would be to their own advantage, by an increase in their efficiency, if much of the " gospel-spreading " could be performed by active leaders in a community. An obvious problem which arises here, however, is the need to make certain that no inaccuracies or gaps in information enter into the communication process during the flow — the leaders must be given the fullest information and understanding both of their function and of the particular knowledge they are disseminating.

Two characteristics at least seem to be associated with the leadership role—progressiveness and high social status in a community. Leaders may exist who are not progressive, and it may be suspected that these " spread the ignorance " or a resistance to change. Much work remains to be done on the full operation of informal leaders and influentials. For example, how are the leaders informed ?; does the leadership position of an individual change over time ?; are there farmer-leaders who are influenced by other farmer-leaders in their own or some other locality ?; what factors affect the distance over which a leader is effective ?; is a leader's range of influence usually limited to a very particular kind of enterprise or technique, or is it broader based ?; does increasing competition, or increasing scale of operation, in farming hinder the operation of the leadership role, in the sense that trade secrets may develop ? And perhaps of most concern to an adviser who wishes to enlist the assistance of local leaders in his work, how may they be distinguished ?

REFERENCES

[1] FREEMAN, LINTON C.; FARARO, THOMAS J.; BLOOMBERG JR., WALTER; and SUNSHINE, MORRIS H.: "Locating Leaders in Local Communities: A Comparison of Some Alternative Approaches." *Amer. Sociol. Rev.* vol. 28 (5) Oct. 1963, p. 791.

[2] Most of these terms, and some additional ones, are given in: ROGERS, EVERETT M. and CARTANO, DAVID G.: "Methods of Measuring Opinion Leadership." *Public Opinion Qtr.*, vol. 26, Fall, 1962, p. 435. See also:
ROGERS, EVERETT M.: *Diffusion of Innovations.* New York (The Free Press of Glencoe), 1962, chapter 8.
LIONBERGER, HERBERT F.: *Adoption of New Ideas and Practices.* Ames, Iowa (The Iowa State University Press), 1960, chapters 5 and 6.

[3] The term sociometry and the foundations of the subject owe their origin mainly to J. L. Moreno. The methods were first widely publicised in:
MORENO, J. L.: *Who Shall Survive?* 1st ed. 1934.
For a recent purview of the subject see:
MORENO, J. L. (editor): *The Sociometry Reader.* Illinois (The Free Press of Glencoe), 1960.

[4] The hypothesis of the two-step flow of communication was first postulated in a study of the process of individual decision-making in voting during an American Presidential Election. See:
LAZARSFELD, PAUL F., BERELSON, BERNARD and GAUDET, HAZEL: *The People's Choice.* New York (Columbia University Press), 2nd edition, 1948.
For subsequent work see:
KATZ, ELIHU and LAZARSFELD, PAUL F.: *Personal Influence: The Part Played by People in the Flow of Mass Communications.* Illinois (The Free Press of Glencoe), 1955.
KATZ, ELIHU: "The Two-Step Flow of Communication: An Up-to-date report on an Hypothesis." *Public Opinion Qtr.*, vol. 21, Spring, 1957, pp. 61-78.

[5] KATZ, ELIHU: *art. cit.*, p. 77.
ROGERS, EVERETT M.: *op. cit.*, pp. 211-214.

[6] MERTON, ROBERT K.: *Social Theory and Social Structure.* New York (The Free Press of Glencoe), rev. ed. 1957, p. 412.

[7] Merton, a leading American sociologist, terms the leader or "influential" in a single sphere of activity as "monomorphic" compared to one "in a variety of (and seemingly unrelated) spheres" which he terms "polymorphic." He distinguished both types in his study of the patterns of influence in Rovere.
MERTON, ROBERT K.: *op. cit.*, pp. 413-415.

The former type would appear to be the commoner, and most research bears out the fact that there is generally little overlap between these two types of opinion leadership (ROGERS, EVERETT M.: *op. cit.* p. 236). This is confirmed by Barnett, an anthropologist, who writes: "Almost never is a leader universally admired and looked upon as a model to be voluntarily copied by all ages and classes within the domain of his control . . . . . No person serves as an exemplar in the particular area of his preeminence for everyone who knows him; and, no one is so versatile that he is a universal exemplar in every area of interest that is valued by those who know him . . . . . They acknowledge different exemplars in their different areas of interest."
BARNETT, H. G.: *Innovation: The Basis of Cultural Change.* New York (McGraw Hill Book Co. Inc.), 1953, pp. 314-315.

