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Evolution of Cooperative Thought, Theory, and Purpose

Randall E. Torgerson, Bruce J. Reynolds, and Thomas W. Gray

The evolution of agricultural cooperative thought, theory, and purpose in the United States is reviewed from the standpoint of the reemergence of interest in how cooperatives can provide some of the security and benefits that might be lost with gradual phasing out of federal government farm support programs. By accomplishing group action for self-help, the early development of cooperatives drew considerable attention from economists, social theorists, and politicians. Alternative schools of cooperative thought developed, but most proponents of cooperatives regarded them as having enormous potential to provide a public service role in building a more economically stable and democratic society. This paper also surveys how cooperative theory was developed more rigorously in the post-WWII period. It has provided better analytical tools for understanding how and why cooperatives have changed in response to technological and economic developments, as well as to social trends, like individualism. Given the new perspectives on cooperative theory and the scope of changes in how cooperatives operate and are structured, cooperatives have even greater potential for coordinating self-help actions, but this potential needs the support of cooperative education services.

A review of developments in cooperative thought and theory provides an opportunity to gain new perspectives on earlier works and to gain renewed appreciation. Recently much of this work has been reprinted in several issues of the *Journal of Cooperation* and in the reissue of *Economic Theory of Cooperation* by Ivan Emelianoff (1942).

In reviewing the evolution of important ideas, it is important not to lose sight of their historical context and how they were affected by developments in cooperative practice. The evolution of agricultural marketing cooperatives has its roots in the emergence of commercial agriculture during the nineteenth century. Subsequent refinements were honed by the development of two distinctly American schools of thought, the California and the Cooperative Yardstick schools. A characteristic of American thought is that it is seeped in pragmatism, contrasted to some European schools that were affected by great social reforms and associated philosophies of the times. The distinctiveness of the American schools of thought gave rise to particular policy roles for cooperatives. These policy roles have been further developed by a combination of public and private stimulus. This paper delineates these policy roles in the context of evolving thought, theory, and purpose of cooperatively owned businesses.

The conceptual role is drawn from economic, sociological, political science, and managerial behavioral fields in a holistic look at the political economy. The intent is to demonstrate why, with the end of a period of sixty years of federal farm programs, cooperatives

Randall E. Torgerson is deputy administrator, Bruce J. Reynolds is economist, and Thomas W. Gray is rural sociologist of the Rural Business–Cooperative Service of the U.S. Department of Agriculture.

may have increasingly important roles to play in (1) providing agricultural producers access to markets and (2) providing vehicles for capturing value added. Cooperatives are strategically adjusting and repositioning their operations. However, to continue to act in the interests of producers, they will need to use fundamental cooperative principles as their sources of primary logic and organizational discipline.

Early History of North American Cooperatives

In looking back, considerable weight and influence is attributed to various social and economic philosophies influencing the development of institutions for carrying out economic activity, including cooperatives' roles in different political systems. Early experiments were influenced by utopian schemes during the early European industrial revolution. These had their limited transplants—such as Robert Owen's New Harmony and the Rochdale principles that influenced governance rules and distribution practices in the United States—but the main stream of agricultural cooperation developed independently as a self-help form of business. Cooperatives in North America were organized to move product to markets and to influence price and other terms of trade—consistent with market supply and demand conditions—while providing fair treatment, other services, and more protection from exploitative opportunism. Attempts to explain the economics of why cooperatives are organized, as opposed to other methods of achieving economies of size, form a major thrust of recent thought and theory. In reviewing developments over time, a similar question emerges in terms of why agricultural cooperatives formed and how significant was this formation that took root in North America.

Beginning in the late nineteenth century, cooperative marketing was fostered by farmers' professional associations during a series of farmer movements. The development of these cooperatives can be characterized, in a sociological sense, as a social movement of independent farm operators seeking to enhance and protect their place in the economic organization of agriculture.

The Cooperative Commonwealth School

The cooperative commonwealth school of thought found strong support in European approaches to development of a comprehensive organizational structure that forges linkages with related or ancillary business service organizations. This had some influence on a number of early American pioneers like Howard A. Cowden and Murray Lincoln. This school took the perspective that cooperatives would evolve into the dominant form of business activity in consumer and farm sectors. They would create economic and social order by using federations and other links between cooperatives and their allied support groups, like professional farmers associations and labor unions (Bonner 1961). Such a predominant role not only gave stature to the members as a class, but also made cooperatives a major source of influence in the broader political economy.

The California School

The California school initiated by Aaron Sapiro, in contrast, sought to correct imbalances in grower treatment and to improve marketing coordination by using cooperatives organized along commodity lines to achieve more orderly marketing (Sapiro 1920, Larsen and Erdman 1962). Advocacy of direct membership associations organized along commodity lines, using long-term membership contracts and professional management, was particularly well suited to many specialty crops grown in rather confined regions like the Pacific Coast. By organizing a major market share and emphasizing grading and pooling techniques, products were brought to market in a measured fashion that avoided the disastrous consequences of dumping them on the market at harvest. Sapiro's advocacy met wider success among crops grown within limited territory than it did with those grown over broad geographical areas. Nevertheless, he created a broad awareness in the United States and Canada of producers' abilities to influence terms of trade through cooperative organizations. The efforts in organizing farmers and developing thrusts in several different commodity sectors was a major influence in passage of the Capper-Volstead Act of 1922 and the Cooperative Marketing Act of 1926. Further, the Sapiro approach was adopted and modified for creation of largely unsuccessful, top-down, national commodity cooperatives under the Federal Farm Board in 1929. The Sapiro approach was also an antecedent to the orderly marketing mechanisms created by the Agricultural Marketing Agreements Act of 1937.

