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High Modernity, New Agriculture, and Agricultural Cooperatives: A Comment

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The rational, consuming individual is from within a particular historical era—high modernity. The collective rationality of his or her consumption drives the larger socio-economic culture in profoundly irrational ways: through personal anxiety, questionable sustainability, and loss of value and community. The industrialization of agriculture extends these dynamics in a manner that fragments more grounded aspects of the larger culture, including family farms and rural communities. Intrinsic to its very nature, the agriculture cooperative is embedded in its member-user-owners like no other business organization. This uniqueness gives it a comparative advantage to mollify some of the disruptive aspects of high modernity.

Much is being written lately on an emerging “new agriculture” (see Boehlje 1999; Boehlje and Schrader 1998; Barr 1998; Duncan 1999; Royer and Rogers 1998; Cook, Torgerson, Sporleder, and Padberg 1997; and Thu and Durrenberger 1998). Considerable focus is given throughout these works on describing its various characteristics, including: (1) international competition (not necessarily price competition), global sourcing and selling; (2) industrialization; (3) differentiated products; (4) food supply chains with end-user responsiveness and trait-identity traceability; (5) high technology, biotechnology, information monitoring technology, and (6) greater integration with less price risk and with challenges to add value and achieve profitability.

Most of this work is written from a highly specialized perspective and, predominantly, from an neoclassical agricultural economics view. As with any specialized field of study, the work, in general, is decontextualized and represents an abstraction from a greater reality.

This paper lays out some of the contours of “high modernity,” the socio-cultural, macro-context within which a new agriculture is emerging. Two fundamental dynamics are presented—specialization and globalization—and how these dynamics create the high-modern consumer. From an understanding of modernity, an outline of some of the characteristics of the new agriculture are presented. These are put in terms of how it is an extension of the “old agriculture” for the family farm. A discussion of agricultural

cooperatives is presented in terms of how they counter some of the disembedding, more troublesome aspects of high modernity.

Anthony Giddens, in two cutting-edge books—*Modernity and Self-Identity: Self and Society in the Late Modern Age* and *The Consequences of Modernity*, outlines the characteristics of this later period. Unlike related works (Friedman 1999 and Ohmae 1995), Giddens (1990, 1991) is able to integrate the dynamic self in these conceptions and to highlight modernity's movements. This paper will adopt Giddens's view as a frame for understanding the socio-cultural context from within which agricultural industrialization continues to emerge and agricultural cooperatives continue to function.

The Contours of High Modernity

Modernity is generally understood to include the historic period characterized by, but not limited to, the predominant inter-related systems of industrialism, capitalism, and formal organization—and such integral dimensions to these institutions as “the use of material power and machinery in production processes, commodity production involving product market” and bureaucratic organization and hierarchy (Giddens 1991, 15). However these descriptions tend not to capture dynamics more manifest in the latter segment of this era termed “high modernity.” This sub-era is typified by high technology, high specialization, high expertise, high consumption, high mobility, and reflexivity—both at the personal and macro-institutional levels.

Of the several dynamics within late modernity, Giddens (1990, 1991) presents two fundamental tendencies—specialization/expertise and globalization—that are of central interest to this paper as well.

Expertise/Specialization

Within high modernity the demands for expertise/specialization are intense, and its characteristics tend to continually deepen. This is, in part, an aspect of modernity's reflexivity. “Reflexivity refers to the susceptibility of most aspects of social activity, and material relations with nature, to chronic revision in the light of new information or knowledge” (Giddens 1991, 20). Nearly “all knowledge takes the form of hypotheses claims which may very well be true, but which are in principle always open to revision and may have at some point to be abandoned” (p. 30). “Science is at center to this [modern] reflexivity, depending much less on the accumulation of proofs, than on the methodological principles of doubt, and counter-factual testing” (p. 21). This methodology drives expert problem solving toward greater precision.

It simultaneously engenders a paradoxical relationship with lay knowledge. “To be an expert in one or two small corners of a modern knowledge system is all that anyone can achieve” (Giddens 1991, 30). Specialization, in general, renders knowledge opaque to outsiders. While knowledge becomes pervasive across society and deepens in complexity, individuals become relatively less skilled. Increasingly they must function as laypersons relative to others' expertise. Increasingly they are placed in positions demanding trust in others' expertise, given their own relative de-skilling (p. 30).

