

Rethinking the Agrarian Question: The Limits of Essentialism and the Promise of Evolutionism

Paul McLaughlin

Department of Sociology and Anthropology
George Mason University
Fairfax, VA 22030
USA¹

Abstract

Drawing on the insights of evolutionary epistemology, I examine the persistence of essentialism in the context of the Marxian and Neo-Marxian debate over the Agrarian Question. Specifically, I argue that Marxian theorists' failure to provide a convincing explanation for the survival of the family farm derives from their inability to construct systematic theories of "obstacles" to account for "deviations" from predicted "natural" paths of change and not, as is sometimes asserted, because essentialism is inherently deterministic, a-historical or in some way non-scientific. The persistence of essentialism in light of the former difficulties is explained in terms of Wimsatt's concept of generative entrenchment as well as the need for scientific theories to adapt to both intellectual and social environments. Organizational ecology is put forward as an alternative, non-essentialist approach to theorizing the structural dynamics of agriculture.

Keywords: Agrarian Question, essentialism, constructivism, evolutionary epistemology, organizational ecology.

Introduction

The nearly 100-year-long debate over the Agrarian Question represents one of the most enduring controversies in modern sociology (Byres 1995). As first posed by Karl Kautsky in 1899, the Agrarian Question is actually two related questions, the first theoretical and the second political: (1) what are the dynamics of capitalist agriculture and (2) given those dynamics, what stance should the German Social Democratic Party (SPD) take towards the peasantry? Kautsky ([1899]1988) answered the former by predicting the eventual demise of small farms under capitalism and the latter by arguing that the SPD should do nothing to either "artificially" hasten or retard the proletarianization of the peasantry.

Kautsky's questions, if not his answers, have proved enduring precisely because family farmers have been decidedly reluctant to confirm his predictions. The tenacity, in some cases resurgence, of such small farms in the "advanced"

stages of capitalism remains a central theoretical anomaly for sociologists of agriculture (Roberts 1996). The political dimension of the Agrarian Question has likewise remained a perennial concern, reemerging most recently in the late 1970's during a severe downturn in the U.S. farm economy. The resulting anxiety over the survival of the family farm helped to spur the development of a so-called New Sociology of Agriculture (NSA). Although the NSA represented little more than a rediscovery of the works of Marx, Kautsky and Lenin, its proponents (Buttel and Newby 1980; Friedland 1982; Newby 1983) anticipated rapid and fundamental advances in our understanding of the structural dynamics of agriculture. Unfortunately, by the mid-1980's the field had reached an impasse.

Booth (1985) attributed this impasse to a metatheoretical commitment to the "necessity" of Marxian "laws of motion." Subsequent appraisals echoed Booth's analysis by contrasting "deductivist" theoretical approaches with those that recognize the "contingency" of agricultural development (McMichael and Buttel 1990; Vandergeest and Buttel 1988). Such criticisms are misdirected. While in practice some theorists may interpret Marx deterministically, Marx's approach to theory construction in no way entails a commitment to "necessity" (Berstein 1996-97; Byres 1991, 1995; Meikle 1985). In fact, a good case can be made that Marx's analysis of capitalism is probabilistic rather than deterministic. Specifically, it represents an application of Aristotelian essentialism—what Sober (1980) calls Aristotle's Natural State Model (NSM)—which conceptualizes diversity as "deviation" from a natural state or path of change. Such an approach to theory construction is "frame-invariant" because its goal is to strip away the effects of "interfering forces" in order to uncover natural tendencies which are invariant across contexts. However, as Marx ([1867]1976) well knew, actual histories are invariably a joint product of both "natural tendencies" and "interfering forces." The principal challenge confronting theorists employing this model is to construct systematic theories of obstacles that explain the likelihood of alternative historical outcomes given specific social, economic and environmental conditions. In the absence of

such ancillary theories, the Aristotelian dichotomy between the “natural” and the “accidental” becomes vulnerable to *ad hoc* manipulation aimed at insulating a given theory from conflicting evidence. The result is a radical disjunction between theory and history. Such a disjunction lies at the heart of the debate over the “Agrarian Question.”

This paper attempts to explain why—given their numerous perceived and actual inadequacies—Marxian essentialistic theories of agriculture persist. I address this question from the perspective of evolutionary epistemology. Specifically, I argue that the persistence of the NSM within the sociology of agriculture can best be understood in terms of Wimsatt’s (1983, 1985) concept of generative entrenchment as well as the need for scientific theories to adapt to both intellectual and social environments. In the following sections I: (1) contrast an evolutionary theory of scientific change with essentialistic and nominalist accounts, (2) consider the persistence of the NSM as an intellectually and politically entrenched generative structure within the physical, biological and social sciences, (3) analyze the role that the NSM has played in shaping the 100-year long debate over the Agrarian Question and (4) suggest how organizational ecology can provide an alternative, non-essentialist approach to theorizing the structural dynamics of agriculture.

Essentialism, Nominalism and Evolutionism: Alternative Accounts of Scientific Change

Prior to Kuhn’s (1970) *The Structure of Scientific Revolutions*, most philosophers, sociologists and historians of science took it for granted that science was a socially autonomous and progressive enterprise. The autonomy of science was presumed to be guaranteed by various demarcation criteria—e.g., verification or falsification—which insulated it from other forms of social activity. Such a position is exemplified in the work of the sociologist Robert K. Merton (1973). Accepting the progressive character of science as axiomatic, Merton’s primary concern was to identify—and remove—those social, political and psychological forces that interfered with its advance. Merton treated the actual content of science as a black box whose integrity was violated only in rare and exceptional instances of “deviant” science.

Kuhn’s (1970) historical analysis of scientific revolutions opened a small crack in the Mertonian black box, letting in just enough light to illuminate the hitherto shadowy realm in which scientific knowledge was actually produced. The result has been an ongoing proliferation of alternative accounts of scientific change all of which recognize, to varying degrees, the social embeddedness of science.

Within sociology, perhaps the most influential of these new perspectives is constructivism, a position summarized by

Woolgar (1988) in his *Science: The Very Idea* (see also Knorr-Cetina 1983). Woolgar contends that traditional attempts to answer the question “What is science?” have been premised on an untenable essentialist ontology/epistemology; that is, philosophers, sociologists and historians of “science” have presupposed the existence of some stable, “invariant” object underlying the actual historical variability of the activity we give this label. In contrast, Woolgar and other constructivists argue that no such stable “object” exists. In fact, they contend that demarcation criteria serve only as conventionalized “post-hoc rationalizations of scientific practice” (Woolgar 1988, 17). In short, constructivists have replaced an essentialist ontology/epistemology with a nominalist one in order to systematically undermine any attempt to demarcate “science” from “society” or “facts” from “values.” Woolgar takes this stance to its logical extreme by arguing that sociologists of science must reflexively critique their own attempts to construct science as an independent “object” of study.

For those, like Woolgar, who are committed to empowering the laity by creating a counterpoise to the authority of modern science, constructivism has proven to be an effective tool. However, as a general account of scientific change it leaves much to be desired. Unfortunately, its adherents’ initial goal of explaining “the content of scientific knowledge as far as possible in social terms” (Collins 1983, 272) has been translated by radical constructivists into the claim that science can be explained *solely* in social terms. Such an extreme position not only “fails to account for the effectiveness of science” (Keller 1985, 6), but also leaves itself open to a series of “tu quoque” (likewise you) responses. The resulting deconstructive spiral can only end in total relativism (Richards 1981).

Fortunately, there are more than two principled answers to the question “What is science?” Woolgar (1988, 20) and other constructivists have been driven to an extreme form of ontological relativism only because they have mistakenly posed a false dichotomy between essentialism and nominalism. As Mayr (1976, 288) notes, it was precisely this same “wrong choice of alternatives”—i.e., the assumption that categories are either fixed or not real—that was the major impediment to the Darwinian revolution. The comparison is apt, because in both instances variation and selective retention—considered as a generalized predictive system which can be applied to any appropriate domain (Van Valen 1976)—provides the means for escaping both horns of the apparent “essentialist versus nominalist” dilemma.