The Competitive Yardstick School

The other major school of American cooperative thought was developed by Professor E.G. Nourse, and has become known as the competitive yardstick school (Nourse 1922, 1944; Knapp 1979). It developed as a reaction to Sapiro's advocacy of direct membership cooperatives often organized on a regional basis. Nourse, a Chicago free-market school trained economist, advocated a much more modest vision of cooperative structure. This originated from locally organized service cooperatives that were characteristic of the livestock, farm supply, and grain elevator organizations that sprung up in the Midwest. He emphasized local control that manifested itself in cooperatives organized to meet producers' needs in a local community. Nourse posited that cooperatives could be organized to represent a limited share of marketing activity and still serve a yardstick role by which members could measure the performance of other firms dominating the marketing channel. This check and balance function provided a checkpoint on other businesses and forced them to be more competitive. If markets became more competitive by virtue of the role of cooperatives, Nourse argued in an economist's rhetorical fashion, their role was fulfilled and they could cease to exist. In practice, such perfectly competitive market conditions do not become established in any lasting way. Since he opposed the Sapiro formation of democratically controlled and dominant commodity associations, Nourse advocated that cooperatives could attain scale economies by affiliating through purchasing or marketing federations that preserved a bottom-up structure rather than a more centralized, top-down one.

The emphasis on market development, service, efficiency, and competition created a public policy rationale for supporting the organization of more cooperatives as a partial answer to farm price and income problems. The competition-enhancing rationale also became an important element in treatment under tax and antitrust codes. This school of cooperative thought was enhanced by Nourse's stature in academic circles. He helped organize, in 1925, a floating university, the American Institute of Cooperation. This was created for practical discussion about best cooperative principles and operating practices. The competition-enhancing school of cooperative thought was also assisted by Nourse's professional roles. He was the elected president of the American Farm Economics Association and of the American Economics Association, and he was, later, chairman of the first President's Council of Economic Advisors under Harry S. Truman.

Influence of Thought on Structure and Purpose of Cooperatives

The California and Nourse schools clearly had their impact on how various groups organized and how they justified their structures and functions. Their contributions subsequently helped shape how academicians and policy makers viewed cooperative structure. The California school, under Sapiro's advocacy, aimed at unifying farmers in commodity-wide cooperatives that could exert market power and raise total returns to agriculture. These commodity cooperatives also achieved channel coordination and emphasized new product development and operating efficiency to improve returns through adequate market share and appropriate business management (Cotterill 1984).

The Nourse school viewed cooperatives as having a role in any producer market—local or regional—of giving farmers a "competitive yardstick" basis on which to judge the performance of investor-owned firms. While Sapiro specified a standard system for producer coordination, Nourse was more altruistic and tended to be more conceptually vague in the sense of measuring goal attainment for members. Both had elements of public-good services that cooperatives performed on behalf of their members and the broader agricultural production and consuming sectors.

Key conditions leading to group action are:

1. a limited number of buyers of farm production and/or sellers of inputs to farmers,
2. an atomistic structure characterized by a higher number and smaller size of farm operators compared to others in the market channel, and
3. a high incidence of specialized assets in farming that lead to inelastic supplies of farm products.

The changing market structure of agriculture, a prime motivator in early organizing efforts associated with the emergence of commercial agriculture, remains today the underlying rationale for cooperative efforts by farm operators (Torgerson 1977). Farmers also organized because services were not available to them in their rural communities or because those services were not available at reasonable costs. Recent studies continue to document that market failure, excessive transaction costs, discriminatory treatment of contract growers, and increased monopsony in buyer markets are conditions leading to group action by producers.

Development of Cooperative Marketing Theory

A strength of the Sapiro and Nourse ideas is that they specify objectives and organizational structures for cooperatives that address the concerns of agricultural producers in a context that achieves a public interest role. In both schools of thought, cooperatives provide some balancing of market power, whether affecting the terms of trade for an industry-wide commodity (the Sapiro school), or in stimulating competition in specific markets (the Nourse school). In their conceptions, cooperatives capture a larger share of industry earnings for the membership, but also contribute to market or industry efficiency. In other words, their philosophies of cooperation were grounded in a public interest perspective, as recognized legislatively in the Capper-Volstead Act of 1922.

Sapiro and Nourse made major contributions to the practical problems of achieving member commitment and cohesive organizations. Yet, subsequent cooperative thought moved further into examining and modeling key facets of internal organization, developing a more coherent theory of agricultural cooperation. Over the years since Sapiro and Nourse, there has been some shift in emphasis from concern with the external effects of organization to the internal or micro aspects of organizing and sustaining cooperation. The advent of farm price support programs may have placed some of the interest in the public policy role of cooperatives on the back burner. In part, agricultural economists have given their attention to understanding the issues of member commitment and efficient operations as the cooperative movement has matured and organizations have confronted major changes in their industries. To some extent, too, the focus on internal aspects of organization in agricultural cooperative theory has reflected new directions in economics. It has reflected, perhaps, the influence of that profession's gradual division into a macroeconomics for economy-wide coordination issues and into a microeconomics for issues of individual or group decision making. Many types of coordination issues and systems of group coordination have received negligible attention from microeconomists, which might be due to their philosophical assumption of methodological individualism.

These comments are not meant to suggest that theoretical work on the public role of agricultural cooperatives has been lacking since Sapiro and Nourse. In fact, significant work continues to be carried out by several economists, using industrial organization models, that reveals the external or market performance benefits of cooperatives (Cotterill 1987, 1997; Rogers and Marion 1990; Haller 1993; Rogers and Petraglia 1994). Effects of cooperatives on industry-wide coordination are addressed in much of the cooperative bargaining literature (Ladd 1964; Bunje 1980). An excellent framework for understanding coordination and the role of cooperatives in macro coordination was developed by James Shaffer, and he noted that this role "...deserves a good deal more attention" (1987).