This socio-cultural tendency results in a profound “narrowing in.” Knowledge around the edges of what is being studied becomes blurred and vague. Deepening expertise introduces liabilities to “unintended and unforeseen outcomes which [may not, and at times] cannot be contained, save for the development of further expertise, thereby repeating the same phenomenon” (Giddens 1991, 30). Perhaps more disturbing, on an

individual level people tend to experience their socio-economic culture as beyond their influence and as context running away with itself.

Scientists, institutions, and individuals all become constitutive agents in the midst of this reflexivity. They are the objects of these changes, but, also, through their own agency and action, they also drive these changes through specialization, expertise, and accommodations.

Globalization

Though debated as to its extent and temporal starting point, globalization, as generally understood, refers to the emerging development of economic connections that span national and continental boundaries (Ohmae 1995, Hirst and Thompson 1996). This paper does not preclude economic connections, nor debate them, but takes a broader perspective. Globalization, from this paper's view, involves the transformation and disembedding of time and space from a local milieu. Communication and information technologies are closely tied to these processes. Twenty-four-hour money markets, instantaneous electronic communications, and the influence of television slip into even some of the least accessible and poorest regions of the world, shaping local institutions and individual life patterns. Individuals' eating and production habits have implications for others far removed, even internationally, from a locality (Seipel and Heffernan 1997; Bonanno et al. 1994). “Familiarity with . . . events and people as well as places no longer depends solely, or even primarily upon local milieu” (Giddens 1991, 147). The locale no longer provides “the security of the very familiar which traditional locales characteristically display” (p. 146).

The Self Under Modernity, Disembedding, Anxiety, and the Modern Consumer

The most fundamental relationship we develop is attachment, i.e., embeddedness and groundedness. Attachment is fundamental to building trust and security, or a secure sense of self (Sullivan 1953, Erikson 1950, Masling and Bornstein 1994). Frequently (though certainly not always) children who have been adopted during the first eighteen months of life, or who have been moved from primary care givers for other reasons, will manifest reactive attachment disorder (rad) in later adolescence, displaying highly violent behavior and a lack of empathy (DeAngelis 1997). The high modern culture we live in disembeds us from attachment to tradition and to locality. While not to the extremes that characterize “rad” disorders, the dynamics of modernity set people adrift in what Giddens (1990, 1991) characterizes as existential anxiety. This anxiety is reinforced by specialization/expertise that de-skills individuals, but also tends to fragment various systems of beliefs and traditions with scientific and technical knowledge. Consistent with the times (and with reflexivity), this knowledge and information is offered up with the provision that the results are good until further notice. It is constantly up for revision. (It is no accident that there is such a push by many people to identify with an ethnicity now, or to go about digging up their genealogy. People seek a sense of self that feels secure and grounded with predictable permanence.)

Many people play out this anxiety in the market place. Consumerism appeals because it seemingly addresses problematic qualities of modernity. Attractiveness, beauty, personal popularity, and acceptance are touted “through the consumption of the ‘right’ kinds of goods and services” (Giddens 1991, 172). The implicit promise is social acceptance, or at least comfort, and in corollary safety. Consumption solutions are ephemeral, however, within the continual reflexivity of the culture. Solutions are here today, displaced tomorrow.

People, then, exist within a context of high uncertainty and high anxiety. Within modernity's inherent specialization and reflexiveness, however, logics are developed and institutionalized for calculating uncertainty and bringing it into the present in various forms of risk assessment. The impact is to lessen general uncertainty by privileging and systematizing types of risks that are calculable—for example, by actuarial tables, futures markets, and securities. Consideration of risk and risk assessment become institutionalized, though the security itself is relative. Other risks, ironically, become more fateful in their potential to have devastating impacts on much larger numbers of people than in earlier periods. We have witnessed such unintended consequences as nuclear reactor accidents, antibiotic resistant organisms, ozone layer holes, carcinogenic pesticides, and waste lagoon spills. At the intra-psychic level, mental health issues have now become organized around issues of shame and a rejection of the self, rather than around guilt feelings associated with violating traditional rules and values. The modern self, with few attachments, exists in a socio-cultural context that demands self-definition and re-definition. Modernity becomes an era of the continual seeking of control—of self, of time, of risk, and of institutions.