As applied to scientific change by Campbell (1974), Toulmin (1972), Popper (1972) and subsequent authors (Radnitzky and Bartley 1987), variation and selective retention takes the form of a descriptive or evolutionary epistemology. In contrast to the idealism and relativism of extreme

forms of constructivism, evolutionary epistemology is premised on a “critical realism”—i.e., “a commitment to the reality of an external world, even though the beliefs about...that world are conceded to be imperfect” (Campbell 1974, 141; see also Rosa 1998). Such a perspective not only allows for the possibility of differences in the degree of “fit” between scientific theories and their referents, but also provides a mechanism—variation and selective retention (in this case the differential propagation of alternative versions of scientific theories)—which explains how such correspondences arise in the first instance and how they are subsequently maintained and/or modified in response to changing intellectual and social environments. By acknowledging the importance of both types of environments, evolutionary epistemology steers a middle course between Merton’s dismissal of social influences as mere “obstacles” to scientific “progress” and radical constructivists’ reduction of science to politics.

Although evolutionary epistemology has thus far proven more popular with philosophers than with sociologists of science, it has considerable potential as a general framework for understanding scientific change. For example, Richards (1981, 72) contends that an evolutionary approach (1) provides a well articulated model with definite implications, (2) is flexible enough to incorporate lower-order and/or more specialized theories, (3) retains the traditional distinction between the contexts of discovery and justification, (4) directs students of science to carefully examine the central environments of scientific theories, but also not to ignore “intersecting and neighboring niches” created by social, psychological, economic or political concerns, (5) recognizes that “standards of scientific acceptability themselves evolve,” (6) renders intelligible the non-progressive character of certain scientific theories, which are conceptualized as either having failed to adapt to a central environment and/or persisting in interstitial niches and (7) combines both diachronic and synchronic perspectives.

One of the specialized theories within this broader framework which deserves more attention than it has received is Wimsatt’s (1983, 1985) analysis of generative entrenchment. Wimsatt uses the analogy of a “developmental lock” to explain Van Baer’s law which holds that morphological and behavioral structures that form early in the ontogeny of an organism—i.e., structures that are taxonomically more widespread, morphologically more generalized and polyfunctional—exhibit greater evolutionary conservatism. Wimsatt argues that because such entrenched traits generate multiple and more specialized structures at later stages of development, mutations involving them should have a lower probability of producing adaptive outcomes. Moreover, he con-

tends that even the most deeply entrenched generative structures are still subject to environmental influences.

Although initially applied in a biological context, Wimsatt argues that the phenomenon of “generative entrenchment” is a general one found in any evolving system, including cultural systems. Science, considered as a special case of an evolving cultural system (Toulmin 1972), is instructive in this regard. On Wimsatt’s account, more generalized and polyfunctional scientific principles and presuppositions should not only possess a diminished empirical content but also be more resistant to direct “falsification.” Although such presuppositions are no less embedded in their intellectual and social contexts than more specialized principles, scientific changes involving the former should be rare events, occurring only after attempts to “patch” lower-level theoretical postulates become “so complex and AD HOC that increasing dissatisfaction leads to higher level changes and scientific revolutions of modest to greater, and rarely, of major scope” (Wimsatt 1983, 12).

Generative Entrenchment and the Natural State Model

Aristotle’s Natural State Model is a prototypical example of a deeply entrenched generative structure. The NSM is not a scientific theory per se, but rather a general approach to constructing theories which can in principle be applied to any scientific domain. In his *Physics*, Aristotle (1973, 142) writes:

For those things are natural which, by a continuous movement originated from an internal principle, arrive at some completion: the same completion is not reached from every principle; nor any chance completion, but always the tendency in each is towards the same end, if there is no impediment.

Whether in physics, biology or politics, Aristotle proceeds by first clearly identifying a class of objects through the use of “constituent” definitions; that is, each and every member of a class of objects and only members of that class are posited to have certain “essential” characteristics (Sober 1980). Second, the essential characteristics used to define a class must also explain the properties and/or behavior of its members. Such an explanation entails the postulation—or empirical identification—of the “natural” state or path of change characteristic of the members of that class. Third, the natural tendencies of a given class of objects must be clearly distinguished from “deviations” caused by secondary “interfering forces.” The key point, as Sober (1980, 360) notes, is that for Aristotle “Variability within nature is ... to be accounted for as a deviation from what is natural.”

Essentialists thus attempt to map—i.e., through reference to interfering forces—the uniformity of hypothesized natural states onto the diversity actually found in nature. However, in this “frame-invariant” approach to theory construction, it is the “nature” of the object which carries the explanatory weight; diversity is typically treated as a secondary phenomenon—i.e., as “something to be explained or explained away” (Sober 1980, 370). Aristotle’s model is extremely flexible—more generalized and polyfunctional in Wimsatt’s terminology—and has historically proven itself adaptable to a wide range of intellectual environments. Early chemists’ formulation of the periodic table and Newton’s “laws of motion” are just two examples of highly successful essentialist-based research programs (Sober 1980).

The longstanding Western predilection for equating the “natural” with the “good” and “evil” with whatever forces disrupt or perturb the “natural” has likewise pre-adapted the NSM to a wide range of social and political environments. This predilection, derived from the Judeo-Christian assumption that the created order is a moral order as well as from Plato’s belief that the essence of “The Good” lay in “self-sufficiency”—i.e., freedom from all external forces (Lovejoy 1936)—creates a built-in tension between description and prescription that makes essentialistic theories particularly vulnerable to both conscious and unconscious political manipulation (Greenwood 1984).

Despite its considerable intellectual and political adaptability, the NSM has certain very definite limitations. Since any empirical—and especially historical—science necessarily confronts a world full of interfering forces, the viability of an essentialist research program within a given field depends upon the ability of its practitioners to *systematically* theorize “unnatural” states—i.e., deviations must be “explained” not “explained away.” The NSM proved to be a productive meta-theoretical strategy in chemistry and physics precisely because researchers in these fields were able to systematically theorize interfering forces—such as the effects of friction on falling bodies—to account for deviations. In contrast, the inability of biologists to construct convincing theories of obstacles eventually led to the abandonment of the NSM in this discipline. For instance, as Ruse (1979, 8) notes, Lamarck’s attempt to reconcile the discrepancies between his version of the “temporalized” Chain of Being and the fossil record through such “secondary mechanisms” as “use and disuse” amounted to “little more than an ad hoc device for getting around problems.” In effect, Lamarck used Aristotle’s dichotomy between the natural and the accidental to insulate his theory from conflicting evidence.

Darwin ([1859]1958) overcame Lamarck’s difficulties by rejecting his assumption that biological evolution follows

a “natural” context-independent path. Instead, Darwin began with variation and used his theory of natural selection to conceptualize biological change as the product of the continuous interaction between variation and context. Such a “frame-relative” approach to theory construction does not allow for the analytical separation of natural and accidental causes (Sober 1980). Moreover, in contrast to essentialism, which maps uniformity onto diversity, Darwin’s theory accounts for current patterns of diversity in terms of earlier diversity, a theoretical innovation which Mayr (1976) calls “population thinking.”

Although the shift from essentialism to population thinking was perhaps the most fundamental innovation of the entire Darwinian revolution (Mayr 1976), it did not occur overnight. In fact, the depth of the NSM’s entrenchment is perhaps best measured by the glacial slowness with which it has been displaced from the central intellectual environment of biology (Bowler 1983). The ink on *The Origin* was barely dry when Darwin’s cousin, Francis Galton ([1892]1962), set about systematically inverting its premises in order to re-assimilate Darwin’s theory back into an essentialist framework. In his *Hereditary Genius*, Galton assumed that the “fitness” of both individuals and “races” could be determined *a priori* according to their relative positions on the Chain of Being; that is, Galton took it for granted that those higher on the racial and/or social hierarchy were naturally more “fit” and therefore *should* leave more offspring. Galton dismissed “anomalous” cases—e.g., the proliferation of the poor in England and blacks in America (who, in Darwinian terms have a higher fitness)—as the result of misguided social policies which interfered with the “natural” course of evolution. Galton’s willingness to employ such “ad hoc” arguments to “patch” his version of the NSM reached comic proportions in his discussion of the “race” of Judges. The only reason why Judges left so few offspring, Galton argued, was because the financial requirements of the peerage system forced them to marry heiresses who inherited their fortunes only because their families suffered from a congenitally low fertility! In the programmatic portions of his work, Galton called for the removal of all such “artificial” impediments to evolutionary “advancement.”

Galton’s eugenics is just one instance of how the political uses and misuses of the NSM in biology have ensured its persistence in “intersecting and neighboring niches” (Richards 1981). More recent attempts to construct theories of human “nature” (Wilson 1978), separate nature from nurture (Greenwood 1984) and to reassert racial hierarchy (Herrnstein and Murray 1996) all attest to the continuing viability of the NSM within the nooks and crannies of the socio-intellectual landscape.