A major step in understanding the internal economics of cooperatives was made by Emelianoff in the 1940s, with a conception of the cooperative as a form of vertical integration (1942). Emelianoff's attempt to construct a more comprehensive theory of cooperation is particularly notable for its focus on the structural and functional relationships of members to their cooperative marketing organization that was latter picked up and refined by Robotka (1947) and his cadre of students, like Phillips (1953) and Aresvik (1955). Emelianoff concluded that cooperatives represent an aggregate of economic units (members) and are not themselves acquisitive economic units. In other words, Emelianoff developed a conception of a cooperative as pure agency with members as principals.

Phillips developed a model of output and pricing decisions as logically derived from the Emelianoff-Robotka vertical integration framework. He identified a decision rule for members to produce where their marginal costs equaled the cooperative's marginal revenue. However, several economists have pointed out the flaws in this model (Trifon 1961, Sexton 1984, Royer 1994, and Staatz 1994). Suboptimal earnings would result whenever a cooperative's operations were subject to either increasing or decreasing marginal costs, unless there was some way that all members could coordinate their outputs, which Phillips left unspecified.

Emelianoff, Robotka, and Phillips clarified the importance of a principal-agent relationship in understanding cooperatives. Although this relationship is too simplistic by itself to provide a comprehensive explanation of cooperative decision making and governance, effective member control consists of members carrying out their role as principals, represented by directors, with management functioning as their agents. In the Emelianoff, Robotka, and Phillips conceptions of a cooperative, the answer to the "benefits to whom" question is clear and unambiguous.

Phillips carried the logic of vertical integration into defining all member dealings and relationships in strictly proportional terms. All contributions and benefits are received from and returned to members in equal ratios or proportions. Governance is likewise based on member voting in proportion to patronage volume or use.

The shortcomings of Phillips's output and pricing decision rules derived from the lack of some form of a modified theory of the firm for cooperatives. By the 1960s, Helmberger and Hoos filled this void and accomplished a re-working of agricultural cooperative theory. Analogous to the theory of the firm, cooperatives have an optimization objective, but it is to maximize benefits to members. In their model, a cooperative maximizes the per unit value or average price by distributing all earnings back to members in proportion to their patronage volume or use.

There are excellent discussions of the Helmberger-Hoos model and its contributions and comparisons with the work of Phillips in several reports and issues of the *Journal of Cooperatives* (Staatz 1989, Staatz 1994, Royer 1994, Rhodes 1995, and Sexton 1995a). By providing a modified theory of the firm approach and analyzing short-run and long-run decisions, the Helmberger-Hoos model identified the incentives that can potentially exist for current members to limit the size of a cooperative's membership. Their model revealed potential conflicts of interest if management wants to expand a cooperative's volume in situations of decreasing returns. When such output expansion is based on new members, it diminishes earnings to the original or current membership. Hence, their model is both consistent with the reality of an independent decision responsibility by management in cooperatives and the existence of complex member control issues that were missing in the Phillips's model.

Several new directions in economic theory have emerged since the 1960s. Some comments on the nature of these approaches are relevant to understanding many of the recent developments in agricultural cooperative theory and practice. Traditional economic analysis locates the existence of profit as primarily a function of market structure. Working with this assumption, economists traditionally tended to neglect the internal structure of incentives in organizations (Shoemaker 1990). It is interesting to note that, at the time Emelianoff was writing, there was a lack of an adequate theory of enterprise. In using an analogue method of reasoning, he needed such a definition, and he devoted the first part of his essay to developing a concept of enterprise, which provided a point of contrast for conceptualizing a cooperative.

Different approaches to the problems of modeling internal organization have been introduced from many sources. Four are particularly relevant to recent developments in agricultural cooperative theory: (1) economics of property rights, (2) new institutional or transactions cost economics, (3) local or group public goods theory, and (4) game-theoretic approaches to economics.

Since the 1960s, the economics of property rights have been applied to a wide range of policy issues, from pollution to business strategy. Property rights are defined as capacity to use or to control the use of an asset or resource (Demsetz 1967). Economic applications of property rights are broadened when control and use are specified for various attributes of assets, rendering a divided ownership in accordance with those parties who can make the most efficient use of those attributes (Barzel 1997). The extent to which property rights are delineated for the attributes of assets, or to which this delineation is lacking or compromised, determines how efficiently such assets will be employed or conserved.

For many policy analysts, the economics of property rights can help explain and correct many kinds of market failures and provide alternative solutions to those of activist government. In one of the early formulations of this approach, Demsetz regards many forms of human cooperation, particularly those involving agreement, as unworkable and deadlocked without clearly defined and enforced property rights. The property rights approach is evident in much of the new institutional economics, and it clarifies the distinction of patronage as a basis for ownership and control of cooperatives, rather than investment. This analytical approach also provides many cooperatives much of the rationale for establishing member delivery rights.

In a recent paper by Cook, property rights are critical instruments for enabling cooperatives to be sustainable, producer-controlled businesses. In his view, by first accomplishing internal stability with adequately defined property rights, cooperatives can then carry out a role of improving market performance or of, in his words, "correcting market failures" (1995).

New developments in institutional economics have extended the applicability and relevance of property rights economics. Major strides have been made in specifying how markets and organizations are defined by, and then function with, property rights (what is called mechanisms of governance). This is a major thrust of the new institutionalist school of thought, especially associated with the work of Williamson (1975, 1985).

Establishing property rights to assets or their attributes involves transaction costs. The new institutional economics links the minimization of these transaction costs with the creation and design of different forms of organization and contracting. This is particularly relevant to examining why cooperatives are formed, as opposed to other methods that producers might employ to gain economies of size (Staatz 1987a).

A strategic aspect relevant to many agricultural producers is the problem of asset fixity or specificity, that may render them vulnerable to opportunistic behavior by product purchasing firms. Williamson and other economists, using a new institutionalist approach, have identified this type of vulnerability as a rationale for vertical integration (Williamson 1971). It is apparent that some cooperatives provide a response to this type of potential market failure.