The New Agriculture and the Family Farm

Boehlje and Sonka (1999), Duncan (1999), and others argue that we are in the midst of a major structural realignment in agriculture. "The U.S. agricultural industry is in the midst of major structural change—changes in product characteristics, in worldwide production and consumption, in technology, in size of operation, in geographic location. . . . Production is changing from an industry dominated by family-based, small-scale, relatively independent firms to one of large firms that are more tightly aligned across the production and distribution chain." The family farm is at center to many of these changes, as alluded to by Boehlje and Sonka (1999)—though specification of what characterizes a family farm is usually not addressed in this literature. When specification is made, it frequently is in terms of size of unit, volume of production, and whether area ownership is predominantly by families. However, size measures tend more to mystify than clarify. The farming capabilities of families have changed dramatically, and the distribution of farms across measures has shifted. This introduces considerable historic slipperiness into concepts and measures for understanding what a family farm entails.

Defining the Family Farm

This paper relies on earlier work by Breimyer (1965) and Rodefeld (1974), and later developments by Bonnanno (1987), Mooney (1989), and Buttel (1991) to bring some greater precision to understandings of the family farm and implications of the new agriculture. Breimyer (1965, 71) states: "The family farmer who operates the farm he owns, combines management, capital, labor, and land in a single entity." For Rodefeld (1974), the farm unit and farming can be understood as having three components: labor provision, ownership of land, and management. Family farms are those units where all three components are integrated into one family unit that usually resides on the farm property. The ownership is held by the family farming the land, management is provided by the same family, and over half of the labor is provided by the same family unit. When these functions are split apart, they become relational and are characteristic of other forms of organization. Land ownership contains an implicit landlord/tenant relation, labor an employee/employer relation, and capital, a lender/borrower one. Management,

when separated from the household, may be hired and in an employee/salary relationship with the owners, while simultaneously in a supervisory relationship with labor. Perhaps polar opposite to the family farm, is an industrial organization, where management, labor, and ownership are separate. There are various other permutations, each representing varying degrees of difference from a family farm organization along a family farm-industrial farm continuum (Mooney 1989, Bonnanno 1987, and Buttel 1991).

Mooney (1989) expands understandings of family farms by integrating the socio-cultural with material-economic aspects. Family farming is understood socio-culturally as a way of life, such that the conceptualization and planning of work and the execution of work are not split apart, nor is manual and mental work divided. A family farm household is understood as controlling the allocation of resources and investment, as well as the production process. Autonomy, though relative in a market setting, is valued, as is farming skill development, animal husbandry, and what Mooney (1989) terms farm craftsmanship. Other values and orientations to life develop in accompaniment to this farming life process and may include such "educational, community, social, and human character benefits of learning honesty, handwork, ingenuity, flexibility, and fairness as part of being reared in a farm environment" (Thu and Durrenberger 1998, 12).

Modernity, the New Agriculture, and Family Farming

The new agriculture is organized around new knowledge and expertise, i.e., biotechnology, but also around information monitoring and measuring technologies. Consumer demand is fundamentally determinant as well. "It is not new that the consumer is the ultimate determinant of the attributes that food [and other agricultural] products must contain" (Boehlje and Schrader 1998, 13). However, with the coming of high modernity, consumers want extensive choice, with high ability to discriminate in their purchases. Duncan (1999) refers to these products as "designer" products, or gourmet products. Within modernity they provide discriminating choices, signifying not only taste, but political, environmental, and dietary correctness, perceived safety, and social responsibility. They are well beyond the earlier meat, potatoes, bread, and a bottle of milk in their importance. They are laden with meaning. It is not an abstract individual that drives the economy, but a historically concrete person within a particular era—an individual who seeks safety, significance, and meaning.

The traditional structure of the U.S. food system has been based in the farm production unit. The farm unit has been supported—to varying degrees, historically—by sectors that include transportation, energy, finance, communication, and other input suppliers (feed, seed, fertilizer, and machinery). Output commodity production then goes through various paths to domestic and international consumers via differing combinations of wholesaling, retailing, processing, and manufacturing. The system is predominantly held together through spot markets and market signals.