The Natural State Model and the Social Sciences

In the social sciences, the NSM represents a common thread which runs from Aristotle's *Politics* through the writings of St. Augustine, Fontenelle, and the Philosophes, to the works of Spencer, Tylor, Morgan, Durkheim and Marx in the nineteenth century and continues to persist in this century under the guise of various forms of "evolutionism," functionalism and assorted theories of "development" (Bock 1956).

Although *in principle* the NSM is a perfectly legitimate approach to theorizing history (Sober 1980), *in practice* social scientists have run into exactly the same difficulties that plagued pre-Darwinian biologists. The patterns of social history, like those of biological evolution, are extremely diverse and subject to multiple context-specific constraints. Incorporating such complexity within the framework of the NSM requires the postulation of numerous obstacles or interfering forces to account for "deviations" from hypothesized natural states or paths of change. However, as Bock (1956) notes, this is precisely where social scientists employing the NSM have historically had the least success.

It is a theory of obstacles which provides the mapping between the uniformity of hypothesized natural states and the diversity of actual historical experience; without it, a researcher is left with no method by which to analytically separate the two (Meikle 1985). Aristotle's dichotomy can then all too easily become a dumping ground for any evidence which conflicts with theoretical expectations—i.e., such evidence is dismissed as "accidental."

Such ad hoc "patching" is obviously inimical to the development of cumulative theory. However, in a given instance, it is often difficult to decide whether or not a specific explanation is "ad hoc." No theory exactly maps its empirical domain and researchers may legitimately disagree over acceptable levels of agreement between the two. Although it is unlikely that a clear-cut set of criteria for making such determinations can be defined, an attempt to more precisely differentiate between systematic and ad hoc uses of Aristotle's dichotomy will provide greater insight into both past and current debates over the "Agrarian Question."

Theoretical Anomalies and Strategies for "Patching" the Natural State Model

Wimsatt's (1983, 11) account of generative entrenchment suggests that the following rule of thumb should be followed: "When modifying a theory to remove an anomaly, attempt modifications at as low, local, and specific a level as possible, going to higher levels of generality only where necessary." Within the framework of the NSM such a hierarchi-

cal approach to "patching" anomalies takes on a particular form.

Strategy 1. A common initial reaction is simply to ignore, or treat as inconclusive, conflicting or incompatible data. Offending evidence is often dismissed by essentialists as merely "appearances." Such claims are usually coupled with an assertion that the "natural" course of change *is* occurring and that the predicted events will occur sometime in the future. In the short-term such a strategy is not necessarily ad hoc. In fact, if it is combined with attempts to obtain additional data or reassess the adequacy of the statistical or interpretive procedures used to analyze it, such a strategy may be prudent (Wimsatt 1983). However, if an anomaly persists, such arguments must eventually be abandoned in favor of more direct attempts to incorporate recalcitrant findings into the theory.

Strategy 2. Given the assumptions of the NSM, the next step is to assume that some specific obstacle or interfering force has slowed or deflected the system from its "natural" state or path of change (Sober 1980); that is, the theorist attempts to elaborate a systematic theory of obstacles. Although what constitutes a "systematic" theory is difficult to define, at a minimum it should: (1) be a clear extension of the original theory, (2) be internally consistent, (3) specify additional causal mechanisms if required, (4) have clearly defined boundary conditions, (5) explain the phenomenon under consideration and (6) have additional testable consequences.

Strategy 3. If persistent efforts to construct a theory of obstacles fail, a final more radical step is to redefine the natural state of the system in such a way that the anomaly is eliminated. For instance, a characteristic of the system which was originally considered "essential" can be redefined as "non-essential" or vice versa. Alternatively, the boundaries of the system can be redefined or the phenomenon under consideration can be argued to constitute an entirely separate system with its own natural dynamic. However, such conceptual redefinitions must be consistently and non-arbitrarily applied; that is, they should meet the six criteria just specified.

In order to make these arguments more concrete, I will examine, in turn, the attempts of Karl Kautsky, Alain de Janvry, Susan A. Mann and James M. Dickinson, John E. Davis and Harriet Friedmann to resolve the Agrarian Question. This list is illustrative rather than exhaustive. With the exception of Kautsky, who provided the paradigmatic formulation of and strategy for resolving the Agrarian Question, the remaining works represent key pieces in the New Sociology of Agriculture which emerged in the late 1970's and early 1980's. All of these authors use one or more of the above explanatory strategies to patch-over the anomalous

persistence of the family farm and thus insulate Marxian versions of the NSM from conflicting evidence.

The Anomalous Persistence of the Family Farm Under Capitalism

One of Marx's ([1867]1976) most important hypothesis concerning the "natural" tendencies of capitalism was that accumulation within and competition between capitalists would lead to the increasing concentration and centralization of industry. Furthermore, Marx assumed that non-capitalist forms of production, such as petty commodity production, although essential to the development of capitalism, were ultimately transitory (Meikle 1985). Unfortunately, Marx, like most classical theorists, focused almost exclusively on industry. With the exception of his theory of ground rent—which is itself a theory of obstacles—Marx largely neglected agriculture (Buttel 1982). Thus, a question left open for subsequent debate was whether or not the "tendencies" which Marx postulated for industry applied with equal force and validity to agriculture. In the late 1800's, the apparent resurgence of the small holding in Germany raised this question to the status of an "anomaly."

Karl Kautsky. Kautsky ([1899]1988) wrote *The Agrarian Question* in an attempt both to extend Marx's analysis of capitalism to agriculture and to explain the anomalous persistence of the small holding in Germany. As Hussain and Tribe (1981, 103) note, Kautsky distinguished "between two forms of discourses on agriculture: the analysis of specific situations and of tendencies." As is evident from his discussion of "The Technical Superiority of the Large Farm," Kautsky ([1899]1988) conceptualizes the question of tendencies in frame-invariant terms. That is, Kautsky does not begin by asking which circumstances—e.g., state policies, commodities, markets, technologies, regions, climates, soils, etc.—favor large farms and which favor small farms. Rather, his initial concern is to establish which of the two is universally "superior" or "higher," and his attempt to adjudicate this question is totally abstracted from the characteristics of particular farms and from the contexts in which they operate (Hussain and Tribe 1981). Kautsky concludes, of course, that the various internal and external economies of scale achieved by larger farms make them inherently "superior" (Kautsky [1899]1988). Thus, in the absence of interfering forces, the larger establishment will, as in industry, tend to replace the smaller. Society, contends Kautsky, is a single "organism" and its parts all advance "toward the same end" (Kautsky [1899]1988, 11).

Kautsky is forced, however, to acknowledge that in the current "specific situation" the German census actually shows an increase in the number of small farms. Kautsky

([1899]1988, 139) begins by questioning the conclusiveness of this data, characterizing it as merely "superficial manifestations" (Strategy 1). Nevertheless, he goes on to construct various explanations of this apparent reversal of capitalist "laws of motion" by identifying factors which have slowed or deflected the frame-invariant tendency of large farms to displace small farms—i.e., he attempts to articulate specific theories of obstacles (Strategy 2).

Kautsky, in fact, posits a whole series of potential obstacles to capitalist development in agriculture. Primary among these are the "peculiarities" of land itself as a factor of production, specifically its non-reproducibility and immovability. These characteristics make possible the extraction of ground rent which both slows accumulation and discourages investments by tenants. The same characteristics likewise inhibit centralization by requiring the aggregation of contiguous parcels (Kautsky [1899]1988, 145, 199). Additional hypothesized obstacles include impediments to agricultural mechanization, overwork and under consumption, "conscious" state intervention, diseconomies of scale, labor shortages, the peasantry's ability to push up land prices, irrationalities of inheritance, usury, exploitation of the country by the town and the low intelligence and conservative nature of the peasantry.

In addition to these theories of obstacles, Kautsky makes two significant departures from Marx, each of which constitutes an attempt to redefine the "essential" characteristics of capitalist development in such a way as to eliminate the anomaly of the small holding (Strategy 3). First, Kautsky decouples the process of proletarianization from dispossession from the means of production. Such dispossession is, in effect, redefined as not essential to capitalist development in agriculture (Hussain and Tribe 1981, 108; Kautsky [1899]1988, 168). Dwarf-holdings, in Kautsky's view, cannot be displaced because they have withdrawn from competition with capitalist farms and now serve only as "production sites" for labor power. Kautsky likewise decouples the concentration of ownership in the means of production from an increase in the size of farms by arguing that the increasing prevalence of mortgage credit constitutes a concentration of juridical titles in the hands of mortgage banks. These banks, Kautsky contends, are the real owners of land and, thus, stand in the same relation to farmers as landlords. Thus, leasing and mortgaging are merely different "forms" or "appearances" which express the same underlying essential relationship (Kautsky [1899]1988, 88, 92).