One of the advantages of applying a new institutionalist approach to agricultural cooperatives, or business firms in general, is the understanding it offers of organizational strategy. This method of analysis is applied by Sporleder to understand recent trends of vertical coordination and strategic alliances in agriculture (Sporleder 1992).

Important clarifications of the meaning of local or group public goods were worked out independently by Buchanan and Olson in the mid-1960s (Buchanan 1965, Olson 1965). Buchanan noted the need of filling the void between the Samuelsonian pure public goods and private goods, with a theory of clubs or cooperative membership. His theory of clubs models the conditions for stable and optimal cooperation for control over, and use of, a common property asset. Such common property is a public good in that all members have equal access and their use does not detract or diminish the use by others in the group. Such local or group public goods depend on restricting membership size.

Practitioners in cooperative development and structuring may not find the premises and rationales of club theory to be an appropriate modeling device in all coordination situations that agricultural producers confront. But the importance of club theory as an analytical framework for theoretical analysis of agricultural cooperatives is evident (Vitaliano 1977; Sexton 1984, 1995a).

Olson worked along similar lines as Buchanan to clarify how most public goods can only be defined for specific groups of people. In that context, a specific group achieves a cooperative gain from their coordinated or organized actions, with the public goods dimension being that no member can be denied access to the services that generate the joint gains. However, Olson's major objective in this work was to examine the problem of individual incentives to form cooperatives or to otherwise produce local public goods, rather than to examine the specifics of how public goods are locally defined and shared.

A framework of the cohesiveness of a membership, that is, their willingness to agree on procedures for burdens and benefits sharing, is fundamental to a theory of cooperation. While club theory addresses the membership size aspect on the assumption of equal sharing, there are several other dimensions to be specified in order to form a cooperative. Individuals must initially bargain over who cooperates with whom and under what terms. Answers to these kinds of questions are the basis of coalition analysis in game theory. Staatz and Sexton applied this to modeling cooperatives in the 1980s (Staatz 1983, 1987b; Sexton 1986).

Playing the coalition game can be envisioned as a process of bargaining, but in economic modeling, it is a matter of identifying conditions for stable equilibrium solutions. Incentives to bargain for different coalitions or for revising distribution rules can arise for different reasons. For example, there might be an optimal limit to the coalition size, or participants may have significantly different stand-alone opportunities, or there may be major differences in the synergistic (superadditivity) gains of different combinations or coalition configurations.

Both Staatz and Sexton look back to Phillips as a progenitor of coalition modeling for agricultural cooperatives (Staatz 1994, Sexton 1986). The proportionality principle in Phillips's work, keeping an equal ratio of burden to benefit sharing across all members, is a stable coalition solution. In other words, no member has an incentive to seek a change in the distribution rules. However, Staatz and Sexton point out the operation of a unanimity rule in coalition solutions, and Phillips's prescription for proportional voting would not be necessary or justified over a one-member, one-vote procedure in this regard.

Cooperative Purpose Dilemmas and Challenges

One of the vexing issues in the evolution of cooperative thought and the review of new theoretical treatments just discussed concerns the existence of multiple purposes and objectives for the cooperative business organization. Some of these are embedded in different interpretations of the social and economic philosophies of cooperation. They derive from various interpretations of internal (member) and external (societal) benefits of cooperative organization assessed from both short- and longer-term perspectives. Others deal with internal operations and practices and who is calling the shots, in a behavioral sense, and for whose benefit.

Social Service versus Economic Philosophy of Cooperation

From a sociological perspective at least three purposes of economic organization can be identified: making profits, providing services, and realizing meaning. Their predominance and mix tend to vary both across and within organizations. These differing purposes penetrate the theory and practice of cooperation producing various practical as well as theoretical dilemmas. These dilemmas include (1) meaning versus service, (2) efficiency versus democracy, and (3) bureaucratic logic versus cooperative logic. The intersection of purpose and dilemma tends to fragment understandings of cooperation, negating the economic philosophies of some, while supporting those of others.

Exemplar organizations tend to range along a continuum from investment oriented firms (IOFs) at the profits end, to the Kibbutz at the life meaning end as shown in figure 1.

FIGURE 1. Continuum of Cooperative Purposes

Players	IOFs	New Generation Cooperatives	Open Marketing Cooperatives	Farm Supply Cooperatives	Consumer Goods Cooperatives	Kibbutz
Purpose	Profits			Service		Life Meaning

Cooperative organizations can be found at different locations on the continuum, though they are predominantly located within the service purpose, focusing on serving the greatest numbers of people over the longest period of time (Craig 1993; Nadeau and Thompson 1996). Most farm input and service cooperatives fall into this spot on the continuum. Agricultural marketing cooperatives tend to be found between the service and profit purpose orientation, with new generation cooperatives attempting to preserve earnings benefits for defined membership over time. The life meaning purpose at the other end of the continuum gives much greater focus to participation and democratic process. Cooperative organizations typically contain elements of all three of these tendencies.

The reality of the marketplace tends to drive participation and service in opposite directions. Participation and democracy take time. The markets' demand for efficiency is ever present and ever felt. This tension becomes manifest in organizational form and in organizational logic.

The need for efficiency, and the predominant emphasis on the bottom line, can drive organizational form toward bureaucratic shape and logic emphasizing organizational hierarchies and a flow of authority and centralized decision making from the top down (Breimyer 1996). This logic is distinct from grounded, cooperative logic, or logic emphasizing local responsiveness, decentralized decision making, and participation and involvement. The fundamental dilemma is to move with the easier, less complex, but bureaucratic approach to organizational maintenance, or remain grounded within more complex, democratically based cooperatives.

There are several interrelated, polemic themes that emerge from the philosophy and theory of cooperation and the cooperative movement, as well as from the practice of cooperation as realized in organizations functioning to meet internal goals. Whether to organize for service or meaning/participation is a central dilemma that is found internationally. The predominance of each tendency varies across types of cooperative organizations as well as within organizations. North American agricultural input cooperatives are primarily service cooperatives, while conventional agricultural marketing cooperatives have a service orientation, but with an increased emphasis on earnings.