In the new agriculture, more integrated food system chains are being formed in response to several synergistic developments. The high-modern consumer demands specific traits in products. Various biotechnology and nutritional technological developments have allowed the incorporation of traits into production. Other information monitoring and measuring technologies have been developed that allow for attribute traceability throughout a food chain. Intervention technologies permit modification of attributes that deviate from desired values. These developments have resulted in the emergence of integrated food chains that are end-user responsive to demanded traits, with traceback and intervention capabilities. Tighter quality control and flow scheduling are possible and demanded.

"As in other industries, those with unique and accurate information and knowledge have increasing power and control" (Boehlje and Schrader 1998). Control and relative predictability allow for organizational integration and the solidification of a system for capturing profits and shifting risks. Geography becomes less constraining as it has been traditionally understood, and new locations become privileged, determined by new advantages of resource specialization, size economies, and flexibility. (This is currently the case with hog production that has become disembedded from family farms in the Mid-West to mega-hog industrial units in North Carolina.)

Farmers are integrated into these systems via production contracts, variously termed franchise growers, network qualified suppliers, and piece work contractors. Uniform quality and volume predictability are central in these contracts. Specific product traits are being demanded. To control for quality and quantity product, buyers frequently mandate uniform management and production practices across contracted farms. This could include scheduling planting, harvesting and delivery, and mandating feeding, husbandry, and time of slaughter. More of a manufacturing mentality emerges, with technological developments permitting relatively routinized production. The character of the contracts are such that farmers generally carry most of the risks and little of the power (Morrison 1998).

The new agriculture is new in only certain respects. These system chains protect the power and control associated with knowledge-based technologies as well as product-trait bundlings, and they empower stakeholders to move into the market place to realize these advantages. Spot markets leave open vulnerabilities to profit losses, which, now, with routinization and relative predictability, can be closed. However, from a family farm perspective these developments are not new. They represent a continued accretion of functions and splitting of the definitional characteristics of family farms into super-ordinated/subordinate relationships.

The conceptualization and planning of work and its execution become split. Manual and mental work are divided, and autonomy is lost. Essentially, the work process on the farm tends toward laborization. Farming, as a way of life, moves increasingly toward an employee/employer relationship; and farmers, unable to compete, lose their farms (Thu and Durrenberger 1998).

This scenario is not new. Various technological developments, within their own historical context, have had the unintended consequence of helping many more farmers out of farming than helping farmers stay in. It is an agriculture that continues to privilege high science, specialists, and experts, over local knowledge, skills, and wisdom. Farm traditions and rural culture tend not to be valued. Rural communities tend to be viewed as dispensable, and farming is understood as a business and not as a way of life *and* a business. This new agriculture values concentrated control of land, resources, capital, and fewer farmers, rather than dispersed control and maintenance of more farmers. External costs are frequently ignored since they tend to fall outside the expertise of those planning and formulating new agricultural structures (Beus and Dunlap 1990, Chiappe and Flora 1998). Rural communities decline and fragment.

Cooperatives, Modernity, and the New Agriculture

"A cooperative is a user-owned and controlled business from which benefits are derived and distributed on the basis of use" (Dunn 1988, 85). Use gives these organizations a degree of embedment quite distinct from other forms of organization and, in particular, investment forms of businesses. Investment organizations seek to increase sums of capital

held, invested, and re-invested. Fluidity is prized and rewarded. Cooperative purpose, fundamentally, is to provide a flow of service (broadly defined) through time to a community of users, as an expression of those users' needs.

A cooperative is unlike an individual proprietorship in that the community of users owns the organization and governs it based on principles of democratic process. The characteristics embed the organization in its owner-user community. Agricultural cooperative users are in the main, located in rural areas, and, as such, this incorporates them [embeds them] in the rural, and in rural communities. They are developed and emerge with a set of cooperative values and principles, in communities of values and principles.

Within the powerful disembedding mechanism of high modernity, embedment, relative to other forms of organization, is a unique contribution of cooperatives. However, it is a relative contribution.