Kautsky's arguments are too numerous and too diverse to adequately assess here. However, a few points can be made. First, as Hussain and Tribe (1981) argue, Kautsky's attempt to establish the "superiority" of large farms, independently of specific contexts, is extremely problematic; in fact,

many of the advantages which he argues are *inherent* to larger farms, actually depend upon specific historical contexts—e.g., state policies. Further, the various obstacles which Kautsky identifies range from the arguably systematic—e.g., Marx's theory of ground rent (which, however, Djurfeldt (1981) argues is inapplicable to Western agriculture)—to the clearly ad hoc—e.g., the low intelligence of the peasantry. However, assessing the merit of any of these arguments is hampered by the fact that Kautsky's main concern was to establish the broad tendencies of agricultural development across capitalist countries, rather than to assess their validity in any particular social formation (Hussain and Tribe 1981). In short, he never systematically confronts his various theories with the evidence from any single country or region.

Kautsky's attempts to redefine the nature of capitalist development, while ingenious, are equally problematic. For instance, his disconnection of proletarianization from dispossession from the means of production leaves him with no mechanism by which to explain the elimination of pre-capitalist forms of organization from agriculture (Hussain and Tribe 1981). Further, there is an additional tension, perhaps inconsistency, in Kautsky's explanation of the persistence of dwarf holdings. While his theoretical requirement for persistence is that such households produce solely for their own consumption, Kautsky ([1899]1988, 322-23) later acknowledges that such farms typically market some commodities, albeit commodities different from those marketed by capitalist farms. Kautsky's decoupling of concentration of the means of production from an increase in farm size is likewise "more formal than real," and serves only to obscure significant differences between leasing and mortgage credit (Hussain and Tribe 1981).

Despite these difficulties, and despite the fact that in the first half of his work Kautsky concedes the theoretical possibility that small farms might persist indefinitely, in the second half of *The Agrarian Question* Kautsky proceeds to use his analysis of the "natural" tendencies of capitalist agriculture to justify an orthodox political stance toward the peasantry. Kautsky now asserts that the proletarianization of the peasantry is, in the long run (Strategy 1), inevitable. The peasantry's political demands and the revisionists' calls for political pragmatism can both be safely ignored. The only hope for peasants is to ally themselves with the urban proletariat. Given his theoretical analysis, Kautsky's political conclusion is clearly a non-sequitur. As Sober (1980) notes and Kautsky initially acknowledges, there is nothing in the logic of the NSM which precludes obstacles being permanent (or desirable!). However, the ease with which Kautsky moves from his theoretical analysis of tendencies to his political conclusions does underscore the tension between description and prescription that is built into the NSM—the "natural" is

invariably equated with the "good." Subsequent attempts to resolve the Agrarian Question have employed similar explanatory strategies and, thus, exhibit many of the same defects.

Alain de Janvry. In recent years, the Agrarian Question has reemerged in the context of neo-populist concerns over the survival of the family farm in the U.S. and peasantries in the Third World. These concerns have stimulated a new round of attempts by Neo-Marxists to "explain" and/or "explain away" the persistence of small farms. De Janvry (1980) has responded to these more recent "revisionist" sentiments in even stronger terms than did Kautsky eighty years earlier, going so far as to challenge the "theoretical possibility" of the survival of the small holding.

Like Kautsky, de Janvry formulates the Agrarian Question in frame-invariant terms. His entire argument is premised on the assumption that large-scale capitalist farms are inherently more "efficient" than family farms. This is true, he argues, not so much because of any internal economies of scale, but rather because of the ability of capitalist farms to capture external "pecuniary economies"—e.g., lower interest rates on credit and discounts on bulk purchases (de Janvry 1980, 157).

Given the inherent superiority of capitalist farms, de Janvry argues that the only theoretical possibility for family farms to persist is if their willingness to accept lower levels of imputed wages—i.e., self-exploitation—creates a cost gap sufficient to overcome the productivity advantages of capitalist farms. Such a gap would allow family farmers to erect obstacles to capitalist penetration by driving up land prices in certain branches of production (Strategy 2). Which branches, de Janvry argues, depends upon "local conditions," but typically in commodities which are labor intensive, insensitive to economies of scale, and which have a low turnover rate of capital.

However, de Janvry treats this theory of obstacles to capitalist penetration as purely hypothetical, claiming that it is premised on two untenable assumptions. Even given a cost-productivity gap, the avoidance of further differentiation within family farms would require either that: (1) family farmers are dispossessed of all of their surplus value and thus are unable to expand their holdings, or (2) they behave as nonprofit maximizers and use what little surplus value they obtain for increased consumption rather than expansion. The first assumption, de Janvry argues, is untenable because there will always be a distribution of productivities among farms. Thus, surplus extraction will always be incomplete, and some farmers will be able to expand, albeit slowly. The second assumption is invalid because it represents a neo-populist confusion between "fact" and "essence." Under capitalism, the reasons why family farms receive low returns are "structural" not "behavioral."

At this point, the internal consistency of de Janvry's argument begins to break down. The assumption that non-profit maximizing family farmers will increase consumption rather than reinvest in expansion pertains to how such farmers *dispose of* surplus value, *not* to the structural determinants of the *size* of this surplus. In addition, de Janvry's claim that the neo-populists have confused "fact" and "essence" in relation to the causal primacy of structure versus agency represents an illegitimate use of Aristotle's dichotomy between the "natural" and the "accidental" to settle *a priori* what is primarily an empirical question—i.e., whether or not family farmers do, in fact, work under different behavioral assumptions. Further, it represents a commitment—characteristic of proponents of the NSM—to the explanatory primacy of the "nature" of the object changing—capitalism—and a concomitant devaluing of the explanatory power of diversity itself. The latter is, rather, something to be "explained away," as de Janvry proceeds to do:

There is no theoretical possibility for peasants to remain in their contradictory class location. However lengthy and painful the process may be, their future is full incorporation into one or the other of the two essential classes of capitalism—the bourgeoisie and the proletariat (de Janvry 1980, 159).

Having mechanistically "demonstrated" the theoretical impossibility of the persistence of the family farm, de Janvry (1980, 159) examines the evidence which appears to indicate "the continued numerical importance of family farms and peasants" and dismisses it as inconclusive (Strategy 1). However, assured of the inevitability of its demise, he goes on to argue that the petty bourgeoisie has become a reactionary political force which has "outlived its capacity for social change" (de Janvry 1980, 166); its members' ultimate fate is proletarianization and they must be made to accept this outcome.

Susan A. Mann and James M. Dickinson. In contrast to de Janvry's cavalier dismissal of any contrary evidence, Mann and Dickinson (1978, 467) premise their arguments on the assumption that the persistence of family labor farms in advanced capitalist countries constitutes a "significant anomaly" in relation to Marx's "theory of the transitional nature of petty commodity production." However, like de Janvry, they reject "subjectivist" explanations of this persistence—e.g., self-exploitation—on the grounds that such explanations entail an acceptance of the notion of a "dual economy" and are therefore not "universal." Implicit in both objections is the assumption that capitalism is a single integrated system with a single natural path of development. Mann and Dickinson reject "technological determinist" arguments on similar grounds.

Mann and Dickinson (1978, 466) contend instead that "the secret of this 'anomaly' lies in the logic and nature of capitalism itself." Demonstrating this, however, requires the recognition that Marx's analysis of capitalism posits only "tendencies" and not "inexorable laws." Furthermore, "Marx does not treat agriculture as a monolithic whole, but rather draws our attention to the peculiar nature of certain spheres of agricultural production" (Mann and Dickinson 1978, 471). As this statement and their title suggest, Mann and Dickinson argue that the natural dynamics of capitalism have been blocked or deflected by specific interfering forces (Strategy 2). In particular, they contend that the noncoincidence between production time and labor time "establishes a whole series of obstacles to the capitalist penetration of agriculture," including "the inefficient use of constant capital, labor recruitment problems, a lower rate of profit, and complications in the smooth realization of value in the sphere of circulation" (Mann and Dickinson 1978, 473, 478). All of these disincentives to capitalist investment leave affected agricultural subsectors temporarily in the hands of petty commodity producers. However, Mann and Dickinson (1978, 478) conclude that, "when" scientific and technological advances remove these barriers, capitalism's natural dynamic will again reassert itself (Strategy 1).