Given a competitive marketplace, efficiency criteria tend to drive organizational form toward bureaucratic models, and, paradoxically, away from cooperative logic form. When participation declines and organizations tend toward greater centralization of decision making (bureaucratic logic), it becomes increasingly difficult to recognize differences in cooperative behavior from investor-oriented firm behavior, and cooperative character can be lost. However, acting without recognizing market imperatives (need for earnings) can also result in the loss of cooperative presence.

This dilemma explains, in large measure, the root differences between the social and economic philosophies of cooperation. Social philosophers emphasize democratic control in the form of one-person, one-vote as the cardinal principle of cooperation (Lambert 1963). Economic philosophers, on the other hand, emphasize the distribution of benefits in proportion to use as the cardinal principle. Cooperative leaders, like Jerry Voorhis (1975), have expressed a concern with the decline of the service and participatory end of the continuum in cooperatives that strictly advocate a "bottom line" orientation.

If we broaden our scope and examine agricultural cooperatives as part of a rural infrastructure, and if we embrace rural development and public goods goals, other attributes of cooperatives can be identified. The benefits of cooperatives in rural settings are decentralization of decision making and local generation and distribution of wealth. The very nature of the organization empowers rural people and their communities. The impact of cooperative operations can, therefore, be viewed as a public developmental good.

Benefits for Whom?

Agency theory and the institutional discussion of property rights often describe "residual claimants" as the beneficiaries of joint action whether they are investor-owned firms or cooperatives. If a traditional model of a principal-agent relationship is applied, then the group that is the primary recipient of fruits of the organizational effort is unambiguously defined—it is composed, presumably, of those who provided the initiative for the organizing efforts in the first place. Agency theory has been developed to identify problems of establishing incentive-compatible relationships and roles for different types of stakeholders. The organization is viewed as a nexus of contracts or collaborative efforts among participating units or agent groups, each reaching for their rewards from the organizational endeavor. For instance, workers look for improved wage and benefit packages, management seeks its "proper remuneration," the sales force seeks incentives for its marketing performance, and user-members of a cooperative seek superior returns on their marketed product, commensurate with their use and investment in joint value-added activity.

A challenge for cooperative members is to remain the primary beneficiaries of group action for which they originally organized. They must strive to not become "residual" claimants in the sense that they are collecting crumbs left over after all other agent groups have received their due. This is particularly critical in organizations lacking firm board governance control and in instances where management continues to push for sales growth involving non-member-related business activity. It becomes even more critical when cooperatives develop large, unallocated reserves based on this non-member business, as noted by Royer (1992) and Staatz (1989), that represent a form of "collective" equity. Management invariably views this equity as the product of its, rather than members', efforts. As noted by Staatz and Royer, there exists great potential for the character of cooperative organizations to change or to be compromised in such situations, particularly in larger, complex organizations.

Some of these situations have even led to conversions to investor-owned firms or to members losing control through goal inversion in which maintaining the "corporate" values becomes more important than keeping the business oriented to members as primary beneficiaries. Allocation practices, therefore, become central features of effective cooperation, just as governance practices are important in organizational control. Especially noteworthy in this respect are the efforts by AgFirst Farm Credit Bank of Columbia, South Carolina, to emphasize patronage refunds to member borrowers rewards for continued cooperative business with the cooperative banking system (Love 1996).

Role of Cooperative Bargaining

It can be observed that strategic attempts to increase market shares in final product markets through aggressive sales efforts is often done by underbidding competitors, using discounts, and/or using special promotions. Thus, product prices tend to take a downward rather than upward direction. When coupled with the incentives for other agent groups to broaden their share of the organization's economic pie, the combined effect of these activities can be reduced returns to cooperative owner-users, directly conflicting with their goal of attaining higher prices and returns from the cooperative.

To offset the consequences of this phenomenon, farm operators in the United States and a number of countries have used cooperative bargaining associations as their professional associations to effectively negotiate livable farm gate prices (Bunje 1980, Iskow and Sexton 1992, Marcus and Frederick 1994). The idea is to identify a fair, base field price consistent with supply and demand conditions for the crop or livestock involved. While this negotiating effort primarily involves non-cooperative processors, marketing cooperatives in the same sector often use this established price as a benchmark or transfer price in their own operations for measuring their performance.

Cooperative members have, therefore, not only some assurance that they are not whiplashed by "residual" returns, but also a benchmark by which to measure the true value added to their products and investments in the marketing cooperative endeavor. In fact, grower membership in both cooperative bargaining associations and marketing cooperatives is not uncommon and is an appropriate means for maximizing producers' interests and representation in the internal and external negotiating process with agent groups and other market channel participants. This implies a cooperative systems approach to improving farm incomes that involves the interaction of several organizational structures, based on their unique structural and functional roles, in representing farm operators in a coordinated fashion (Torgerson 1971).

If Helmberger (1966) and Fulton (1995) are correct in forecasting the demise of independent farm operators as entrepreneurs in the so-called "industrialization" of American agriculture, then the horizontal representation of contract growers in vertically integrated systems through cooperative bargaining associations takes on a new and increasing significance in the economics of collective action in agriculture. The problem is that contract growers typically have little voice in their relationships with corporate integrators. Integrators continue to prefer to deal with growers on a one-on-one basis and not with their associations. However, numerous instances of discriminatory practices by corporate integrators against their contract growers, like contract cutbacks, cutoffs, short weighing, and actual black listing of growers who have attempted to represent their interests collectively, have been documented and are a matter of public record. This has led to passage of the Agricultural Fair Practices Act of 1967, which defined unfair trade practices but provided little relief to growers, due to weak enforcement provisions and to inclusion of a disclaimer clause (Torgerson 1970).