Many cooperatives have chosen historic paths of development similar to other forms of economic organization. Cooperatives have intrinsic socio-cultural and economic goals. Fairbairn (1999) argues that, historically, these goals have been understood as dualistic choices, and the economic goals have inevitably been given priority due to short-term survival issues. Understanding this as an either/or choice, argues Fairbairn, has resulted in some loss of cooperatives' dynamism and creativity through time. Many have invariably pursued the same survival strategy over the last fifty years—"expanding, merging, rationalizing"—becoming large bureaucratic, complex organizations in their own right. Many, while more embedded in their memberships than investment firms are in their customers, still are experienced as remote and inflexible in an era of mistrust of large bureaucratic organizations. When members learn and/or believe their economic fate is independent of, or means little to, the cooperative organization, their loyalty, commitment, and support decline.

Mollifying High Modernity with Embeddedness

Fairbairn (1999) argues that "agricultural cooperatives need to market themselves to members, partners, and stakeholders as bearers of rural culture and values." However rural culture is in a high-modern context. High modernity removes people from tradition, from geographic locality, and from lay competence. The consumer is constantly bombarded with messages of self construction and re-construction, striving, and performance—the body itself is now open for making and re-making. Anorexia and other forms of confused body identity and various anxiety disorders are increasingly prevalent (Lemberg 1992 and Schrof and Schultz 1999). This "confusion" in values and core identity that characterizes the high-modern individual manifests itself in a dynamic of change, or pressure for change.

Increasing segments of the population are now asking for and seeking to develop alternatives. Most agricultural cooperatives have moved with much of the rest of agriculture down a trajectory dependent on large capital-intensive production units and technology, with heavy reliance on external sources of energy and credit. The unintended consequences have been to fragment family farming functions and to displace family farmers and rural communities. Beus and Dunlap (1990) and Chiappe and Flora (1998) suggest there are sets of alternatives that include smaller, low-capital production units and technology and reduced reliance on external sources of energy and credit, with emphasis given to personal and local knowledge and skills and locally adapted production systems. Various other trade-offs and choices exist, between:

1. dispersed control of land, resources, and capital versus concentrated control of land, resources, and capital;

2. small communities, understood as essential to a larger sustainable agriculture, versus small, rural communities, understood as non-essential and dispensable;
3. farming as a business and a way of life versus farming only as a business;
4. high consumption to maintain economic growth versus restrained consumption and broad resource conservation to benefit future generations;
5. external costs considered versus external costs ignored.

These choices involve alternatives encouraging a continued deepening of a high modernity trajectory into rural areas versus alternatives more intrinsic to embedment within agricultural and rural communities (table 1).

Such alternatives may not seem practical in an era when choices have already been made, capital is sunk, and strategic plans set. However, the possibility of continuing along a capital intensive path is not at all clear. There are continuing questions on the acceptability of gene altered crops and biotechnology products. Issues of conservation, layered with world politics, loom large as well. There will continue to be issues around water supply and quality, air quality, soil conservation and quality, and the inter-relationships among them (Thu and Durrenberger 1998). The food chain/coordination model assumes a continued ability of the Northern Hemisphere (the United States and Europe) to be able to consume a predominant amount of the earth's resources. "It seems difficult to presume that disparities between rich and poor countries could be reduced through further global industrialization on a large scale. Not only would such a process produce still greater deterioration in global ecology, sufficient resources simply do not exist for the world's population to adopt ways of life comparable to those of the First World societies" (Giddens 1990, 1991).

Cooperatives have both individual but collective benefits, as well as mutual collective benefits. A farmer who receives a higher price for his individual product when marketed at a cooperative is receiving an individual benefit due to the joint action of the farmers. The fact that he or she can raise a particular product due to being able to reach a market that no one could reach individually, is a mutual collective benefit (Parnell 1995, 48).

We are considering how very important aspects of our society are going to be organized—the food system, the agricultural-food system, how we relate to it, and what that impact will be on farmers, rural communities, and all of us. Cooperatives have made many choices that have emphasized the individual collective benefits of farmers without extensively considering the mutual benefits of dispersed control of land, resources, agriculture, and maintaining farmers in business and farm families on farms. Lack of choices to obtain other consequences may, in fact, be a product of the intrinsic narrowness of specialization and high expertise. There is no other organizational form like a cooperative that has, intrinsic to its very make-up, embeddedness in community. Perhaps cooperatives, even if only in support of other's activities, could help pursue alternatives that are more directed toward deepening farmer traditions and culture, and toward sustaining small rural communities, the survivability of farmers, and a safer agricultural community.