Mann and Dickinson's thesis meets at least 3 of the 6 criteria for a well-constructed theory of obstacles—i.e., it is a clear extension of Marx's original theory, it is internally consistent and it provides additional causal mechanisms. However, it has engendered a heated debate over the clarity of its boundary conditions and especially over whether or not it actually explains the "anomaly" of the family farm. Although Mann and Dickinson provide some suggestive anecdotal evidence, Mooney's (1982) article is the first attempt to empirically assess the Mann-Dickinson (M-D) thesis. On the basis of comparisons between variances in labor demand and various measures of capitalist penetration in different commodity groups, Mooney concludes that the M-D thesis must be rejected (see also Roberts 1996). He (Mooney 1982, 289) further suggests that theorizing the "detours" to capitalist development may require "stepping outside the problematic of Marxist structuralism and into the realm of subjectivity," alluding to a Marx-Weber synthesis which he (Mooney 1983) later elaborates.

Mann and Dickinson (1987a, 1987b) reject the "subjectivism" of Mooney's proposed Marx-Weber synthesis and contend that his "a-historical positivist methodology" is inadequate to test the validity of their thesis. However, while Mooney's test of the M-D thesis is neither "a-historical" nor definitive, Mann and Dickinson's own use of "historical" methodology leaves much to be desired. For example, Mann and Dickinson's (1987a, 271, 1987b) contention that

Pfeffer's (1983) work demonstrates that capitalism can penetrate certain agricultural subsectors "*despite* problems with the nonidentity of production and labor time" because of "historical conditions" clearly represents an ad hoc use of Aristotle's natural/accidental dichotomy. Additional "historical conditions" must either be systematically incorporated into the original M-D thesis, or its boundary conditions must be explicitly redefined. Otherwise, Mann and Dickinson are inappropriately using "history" as the *explanans* rather than as the *explanandum* in their arguments.

The debate over the M-D thesis is instructive in two respects. First, it underscores my contention that theorizing historical diversity and context-specific constraints is problematic within the framework of the NSM. Second, it serves to demarcate possible alternative paths for constructing a new sociology of agriculture. Mooney's shift away from his initial objective of theorizing the "detours" to capitalist development (Mooney 1982, 1983) to his later desire to "undermine the notion that capitalist development *need* flow in any particular direction" (Mooney 1987, 293) reflects an increasing willingness on his part to reject the frame-invariant assumptions of the NSM and to instead treat such diversity not as "deviation" from the natural dynamics of capitalism, but rather as a theoretical *starting point* (Mooney 1982, 1987). The latter position represents a partial yet clear step towards frame-relative thinking.

In contrast, Mann and Dickinson's rejection of Mooney's proposed Marx-Weber synthesis is premised on a commitment to the NSM and the "nature of capitalism" as both a theoretical starting point and explanatory touchstone. While in principle there is nothing objectionable about such a strategy, at this point the M-D thesis has failed to systematically incorporate the anomaly of the family farm into the Marxian tradition. The final two authors considered, Davis and Friedmann, represent more radical attempts to accomplish this incorporation.

John E. Davis. In contrast to previous authors, Davis (1980) explicitly rejects strategies 1 and 2 and their concomitant assumption that the persistence of the family farm constitutes a lack of capitalist relations in U.S. agriculture. Instead, he attempts to redefine certain key concepts in order to demonstrate that this "anomaly" is merely apparent (Strategy 3). Specifically, he argues that separation from the means of production is not an essential characteristic of capitalist relations of production. Rather, petty commodity producers, even though they retain possession of their means of production, can nevertheless be considered participants in capitalist relations as "propertied labor." Propertied labor, he argues, is analogous to piece-wage work, a primitive form of capitalist relations, provided that two "essential" criteria are met: (1) a contractual relationship exists between capitalist

and "laborer" and (2) the capitalist exercises control over decision making. Davis argues that contract farming meets both criteria and, thus, constitutes already extant capitalist relations of production.

While Davis' argument serves to draw attention to the potentially exploitative character of contract farming, his overall thesis confronts a major difficulty—the evidence, which he concedes is "difficult to assess" (Strategy 1). Although some sectors of U.S. agriculture are dominated by contract farming, overall it accounts for only 17% of total output (Davis 1980). Further, Davis' definition of contract farming is itself based on an "ideal type" which may include farms not subject to capitalist relations. Thus, on the one hand he argues that 17% may represent an "inflated measure" of capitalist penetration; on the other hand, he argues that 17% may be an underestimate, since petty commodity producers are subject to other forms of exploitation, a contention which he immediately qualifies by noting that exploitation does not necessarily entail capitalist relations.

Davis' attempt to massage the data in this way underscores the fuzziness of his original definition of capitalist relations. However, regardless of how these difficulties are resolved, his thesis remains open to two major objections. First, why has contract farming not spread to all subsectors of U.S. agriculture? Second, if "*ownership* of the means of production remains critical" (Davis 1980, 147), what has prevented the further differentiation of petty commodity producers? Davis answers neither question. Thus, given that the "organizational detritus of the past" (Davis 1980, 133) remains largely intact, he is left where he started—i.e., with an anomaly.

Harriet Friedmann. Perhaps the most intriguing attempt to resolve the anomaly of the family farm is Harriet Friedmann's (1981). Friedmann chastises both classical and contemporary theorists for ruling out the possibility of "family labor as a stable, even sometimes emergent, form of production" (Friedmann 1978b, 552, 1981, 1). She seeks to escape from the developmental teleology which she claims has characterized earlier attempts to theorize simple commodity production (SCP) and criticizes previous researchers for treating SCP as a logical construct rather than a concrete historical category (Friedmann 1978a, 1980, 1981). Thus, in sharp contrast to the above authors, Friedmann explicitly rejects formulating the Agrarian Question in developmental terms and argues instead that it should be posed in terms of specific requirements for "reproduction" in relation to historically identified "conditions of existence" (Friedmann 1978a, 72). However, although Friedmann formulates the Agrarian Question in a more "frame-relative" fashion, the explanatory strategy she employs to answer it throws into sharp relief the central contentions of this essay.

Friedmann's explanation of the persistence of the family labor farm is based upon a radical redefinition of what has traditionally been defined as "essential" to capitalist development (Strategy 3). She premises her entire argument on a conceptual distinction between "modes" and "forms" of production. The former describes "a broad historical period defined by characteristic laws of motion," while the latter has a more historically-specific "concrete character" and is thus "more variable and transitory" (Friedmann 1978b, 553, 1980, 160). Most importantly, Friedmann distinguishes between those forms of production which are and those which are not "constitutive" of a mode of production. Finally, she (1981, 9) concludes that SCP is not an essential component of the capitalist mode of production (Strategy 3). Friedmann's reconceptualization of SCP contrasts sharply with Marx, who held that SCP was both an essential precondition and part of the "coming-to-be" of capital (Meikle 1985; Goodman and Redclift 1985).

Friedmann combines the concept of a simple commodity *form* of production with a non-teleological application of Marx's concept of reproduction. As she writes:

Reproduction implies no teleology....*The point is to explain both reproduction and the failure of reproduction through empirical identification of present or absent conditions.* The virtue of the concept is that it combines historical indeterminacy with testable theory (Friedmann 1981, 10-11; emphasis mine).

Friedmann's concept of reproduction bears a remarkable similarity to Darwin's theory of variation and selective retention. Moreover, she uses this concept with great efficacy to explain how family labor farms were able to undermine capitalist farms in certain branches of agriculture in the late 1800's (Friedmann 1978a, 1978b). Specifically, Friedmann argues that SCP's fewer and more flexible costs—combined with certain specific "historical" conditions—allowed family farmers to undermine capitalist wheat farms in the U.S. and, through their impact on international wheat markets, England and Germany as well. Friedmann's focus on the "conjunctural superiority" of SCP within specific historical contexts contrasts sharply with previous authors' characterizations of family farmers as little more than anachronisms stoically awaiting the removal of the last barriers to capitalist penetration.