A number of states, like California and Michigan, have enacted more advanced farm bargaining statutes. Federal bills like those introduced by former democratic Senator Mondale and democratic Congressman Pennetta have been the focus of considerable discussion. Renewed emphasis has been placed on these problems by the USDA Advisory Committee on Concentration in Agriculture (1996) and the National Commission on Small Farms (1998). Legislative efforts by cooperative bargaining associations are currently being planned to revisit amendments to the Agricultural Fair Practices Act in the 105th session of Congress. The development of this new legislative effort and the institutional relations by cooperative bargaining associations with integrators—both IOFs and cooperatives—present a fruitful area for further theoretical and empirical work by the profession.

Value-Added Cooperation Renewal

Cooperatives represent one of the few options that farm entrepreneurs have for surviving in a more concentrated and integrated global agricultural environment. Recognition of this fact, in spite of Helmberger's and Fulton's research, has led to a significant renaissance in cooperative marketing with a focus on value-added activities. As an off-farm extension of the farm firm, the essential function of agricultural cooperatives is to perform vertical integration. Cooperatives harmonize transactions and, in so doing, lower transaction costs reducing the margin between the farm and retail prices. This joint action is necessary for farmers to accomplish vertical integration because of disparities between the minimum efficient scale of operation in farming in relation to the upstream and downstream industries (Sexton 1995b). Farm operators are able to provide themselves direct economic benefits and to better deal with market power of processors by using vertical integration through cooperatives. The cooperative then can be seen as an integral part of the economic organization of agriculture that enables farm operators to enhance their status as entrepreneurs through vertical collective action.

Cooperatives, from a public policy perspective, are seen as pro-competitive market instruments. Producer members respond to improved prices by producing more, since members individually determine their production decisions. Empirical evidence suggests that profit margins are generally lower in markets with a substantial cooperative presence (Rogers and Petraglia 1994, Haller 1993). Cotterill (1997) has also found that expanding agricultural cooperative marketing theory to the differentiated product markets provides theoretical support for this result. Even in a differentiated market, a cooperative will tend to provide an efficient amount of product variety and price differentials because each product will be priced at cost, whereas an IOF, facing a downward sloping demand curve for each product, will price where it equalizes marginal revenue and marginal cost. Thus, for consumers too, cooperatives can perform as competitive yardsticks in oligopolistic food industries.

A continuing cooperative challenge is found with free riders that want to benefit from cooperative action by staying outside the organization and not sharing any of the organizational costs. To overcome this challenge, and to make members the primary beneficiaries, a number of new generation cooperatives have organized by limiting members and requiring a substantial equity commitment from them through the purchase of delivery rights. Investment is, therefore, more closely tied to patronage. The fact that delivery rights are tradable is seen as overcoming the opportunistic behavior problems by some members; for example, the free rider and horizon problems are attenuated by this structure and organizational practice (Harris, Stefanson, and Fulton 1996).

New generation cooperatives may solve some of these long-standing problems of conventional cooperatives. However, they create potential for a new problem in that the limited membership may indeed curtail any or all of the pro-competitive effects of conventional open membership cooperatives. From a consumer welfare point of view, this limited membership may lead, as some postulate, to performance worse than that of IOFs. Empirical evidence on this issue is lacking. Moreover, there are reasons to suggest that pro-competitive effects may still be maintained for several reasons:

1. the cooperative provides an opportunity for dispersed ownership and atomistic farm firm survival;
2. it tailors benefits for those who are owner users;
3. production decisions continue to rest with individual producers responding to market price signals, although they may not be able to deliver all they produce to the value-added cooperative, depending on the number and size of their delivery rights relative to production;
4. enhanced efficiency can be achieved through this value-added strategy, as found by Koenig (1995) who investigated a Red River sugar beet cooperative and found significant increases in the quality of beets produced, thereby lowering internal transaction costs; and
5. Cotterill (1995) has found cooperatives force competitors in concentrated markets to provide comparable services and prices.

Each of these pro-competitive effects appears to continue with the new generation cooperatives using tradable delivery rights.

Along with advantages, there also appear to be limitations worth noting. One limitation is the tendency for many new generation cooperatives to be organized in local communities on a fairly small scale. While certainly advantageous from a community development perspective, as advocated by Egerstrom (1994), this also leads to a large number of fragmented sellers in intermediate and final product markets. This fragmentation can lead to buyers pitting one cooperative against another in the exact way that farm operators were affected before organizing their cooperatives. Similarly, small size suggests that the level and quality of management the cooperative can afford, in often highly technical businesses, may not be the same as with larger firms. For instance, it has been pointed out that small ethanol plants hardly have the same level of management expertise that ADM, Staley, or Cargill possesses.

An even greater limitation, still to be documented, involves potential compromises in the user-owner nature of cooperatively owned businesses. Some new generation businesses appear to have adopted more of an "investor" than "user" culture and have included some investor "members" who are not engaged in production for supplying the plants in territories where new plants have been constructed. Similarly, a few new generation cooperatives have recently learned expensive lessons by paying market prices to members on delivery to the pool, only to find that they could not afford to pay those prices based on income received from final product sales. Such lessons, learned once but not to be repeated, have been very costly and have challenged their long-term economic viability. Finally, by definition, limited membership cooperatives exclude some would-be members, and entry levels to these organizations may come at higher prices due to appreciated value of delivery rights.

On balance, however, a strong rationale exists for farmers to vertically integrate downstream because profit levels are higher at more advanced levels of processing and distribution (Egerstrom, Bos, and Van Dijk 1996). Using these cooperatives as instruments for more carefully tailoring supplies to meet effective product demand improves coordination and efficiency of the marketing system. Further, capturing part of the increased marketing margins is a means for farm operators to successfully preserve their entrepreneurial status and to compete with industrial firms attempting to dominate marketing channels. This strategy becomes more important as a component of the economic organization of agriculture as federal government disengages from price and income support programs.