The monomorphic influential may, however, be at the first stage to becoming a polymorphic leader (MERTON, R. K., *op. cit.*, p. 414), although most opinion would seem to be against this view.

The existence of monomorphic leaders within an agricultural context was borne out by the early work of Ryan and Gross on the diffusion of hybrid corn seed in Iowa when they stated: "A presumption that leaders in the social and organization life of the community are leaders in technological change appears unjustified."
RYAN, BRYCE and GROSS, NEAL: *Acceptance and Diffusion of Hybrid Corn Seed in Two Iowa Communities.* Agricultural Experiment Station, Iowa State College, Research Bulletin 372, Jan. 1950, p. 706.

Emery and Oeser present a similar finding based on their study in an area of Victoria, Australia: "There is a hierarchical structure of farmers to whom the others turn for advice and help . . . . . It is based on leadership in skill and competence only . . . . . The three outstanding men are not leaders in local politics or other community affairs."
EMERY, F. E. and OESER, O. A.: *Information, Decision and Action: A Study of the Psychological Determinants of Change in Farming.* Melbourne University Press, 1958, p. 51.

8 Cf. RYAN, BRYCE and GROSS, NEAL: *op cit.*, p. 706.

9 HOMANS, GEORGE C.: *The Human Group.* London (Routledge & Kegan Paul Ltd.), 1951, p. 149.

10 *Ibid.*, p. 188.

11 KATZ, ELIHU and LAZARSFELD, PAUL F.: *op. cit.*, pp. 8-9.
Some work by social psychologists confirms this. E.g.: "Leaders may know best the opinions of their group because they, more than any other member, were influential in formulating these opinions." Quoted by MERTON, ROBERT K.: *op. cit.*, p. 338 footnote.

12 LIONBERGER, HERBERT F. and COUGHENOUR, C. MILTON: *Social Structure and Diffusion of Farm Information: Based on a Study of a Farm Community in Northeast Missouri.* University of Missouri, Agricultural Experiment Station, Research Bulletin 631, April, 1957, especially pp. 25-34.

13 *Ibid.*, pp. 32-34 and 70-74.

14 *Ibid.*, pp. 67-70.

15 *Ibid.*, pp. 61-64.

16 LIONBERGER, HERBERT F. (a): "Overlap Dispersion of Selected Functions in Adoption Decisions of Farm Operators in Two Missouri Communities." Paper read at Annual Meeting Rural Sociological Society, August, 1962; and
LIONBERGER, HERBERT F. (b): "Studies in hand and in prospect relating to the Diffusion of Agricultural Information: American Experience." Paper read at O.E.C.D. seminar on "Structure and Orientation of Intellectual Investments in Agriculture in Relation to Economic and Social Development," Paris, October, 1962.

17 LIONBERGER, HERBERT F. (c): *Legitimation of Decisions to Adopt Farm Practices and Purchase Farm Supplies in Two Missouri Farm Communities: Ozark and Prairie.*
University of Missouri, Agricultural Experiment Station, Research Bulletin 826, April, 1963.

18 LIONBERGER, HERBERT F. (a): *op. cit.*

[19] DADD, C. V. and OSBORNE, L. W.: "Factors Influencing the Choice of Cereal Varieties." *Outlook on Agriculture,* vol. 2 (1), Spring, 1958, pp. 3-12.
SMITH, H. T. E.: "Advisory Methods: The Study of How to Get Information to Farmers." *Agricultural Progress,* vol. 35, 1960, pp. 34-41.

[20] SHEPPARD, D.: *A Survey among Grassland Farmers. (Comprehensive Report).* The Social Survey, Central Office of Information, SS. 274, 1960, pp. 43-55.
SHEPPARD, D.: "The Importance of 'Other Farmers'." *Sociologia Ruralis,* vol 3 (2), 1963, pp. 127-141.

[21] JONES, GWYN E.: *Bulk Milk Handling: An Investigation into the Adoption of a New Dairy Technique in Lindsey.* University of Nottingham, Department of Agricultural Economics, F.R. No. 146, April, 1962, pp. 64.
The analysis of leadership discussed here is not included in the published report.

ECHO PRESS LTD., LOUGHBOROUGH