Although Friedmann's theory of SCP has many strengths, it has major weaknesses as well. In several respects, Friedmann's attempted escape from teleology is only partially successful. Her entire analysis is premised on the contention that SCP is a form of production that is not "constitutive" of capitalism. However, as Goodman and Redclift (1985) point out, the widespread use of wage labor in SCP renders Friedmann's particular conceptual distinction

fuzzy at best. Although such line-drawing problems are not necessarily fatal to essentialism (Sober 1980), they do make the application of essentialistic categories extremely difficult in practice. In Friedmann's case, these difficulties are particularly problematic because the distinction in question plays such a crucial role in her argument.

A more important difficulty with Friedmann's approach is that the philosophical categories which she employs to construct her argument are the same categories that underlie the teleological thinking she is trying to avoid, namely, essentialism. Friedmann has simply placed SCP—and other "forms" of production—on the "accidental" side of Aristotle's natural/accidental dichotomy. While this conceptual maneuver buys her enough theoretical elbow room to deploy her non-teleological analysis of SCP reproduction, she pays a heavy price for it. Specifically, it creates a radical disjunction between the developmental and the historical dimensions of her analysis. Throughout Friedmann's work there is a recurring inconsistency between her characterization of the capitalist *mode* of production as "necessary" and "logical" and her depiction of the process of SCP reproduction as "anomalous," "marginal," "incidental," "contingent" and historically "unnecessary" (Friedmann 1978a, 73, 1981, 26, 1987, 249). Friedmann's characterization of SCP in the latter terms tends to undermine her claim that it is a "stable" and "emergent" *form* of production, at the very same time that her distinction between modes and forms of production provides the central premise of her entire argument.

Friedmann's difficulties, I would argue, stem from an unresolved tension between her reliance on the frame-invariant "laws of motion" of capitalism to provide the broader context for SCP and her more frame-relative application of the concept of reproduction to explain the origins and dynamics of SCP itself. In particular, there is an inconsistency, between Friedmann's (1978a, 87, 1978b, 562, 1981, 14) claim that SCP entails no structural requirement for expansion—beyond cultural and demographic pressures culminating in a "fissioning" of the household enterprise into new enterprises with the same scale of production—and her claim that it obeys the same laws of concentration and centralization as capitalism (Friedmann 1981, 11). If SCP really has no structural requirement for expansion, what does it mean to say that it is subject to a tendency towards concentration and centralization? Conversely, if SCP is subject to such tendencies, what has prevented it from increasing in scale beyond the range of family labor? As Goodman and Redclift (1985, 238) note, Friedmann treats the conjuncture between prevailing technical conditions of production and the labor supply of households as entirely fortuitous. However, if a "tendency" remains for SCP to exceed these limits, how has Friedmann avoided teleology?

Conclusion

In the history of Western science, Aristotle's Natural State Model represents a classic case of a "frozen accident" (Wimsatt 1983, 5). From the Greeks through the Enlightenment and down into the twentieth century, the NSM has provided our most central ontological and epistemological assumptions regarding the types of objects that exist in the world and how best to discover and theorize their properties. The theoretical and political flexibility of this doctrine stimulated highly productive research programs in the physical sciences and at least partially successful programs in the biological and social sciences.

Despite the NSM's initial functionality, the development of the historical sciences eventually exposed its limitations. The histories of biology, science studies and the sociology of agriculture each reveal a similar pattern. In each case, essentialism has persisted long after its apparent usefulness has been exhausted. Moreover, as Wimsatt's (1983, 1985) theory predicts, in each of these disciplines ad hoc attempts to resolve "anomalies" by "patching" lower-level theoretical postulates mounted until a point was reached where this larger framework had to be—or is in the process of being—abandoned. Moreover, in all three instances, nominalism provided—or is providing—a temporary yet crucial link in the transition from a "frame-invariant" to "frame-relative" meta-theoretical foundation.

The first sign of a "thaw" in the NSM's two-thousand year hegemony occurred in biology. At the onset of the nineteenth century, Lamarck and other early evolutionary theorists' inability to incorporate the proliferating "anomalies" within the fossil record through the postulation of systematic theories of obstacles eventually forced biologists to abandon the NSM (Ruse 1979). One of the initial reactions to the breakdown of the NSM was a shift to a nominalist metaphysics which assumes that "All groupings, all classes, are artifacts of the human mind" and that, therefore, only individuals are "real" (Mayr 1976, 429). By undermining the distinctiveness and fixity of species and focusing attention on individual differences nominalism helped to pave the way toward Darwin's focus on variation and dynamic species boundaries.

Wimsatt's (1983, 1985) concept of generative entrenchment can likewise be "reflexively" applied to explain the persistence and eventual collapse of essentialism in the history, philosophy and sociology of science. The absence of criteria clearly demarcating science from other forms of social activity has, for many decades, constituted an unresolved anomaly within science studies which has slowly forced theorists to abandon essentialist perspectives on science. As was the case in biology, nominalism (Woolgar 1988) may be providing the

stepping stone toward a more dynamic and frame-relative perspective on scientific change. Evolutionary epistemology represents one such alternative. Among its other considerable advantages over constructivism (Richards 1981), evolutionary epistemology allows for "reflexivity" in the analysis of scientific change (Woolgar 1988) without falling into a destructive relativism.

Developments within the sociology of science are indicative of the wider collapse of essentialism across the social sciences. I have taken the sociology of agriculture as a case study that illustrates these broader patterns. The "crisis" in the sociology of agriculture which emerged during the early 1970's resulted from the inability of Modernization Theory—a conservative version of the NSM—to adequately theorize the structural dynamics of agriculture (Newby 1982). Advocates of the New Sociology of Agriculture attempted to redress these deficiencies by drawing upon Marxian versions of the NSM. The emergence of the NSA reinvigorated attempts to solve the theoretical puzzle of the family farm first posed by Kautsky ([1899]1988). However, given the above analysis, I think it is fair to conclude that: (1) the NSA has failed to incorporate the anomaly of the family farm within a Neo-Marxian framework and (2) to a greater or lesser extent, all of the above authors have used Aristotle's dichotomy between the natural and the accidental in ad hoc ways to insulate their respective arguments from conflicting or incompatible evidence.

More recent Neo-Marxian efforts to resolve the Agrarian Question exhibit the same deficiencies. Although the glaring inadequacies of the NSA has led to a greater willingness to acknowledge the diversity of "actual" agrarian transformations (e.g., Bernstein 1996-97; Byres 1991; Levin and Neocosmos 1989; Mamdani 1987; O'Laughlin 1996; Watts 1989, 1996), theorists in this tradition have steadfastly refused to surrender the notion that these various "roads" have a common endpoint (Araghi 1995). That is, they remain committed to the primacy of the "'laws' of capitalist development" (Byres 1991, 4) and, hence, to the Natural State Model's central assumption that historical diversity must be conceptualized as deviation from the natural. As I have argued above, such a commitment requires explaining alternative historical outcomes through the postulation of systematic theories of obstacles. Unfortunately, the recent literature on the Agrarian Question offers very little that is new in this regard beyond a reassertion of the authority and relevance of the classics (Watts 1989, 1996) and an unsystematic deployment of the same inadequate explanatory strategies found in Kautsky and the NSA literature—e.g., the functionality of family farms as sites of labor power (Mamdani 1987), the peculiarities of land as a factor of production (Goodman and Redclift 1985), the non-coincidence of production time and

labor time (Coombes and Campbell 1998), conscious state intervention (Byres 1991; Mamdani 1987; Nelson 1983; Watts 1989) and the redefinition of peasants as de facto proletarians (Banaji 1990; Brass 1990).

The continued elaboration and deployment of such ancillary theories supports Byres (1995) contention that the Marxian sociology of agriculture is far from dead. In fact, the political uses of such theories as rhetorics of critique and liberation should insure their persistence in some form in “intersecting and neighboring niches” (Richards 1981). However, the above analysis suggests that Marxian sociologists of agriculture have reached the same point as Ptolemaic astronomers in the late 15th century; that is, their commitment to retaining the “nature” of capitalism as the earth around which the rest of their theoretical universe must turn has locked them into a strategy of proliferating endless new “epicycles” in order to “save the appearances.” While such “patching” of lower-level theoretical postulates can stave off, for a considerable time, the direct falsification of Marxian versions of the NSM, it can not do so forever. If Wimsatt’s (1983, 12) analysis of generative entrenchment is correct, eventually a point will be reached when such efforts become perceived as “so complex and ad hoc” that the sociology of agriculture will undergo a revolution of lesser to greater scope.