Coordination Imperatives

Organizing marketing efforts of atomistic production units over a geographical territory as expansive as the United States, let alone North America, remains one of the greatest challenges facing the cooperative movement. It is a daunting task, but one that is attainable as farm numbers continue to dwindle and incentives based on continued market concentration increase. The opportunity exists for developing more effective forms of coordination that actually improve performance of the marketing system as authorized by the Capper-Volstead Act. System rewards from improved coordination have been most visible through efforts of farm input cooperatives at the regional and interregional levels in the plant food, crop protectant, petroleum, farm credit, and energy sectors.

There are several levels or stages of coordination, as pointed out by Schaefer (1987). The most fundamental is the formation of a cooperative by agricultural producers. Organizational federations are another stage. Intense competition among marketing cooperatives has made gains from their improved coordination more illusive. However, a number have overcome rivalries and have used marketing agencies in common. Many of the new generation cooperatives that have established value-added business operations will increasingly discover the importance of coordination with other cooperatives that operate in their industries.

The alternative of a marketing agency in common allows members to retain ownership of their individual assets while the common agency provides various services and product selling coordination (Reynolds 1994). Liebrand and Spatz (1994) show how this concept can be applied in the dairy industry for export marketing for both bulk and differentiated products. Successful applications in over-order pricing of fluid milk; international marketing of cotton; marketing of refined sugar and sugar by-products, cottonseed oil, dried fruits and nuts; and coordinating co-packing arrangements for fruit juice cooperatives have all demonstrated the strength of this approach. More studies are needed to identify potential advantages of marketing agencies in common in other commodity sectors.

Evaluating the inner workings of marketing federations can also determine practices and structures that lead to effectively representing members in the marketplace. In an exhaustive industry organization study, Mueller and colleagues (1987) analyzed the relationships of local member cooperative packing and agency packing houses to the marketing efforts of Sunkist Growers for evidence of monopolistic behavior. They observed that the Federal Trade Commission's challenge to Sunkist failed to incorporate the unique organizational features of a marketing cooperative. While Sunkist did achieve a sizable market share, the analysis concluded that Sunkist did not behave as a monopolistic barometric price leader and did not engage in price discrimination. It also found its price premium was modest compared to others in the trade, and that the unique characteristics of a federated cooperative structure did not foreclose access of others to the market (Mueller, Helmberger, and Paterson 1987).

Joint ventures offer another alternative structure for coordination among cooperatives. Based on some case studies from the dairy industry, Frederick (1987) identified guidelines for structuring and operating joint ventures. Fulton (1996) has found that joint ventures and strategic alliances among local cooperatives lead to advantages of size economies and, in some cases, risk diversification and supply assurance. If, as Mueller (1990) suggests, joint ventures tend to be highly unstable and relatively short lived, then their role as a transitional stage to outright merger or consolidation requires further research.

Public Goods and Internalized Benefits

The reduction in federal government support for agricultural producers suggests a renewed and larger role for cooperatives as a self-help form of group action. To many cooperative economists, however, there is concern about the sustainability of traditional forms of organization and approaches (Cook 1992, 1995, and Fulton 1995). They view larger forces of change at work in the economy, society, and in industry organization, that seem to be gathering a momentum that will sweep aside the old ways and justifications for agricultural cooperatives. These developments, as well as recent changes made by some cooperatives to emphasize an investor orientation by members, raise a couple of dilemmas in the basic purposes or rationales for agricultural cooperatives. One of these dilemmas is in potentially diminishing a public interest role for cooperatives while endeavoring to re-design more sustainable organizations. Another dilemma, related to making cooperatives more sustainable, is whether or not fundamental principles will become altered to an extent that participation in such organizations would not really involve a process of cooperation—that is, member consensus, control, and focus on serving the businesses of the membership.

Agricultural cooperatives provide many services that the market either does not provide, or does so only in limited quantity or quality. The reason a cooperative provides otherwise unmet services is because its purpose is to serve the interests of members in terms of enhancing the profitability of their individual enterprises. Emelianoff and many others articulate this point. The benefits unique to a cooperative, in most cases, strictly accrue to the membership or are internalized by them. However, the notion of cooperatives having a public interest role has often been argued on the basis of external economies or benefits that they generate. Many of the early cooperatives that handled specialty products, especially fruits and nuts, undertook costly market development and product promotion programs that often benefited all producers in an industry, whether members or not. Although there is a trend toward more closed, defined membership cooperatives, the expansion of non-traditional crops and livestock is creating a demand for traditional-type cooperative market development. The same kind of external benefit to non-member producers also arises in markets where cooperative involvement has ensured the prevalence of a competitive price, as mentioned earlier in connection with Nourse's ideas.

In terms of traditional public goods theory, some economists might view the external economies from cooperatives as a market failure. In an earlier decade, they might have recommended some type of government program to eliminate the externality. In the present decade, however, the approach would be to internalize such benefits by establishing a mechanism for property rights. Recent developments in cooperative practice to internalize or otherwise limit such external benefits have used closed memberships, product differentiation, and more substitution of branded for generic advertising (Reynolds 1997).

The practice or strategy of organizing a more exclusive approach to cooperation accords with local or group public goods theory, as discussed earlier. The "public" aspect of such goods or services derives from two basic conditions: 1) users regard the supply of those services by investor-controlled firms to be inadequate in quantity or quality and 2) members are informed about and consent to the terms by which all other individuals have access to the services. Such services are local public goods even though the benefits are privatized and internalized to the group. Such a group accomplishes coordination and democratic governance.

Furthermore, there are many situations where such local public goods, particularly among agricultural producers, have a larger public interest benefit. Economic efficiency improvements and greater and more widely distributed income gains often result from a cooperative, formed and operated as an exclusive or local public good. The new generation or defined membership cooperatives exemplify this type of public good.