Summary

High modernity is a particular historical era that is driven by—among others—two fundamental dynamics—specialization/expertise/knowledge production and globalization. These dynamics tend to disembed individuals from locations, traditions, and lay-expertise and, ultimately, from grounding attachments. The high-modern consumer

Table 1. Key Elements of the Competing Agricultural Paradigms

High Modernity	Embedded Community
1. Centralization <ul style="list-style-type: none"> ● National/international production, processing, and marketing ● Concentrated populations; fewer farmers ● Concentrated control of land, resources, and capital 	1. Decentralization <ul style="list-style-type: none"> ● More local/regional production, processing, and marketing ● Dispersed populations; more farmers ● Dispersed control of land, resources, and capital
2. Dependence <ul style="list-style-type: none"> ● Large, capital-intensive production units and technology ● Heavy reliance on external sources of energy, inputs, and credit ● Consumerism and market dependence ● Primary emphasis on science, specialists, and experts 	2. Independence <ul style="list-style-type: none"> ● Smaller, low-capital production units and technology ● Reduced reliance on external sources of energy, inputs, and credits ● More personal and community self sufficiency ● Primary emphasis on personal knowledge, skills, and local wisdom
3. Competition <ul style="list-style-type: none"> ● Lack of cooperation; self-interest ● Farm traditions and rural culture outdated ● Small rural communities not necessary to agriculture ● Farm work a drudgery; labor an input to be minimized ● Farming is business only ● Primary emphasis on speed, quantity, and profit 	3. Community <ul style="list-style-type: none"> ● Increased cooperation ● Preservation of farm traditions and rural culture ● Small rural communities essential to agriculture ● Farm work rewarding; labor an essential factor to be made meaningful ● Farming is a way of life as well as a business ● Primary emphasis on permanence, quality, and beauty
4. Domination of nature <ul style="list-style-type: none"> ● Humans are separated from and superior to nature ● Nature consists primarily of resources to be used ● Life-cycle incomplete; decay (recycling wastes) neglected ● Human-made systems imposed on nature ● Production maintained by agricultural chemicals ● Highly processed, nutrient-fortified food 	4. Harmony with nature <ul style="list-style-type: none"> ● Humans are part of and subject to nature ● Nature is valued primarily for its own sake ● Life-cycle complete; growth and decay balanced ● Natural ecosystems are imitated ● Production maintained by development of healthy soil ● Minimally processed, naturally nutritious food
5. Specialization <ul style="list-style-type: none"> ● Narrow genetic base ● Most plants grown in monocultures ● Single cropping in succession ● Separation of crops and livestock ● Standardized production systems ● Highly specialized, reductionistic science and technology 	5. Diversity <ul style="list-style-type: none"> ● Broad genetic base ● More plants grown in polycultures ● Multiple crops in complementary rotations
6. Exploitation <ul style="list-style-type: none"> ● External costs often ignored ● Short-term benefits outweigh long-term consequences ● Based on heavy use of nonrenewable resources ● Great confidence in science and technology ● High consumption to maintain economic growth ● Financial success; busy lifestyles; materialism 	6. Restraint <ul style="list-style-type: none"> ● All external costs must be considered ● Short-term and long-term outcomes equally important ● Based on renewable resources; nonrenewable resources conserved ● Limited confidence in science and technology ● Consumption restrained to benefit future generations ● Self-discovery; simpler lifestyles; non-materialism

comes out of this era and is highly anxious, looking for control, security, and meaning. The new agriculture is an institutional articulation of these dynamics and is driven by technological and knowledge production, consumer demands, and organizational integration, culminating in control systems for realizing profits. Farmers are brought into, and subordinated to, these systems via production contracts. These contracts tend to further fragment family farmer functions performed on the production unit by creating relationships with buyers akin to labor/employer relationships. Agricultural cooperatives, by design, are embedded within their memberships. They have a comparative advantage over other forms of organization for re-embedding individuals into a more culturally rational food production system. Careful consideration of a full range of choices for long-term sustainability could potentially bring greater mutual benefits to family farmer members as a collective group and help mollify some of the culturally chaotic aspects of high modernity.

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