Indeed, there is some evidence that such a revolution is already under way. For example, within the Marxian tradition itself, there is a growing recognition of its inability to adequately theorize historical diversity and context-specific constraints (Booth 1985; Buttel 1982; McMichael 1997; Mooney 1987). Such a recognition has led to an increasing willingness of some theorists to question and even abandon Marx’s most central theoretical assumptions—i.e., that there is any “natural” path to capitalist development (Vandergeest and Buttel 1988). Such a theoretical shift has likely been reinforced by changes in the social context of the sociology of agriculture, namely the collapse of state socialism which has tended to undermine the legitimacy of Neo-Marxism (Buttel 1996).

Not surprisingly, one of the first alternatives to Marxian essentialism to be explored was nominalist/constructivist approaches to agricultural change, such as Mooney (1983, 1987) and Vandergeest and Buttel’s (1988) application of the Weberian, or left Weberian, tradition. As was the case in biology and science studies, constructivist perspectives have provided an effective counterpoise to essentialism and also allowed the reintroduction of human agency into the sociology of agriculture. However, they have not provided a basis for constructing satisfactory theories of agricultural change (McMichael and Buttel 1990).

If the central argument of this paper is correct, developing a truly “New” and effective sociology of agriculture will require the rejection of *both* essentialism and nominalism and their replacement with an evolutionary account of agricultural change. Recent attempts to explain structural change in agriculture in terms of the interactions between diverse actors and the specific historical contexts in which they are embedded (Araghi 1995; McMichael 1997; Roberts 1996; Van der Ploeg 1993) represents a clear step towards such frame-relative thinking. However, what is still conspicuously missing from this work is a *mechanism* which connects patterns in the diversity agrarian social structures over time to changes in the relevant physical, economic, social and political environments. Despite its numerous other shortcomings, Friedmann’s analysis of SCP suggests what is needed—i.e., population thinking. Extracted from its essentialistic framework, Friedmann’s (1981) notion of “reproduction” bears a striking resemblance to Darwin’s theory considered as a generalized predictive system. While such a populational perspective has yet to be deployed within the sociology of agriculture (see McLaughlin 1996 for an exception), it has recently emerged within the field of organizational sociology in the form of Organizational Ecology (Carroll 1984; Hannan and Freeman 1977, 1989).

Organizational ecology represents a fully Darwinian approach to organizational dynamics, which has successfully adapted models and methods borrowed from biological ecology to the study of organizational “populations.” Such a perspective has the potential to provide new insights into the structural dynamics of agriculture (Coughenour 1984) and thus should be of considerable interest to rural sociologists, human ecologists and others who work in rural or developing areas. Moreover, several recent analyses of the persistence and/or resurgence of small organizations suggest that such phenomenon can be readily explained with models of resource partitioning and niche diversification (Carroll 1985; Delacroix and Solt 1988; Delacroix, Swaminathan and Solt 1989). Such an evolutionary perspective could well provide new insights into the Agrarian Question.

Although organizational ecology by no means constitutes a theory of society “tout court” (Newby 1982), it does provide the core around which such a theory could be constructed. Furthermore, the exploration of such an alternative need not entail the wholesale abandonment of either the general concerns nor some of the specific insights of the Marxian tradition. Indeed, at least some of the arguments deployed by NSA advocates could be more parsimoniously recast in evolutionary terms. For instance, Kautsky’s contention that the ability of family farms to provide labor power to capitalist farms can lead to alternating cycles of concentration and

fragmentation could be reconceptualized as a case of density dependent selection. Likewise, Friedmann's contention that the flexible cost structures of family farms allowed them to out compete capitalist farms could be recast in ecological terms as an argument concerning the "niche width" (Hannan and Freeman 1989) of these organizations. That is, during the early settlement phase of North American agriculture family farmers could be conceptualized as "generalists" in relation to their cost structures while capitalists could be considered "specialists." The former are generally considered by ecologists to be more adaptive—i.e., have a higher probability of reproducing—in highly variable and uncertain environments. Finally, the shift to an evolutionary framework need not entail an abandonment of a "critical" posture. As Antonio (1989) has recently argued, critical or emancipatory theory need not be based on developmental assumptions. Given a century of unsuccessful attempts to come to grips with the Agrarian Question, I believe that the exploration of such an alternative is warranted.

Endnote

1. Email address: pmc1701@aol.com

References

- Araghi, F. A. 1995. Global depeasantization: 1945-1990. *The Sociological Quarterly* 36(2), 337-368.
- Antonio, R. J. 1989. The normative foundations of emancipatory theory: Evolutionary versus pragmatic perspectives. *American Journal of Sociology* 94(4), 721-48.
- Aristotle. 1973. *Introduction to Aristotle*. 2nd ed., R. McKeon (ed.). Chicago: University of Chicago Press.
- Banaji, J. 1990. Illusions about the peasantry: Karl Kautsky and the agrarian question. *The Journal of Peasant Studies* 17(2), 288-307.
- Berstein, H. 1996-97. Agrarian questions then and now. *The Journal of Peasant Studies* 24(1-2), 22-59.
- Bock, K. E. 1956. *The Acceptance of Histories: Toward a Perspective for Social Science*. Berkeley: University of California Press.
- Booth, D. 1985. Marxism and development sociology: Interpreting the impasse. *World Development* 13(7), 761-87.
- Bowler, P. J. 1983. *The Eclipse of Darwinism: Anti-Darwinian Evolution Theories in the Decades Around 1900*. Baltimore: Johns Hopkins University Press.
- Brass, T. 1990. Peasant essentialism and the agrarian question in the Colombian Andes. *The Journal of Peasant Studies* 17(3), 444-456.
- Buttel, F. H. 1982. The political economy of agriculture in advanced industrial societies. *Current Perspectives in Social Theory* 3, 27-55.
- Buttel, F. H. 1996. Environmental and resource sociology: Theoretical issues and opportunities for synthesis. *Rural Sociology* 61(1), 56-76.
- Buttel, F. H. and H. Newby. 1980. *The Rural Sociology of the Advanced Societies: Critical Perspectives*. Montclair: Allanheld, Osum.
- Byres, T. J. 1991. The agrarian question and differing forms of capitalist agrarian transition: An essay with reference to Asia. In J. Breman and S. Mundle (eds.), *Rural Transformation in Asia*, 3-76. Delhi: Oxford University Press.
- Byres, T. J. 1995. Political economy, the agrarian question and the comparative method. *The Journal of Peasant Studies* 22(4), 561-81.
- Campbell, D. T. 1974. *Unjustified variation and selective retention in scientific discovery*. In F. Ayala and T. Dobzhansky (eds.), *Studies in the Philosophy of Biology*, 139-161. London: Macmillan.
- Carroll, G. R. 1984. Organizational ecology. *Annual Review of Sociology* 10, 71-93.
- Carroll, G. R. 1985. Concentration and specialization: Dynamics of niche width in populations of organizations. *American Journal of Sociology* 90, 1262-83.
- Collins, H. M. 1983. The sociology of scientific knowledge: Studies of contemporary science. *Annual Review of Sociology* 9, 265-285.
- Coombes, B. and H. Campbell. 1998. Dependent reproduction of alternative modes of agriculture: Organic farming in New Zealand. *Sociologia Ruralis* 38(2), 127-145.
- Coughenour, M. C. 1984. Social ecology and agriculture. *Rural Sociology* 49(1), 1-22.
- Darwin, C. [1859]1958. *The Origin of Species: By Means of Natural Selection or the Preservation of Favoured Races in the Struggle for Life*. New York: New American Library, Inc.
- Davis, J. E. 1980. Capitalist agricultural development and the exploitation of the propertied laborer. In F. H. Buttel and H. Newby (eds.), *The Rural Sociology of the Advanced Societies: Critical Perspectives*, 133-153. Montclair: Allanheld, Osum.
- De Janvry, A. 1980. Social differentiation in agriculture and the ideology of neopopulism. In F. H. Buttel and H. Newby (eds.), *The Rural Sociology of the Advanced Societies: Critical Perspectives*, 155-168. Montclair: Allanheld, Osum.
- Delacroix, J. and M. E. Solt. 1988. Niche formation and foundations in the California wine industry, 1941-84. In G. R. Carroll (ed.), *Ecological Models of Organizations*, 53-70. Cambridge, MA: Ballenger Publishing Company.
- Delacroix, J., A. Swaminathan, and M. E. Solt. 1989. Density dependence versus population dynamics: An ecological study of failings in the California wine industry. *American Sociological Review* 54, 245-62.
- Djurfeldt, G. 1981. What happened to the agrarian bourgeoisie and rural proletariat under monopoly capitalism? Some hypotheses derived from the classics of Marxism on the agrarian question. *Acta Sociologica* 24(3), 167-191.
- Friedland, W. H. 1982. The end of rural society and the future of rural sociology. *Rural Sociology* 47(4), 589-608.
- Friedmann, H. 1978a. Simple commodity production and wage labour in the American plains. *The Journal of Peasant Studies* 6, 71-100.
- Friedmann, H. 1978b. World market, state, and family farm: Social bases of household production in the era of wage labor. *Comparative Studies in Society and History* 20(4), 545-86.
- Friedmann, H. 1980. Household production and the national economy: Concepts for the analysis of agrarian formations. *The Journal of Peasant Studies* 7(2), 158-84.