Another potential dilemma is that interest among producers to form cooperatives or to maintain their memberships may gradually abate if organizational changes are not carried out that have broader appeal to what Murray Fulton views as a trend toward individualism (Fulton 1995). A dilemma arises if organizations follow an approach of substituting an investor for a patronage or user orientation by members, on the rationale that such a broader business orientation would increase member support.

The long-term potential is uncertain for creating organizations that are not different from investor partnerships and are cooperatives in name only. In Buchanan's conception of a continuum between a pure public good and a private good, the investor orientation would appear to eliminate the middle ground, moving any non-government organization completely into the realm of a private good.

Property rights theory has been used by many critics of government programs to design non-governmental solutions to externality problems. Those believing that cooperatives can become more sustainable through improved assignment of property rights follow an analogous line of reasoning. However, property rights have to be understood as general mechanisms for providing individuals with control over the use of defined attributes of assets, whether they be physical, financial, or intellectual property (Barzel 1997, Fulton 1995). Alchian (1977) makes the interesting observation that, in various cultural and historical contexts, local customs and social norms are mechanisms for defining and enforcing property rights without formal contracts and government enforcement.

Throughout the history of agricultural cooperatives, various kinds of social norms have functioned to protect and enforce certain attributes or qualities of services that cooperatives have provided as benefits to individual members. Perhaps in today's economy and society, such implicit property rights may need to be more explicitly assigned and defined for each individual. But these developments need to be accomplished in ways that do not undermine or curtail the process of cooperation and the capacity for group decisions. The purpose of such explicit defining of property rights in cooperatives should be to establish programs and rules that protect individual interests and keep any one member from benefiting at the expense of other members.

Assimilating Thought, Theory, and Purpose

The challenges and dilemmas described above identify some directions for future research. The range of these issues and the complexity of many of the dilemmas require a multi-disciplinary approach, whether carried out through collaboration of professionals from different disciplines working together or by synthesis of individual contributions from members of several different disciplines. Cooperative economists have made excellent use of ideas from economic theory that generally assume a framework of individual utility maximization. Continued intellectual diligence is required to apply these insights to the cooperative's institutional setting with democratically generated rules for group coordination. This will be necessary to adapt and work through many of the different implications of new developments in economic theory for cooperatives.

The need for an improved "language of cooperation," pointed out by Fulton (1995), is one aspect of the future research agenda for assimilating evolving cooperative thought, theory, and purpose. In considering his point in a historical context, it is possible that, in the past, many producers were naturally drawn to cooperation and may have had more aptitude for working out cooperative solutions with similar producers in their communities. Perhaps these individuals, when given the basics of cooperative principles, depended less on a more comprehensive and sophisticated language of cooperation than today's producers. An improved "language of cooperation" is needed if, indeed, cooperatives are going to continue to be formed and to be effective in the future. Communication problems are evident in situations where cooperation has economic advantages but fails to be attractive to producers.

The cooperative method of business will prosper if cooperatives adhere to their democratic principles. Those who believe cooperatives should assign property rights to members that are unrelated to member patronage and use are slighting the traditional methods of property rights assignment, such as timely redemption of member equity. If the language of individualism does not give much support to cooperative principles, then these principles or rules may need to be re-expressed in a strategic framework that builds trust. Most individuals value trust in their dealings with others. Establishing trust can be a strategic advantage for cooperatives when the basic principles of democratic governance and cooperation are followed.

Many practitioners, cooperative managers, and development specialists possess their own languages of cooperation. However, to develop a widely shared, robust language of cooperation for diverse situations, a more holistic, multidisciplinary approach to theory, research, and the design of cooperative education materials will be needed.

Along similar lines of reasoning, Thomas Schelling has endeavored, since the 1950s, to create a stronger link between theory and analysis for practical decisions. In the reprinting of his classic work, *The Strategy of Conflict* (1960, 1980), that could have easily been titled *The Strategy of Cooperation*, he reflected back on original hopes for this project:

> ...I hoped to help establish an interdisciplinary field that had been variously described as "theory of bargaining," "theory of conflict," or "theory of strategy." I wanted to show that some elementary theory, cutting across economics, sociology, and political science, even law and philosophy and perhaps anthropology, could be useful not only to formal theorists but also to people concerned with practical problems...The field that I hoped would become established has continued to develop, but not explosively, and without acquiring a name of its own.

Schelling's concern with coordination failures and strategy in terms of a society or of groups avoiding movement into sub-optimal equilibrium traps is relevant and similar in approach to the previously mentioned macro coordination issues identified by Shaffer. Furthermore, it provides a framework for a retrospective, more strategic look at the problems of achieving coordination, as confronted by Sapiro and Nourse, and for helping cooperatives work in the future. Sapiro was the architect of commodity-wide coordination plans, with long-term member contracts and the required "minimum-market-share-or-nothing" approach to organizing cooperatives. For his part, Nourse understood that coordination and commitment can be built on effective economic performance at the local membership level of markets and can be strengthened by nurturing localized identification and control. Future efforts can benefit by taking a renewed look at the ideas and lessons of the past, particularly if they draw on interdisciplinary methods of research and analysis.

The removal of price support programs is ushering in a period of adjustment, where cooperatives can play a larger role in generating information and in coordinating decisions. The institutional and market changes being brought about by a reduced role of the federal government involve a wide range of uncertain outcomes for agricultural producers, ranging from potential for higher returns to lost opportunities.

Higher returns are likely to prevail in the long run if cooperatives expand their role in helping producers add more value to their products. But, situations of lost opportunities may arise from a combination of failure to coordinate for larger joint gains and limited producer control of a vertically integrated food system. If this latter scenario prevails, the research agenda will need to be oriented toward developing new institutional arrangements that can lead to Pareto improvements. Research will have an impact by focusing on developing marketing and organizational innovations and by promoting more integrative bargaining solutions to the conflicting interests that arise in today's and the future's agricultural economy.

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