- Friedmann, H. 1981. The family farm in advanced capitalism: Outline of a theory of simple commodity production in agriculture. Paper presented at the 1981 annual meeting of the American Sociological Association, Toronto, Canada.
- Friedmann, H. 1987. The family farm and the international food regimes. In T. Shanin (ed.), *Peasants and Peasant Societies*, 247-258. London: Blackwell.
- Galton, F. [1892]1962. *Hereditary Genius: An Inquiry into Its Laws and Consequences*. New York: Meridian Books.
- Goodman, D. and M. Redclift. 1985. Capitalism, petty commodity production and the farm enterprise. *Sociologia Ruralis* 25(3/4), 231-47.
- Greenwood, D. 1984. *The Taming of Evolution: The Persistence of Non-Evolutionary Views in the Study of Humans*. Ithaca: Cornell University Press.
- Hannan, M. T. and J. Freeman. 1977. The population ecology of organizations. *American Journal of Sociology* 82(5), 929-64.
- Hannan, M. T. and Freeman, J. 1989. *Organizational Ecology*. Cambridge, MA: Harvard University Press.
- Herrnstein, R. J. and C. Murray. 1996. *The Bell Curve: Intelligence and Class Structure in American Life*. New York: Simon and Schuster.
- Hussain, A. and K. Tribe. 1981. *Marxism and the Agrarian Question: German Social Democracy and the Peasantry 1890-1907*. Atlantic Highlands, NJ: Humanities Press.
- Kautsky, K. [1899]1988. *The Agrarian Question*. Winchester, MA: Zwan Publications.
- Keller, E. F. 1985. *Reflections on Gender and Science*. New Haven: Yale University Press.
- Knorr-Cetina, K. D. 1983. The ethnographic study of scientific work: Towards a constructivist interpretation of science. In K. D. Knorr-Cetina and M. Mulkay (eds.), *Science Observed: Perspectives on the Social Study of Science*, 115-140. London: Sage Publications.
- Kuhn, T. S. 1970. *The Structure of Scientific Revolutions*, Second edition. Chicago: The University of Chicago Press.
- Levin, R. and M. Neocosmos. 1989. The agrarian question and class contradictions in South Africa: Some theoretical considerations. *The Journal of Peasant Studies* 16(2), 230-259.
- Lovejoy, A. O. 1936. *The Great Chain of Being*. Cambridge: Harvard University Press.
- Mamdani, M. 1987. Extreme but not exceptional: Towards an analysis of the agrarian question in Uganda. *The Journal of Peasant Studies* 14(2), 191-225.
- Mann, S. A. and J. M. Dickinson. 1978. Obstacles to the development of capitalist agriculture. *The Journal of Peasant Studies* 5, 466-81.
- Mann, S. A. and J. M. Dickinson. 1987a. One furrow forward, two furrows back: A Marx-Weber synthesis for rural sociology. *Rural Sociology* 52, 264-85.
- Mann, S. A. and J. M. Dickinson. 1987b. Collectivizing our thoughts: A reply to Patrick Mooney. *Rural Sociology* 52(2), 296-303.
- Marx, K. [1867]1976. *Capital: Vol. I*. New York: Vintage Books.
- Mayr, E. 1976. *Evolution and the Diversity of Life*. Cambridge, MA: The Belknap Press of Harvard University Press.
- McLaughlin, P. 1996. Resource mobilization and density dependence in cooperative purchasing associations in Saskatchewan, Canada. *Rural Sociology* 61(2), 326-348.
- McMichael, P. 1997. Rethinking globalization: The agrarian question revisited. *Review of International Political Economy* 4(4), 630-662.
- McMichael, P. and F. H. Buttel. 1990. New directions in the political economy of agriculture. *Sociological Perspectives* 33(1), 89-109.
- Meikle, S. 1985. *Essentialism in the Thought of Karl Marx*. La Salle, IL: Open Court Publishing Company.
- Merton, R. K. 1973. *The Sociology of Science: Theoretical and Empirical Investigations*. Chicago: The University of Chicago Press.
- Mooney, P. H. 1982. Labor time, production time and capitalist development in agriculture: A reconsideration of the Mann-Dickinson thesis. *Sociologia Ruralis* 22(3/4), 279-91.
- Mooney, P. H. 1983. Toward a class analysis of Midwestern agriculture. *Rural Sociology* 48(4), 563-84.
- Mooney, P. H. 1987. Desperately seeking: One-dimensional Mann and Dickinson. *Rural Sociology* 52(2), 286-95.
- Nelson, E. 1983. Capitalism in Western agriculture: A comment. *Acta Sociologica* 26(3/4), 281-285.
- Newby, H. 1982. Rural sociology in these times. *The American Sociologist* 17, 60-70.
- Newby, H. 1983. The sociology of agriculture: Toward a new rural sociology. *Annual Review of Sociology* 9, 67-81.
- O'Laughlin, B. 1996. Through a divided glass: Dualism, class and the agrarian question in Mozambique. *The Journal of Peasant Studies* 23(4), 1-39.
- Pfeffer, M. J. 1983. Social origins of three systems of farm production in the United States. *Rural Sociology* 48(4), 540-62.
- Popper, K. R. 1972. *Objective Knowledge: An Evolutionary Approach*. New York: Oxford University Press.
- Radnitzky, G. and W. W. Bartley, eds. 1987. *Evolutionary Epistemology, Rationality, and the Sociology of Knowledge*. La Salle, IL: Open Court.
- Richards, R. J. 1981. Natural selection and other models in the historiography of science. In M. B. Brewer and B. E. Collins (eds.), *Scientific Inquiry and the Social Sciences*, 37-76. Washington: Jossey-Bass Publishers.
- Roberts, R. 1996. Recasting the "agrarian question": The reproduction of family farming in the southern high plains. *Economic Geography* 72(4), 398-415.
- Rosa, E. A. 1998. Metatheoretical foundations for post-normal risk. *Journal of Risk Research* 1, 15-44.
- Ruse, M. 1979. *The Darwinian Revolution*. Chicago: University of Chicago Press.
- Sober, E. 1980. Evolution, populational thinking, and essentialism. *Philosophy of Science* 47, 350-83.
- Toulmin, S. 1972. *Human Understanding: The Collective Use and Evolution of Concepts*. Princeton: Princeton University Press.
- Vandergeest, P. and F. Buttel. 1988. Marx, Weber, and development sociology: Beyond the impasse. *World Development* 16(6), 683-95.
- Van der Ploeg, J. D. 1993. Rural sociology and the new agrarian question. *Sociologia Ruralis* 33(2), 240-260.
- Van Valen, L. 1976. Domains, deduction, the predictive method, and Darwin. *Evolutionary Theory* 1, 231-45.
- Watts, M. 1989. The agrarian question in Africa: Debating the crisis. *Progress in Human Geography* 13(1), 1-41.
- Watts, M. 1996. Development III: The global agrofood system and late twentieth-century development (or Kautsky redux). *Progress in Human Geography* 20(2), 230-245.

- Wilson, E. O. 1978. *On Human Nature*. Cambridge, MA: Harvard University Press.
- Wimsatt, W. C. 1983. Von Baer's law of development, generative entrenchment, and scientific change. Unpublished manuscript, Department of Philosophy, University of Chicago, Chicago, IL 60637.
- Wimsatt, W. C. 1985. Developmental constraints, generative entrenchment, and the innate-acquired distinction. In P.W. Bechtel (ed.), *Interdisciplinary Relations Among the Sciences*. Amsterdam: North-Holland.
- Woolgar, S. 1988. *Science: The Very Idea*. London: Tavistock Publications Limited.