

2 Styles of Farming: an Introductory Note on Concepts and Methodology

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In this introductory chapter, I discuss the theoretical implications of endogenous and exogenous growth patterns in agriculture. I argue that such patterns can be characterized only if the variable mechanisms through which farming is linked to markets and technology are introduced into the analysis. This brings then attention to the empirical side of the question: how to identify, in the overwhelming and often confusing heterogeneity of agriculture, those phenomena that embody forms of endogenous development. Among various methodological perspectives, I suggest that 'styles of farming' appears to be one of the most promising. It allows us to conceptualize as social constructions the specific ways in which the labour process in farming is organized (that is, how the process of production is organized as well as how the farm develops through time). It is through a detailed analysis of the heterogeneity in agriculture, especially in marginal areas, that patterns of endogenous growth may be discerned and analyzed.

The Generic Structure of Farming

Whatever its location in time and space, farming always involves the mobilization and reproduction of resources in order to convert them into specific values. A particular feature of farming is that the required resources entail 'nature' and that the subsequent conversion entails, in part, the management of biological processes, that is, 'natural cycles'.

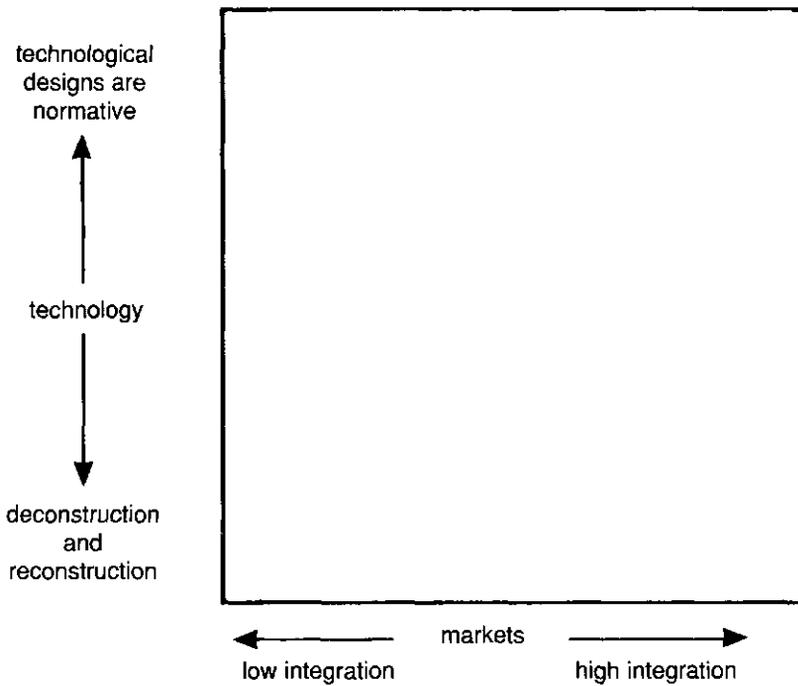
Simple Commodity Production (SCP), the now widely dominant although not exclusive organizational form in Western European farming, is just a specific expression of this general formula. The values produced are mainly (but not exclusively)¹ exchange-values, i.e. commodities, and the resources from which such commodities are produced are mobilized partly via markets, and partly through non-commodity-circuits (Long *et al.* 1986; Marsden and Murdoch 1990). The latter applies in particular to the labour force recruited within the family and therefore not subject to wage-labour relations.

On Empirical Diversity

Both the mobilization of resources and their subsequent conversion into commodities and/or use-values, imply relations between actors and institutions external to the farm enterprise itself. These relations, which from a theoretical point of view are highly variable, and which constitute, in praxis, specific social relations of production, might be discussed using Diagram 1. The horizontal axis refers to the mobilization of resources. These might be mobilized on the various markets: labour to a large extent on the labour market; capital through loans and credits on the capital market; and land through tenancy mechanisms. Cows also enter the process of production as commodities since they are acquired on the cattle-market; feed and fodder may be bought (instead of produced on the farm itself); and the same goes for soil-nutrients etc. Such a constellation represents a market-dependent scheme of production and reproduction. But an historically-guaranteed reproduction, entailing a relatively autonomous process of production can also be conceptualized.² Here, the required resources will be reproduced mainly within the production process located on the farm itself. The reproduction of land, labour, capital, cows, feed, fodder and nutrients, etc. is thus secured through production. Each cycle of production is founded on the previous cycle and is organized so as to create simultaneously the foundations for the cycles to come. A growing number of empirical studies have demonstrated that along this horizontal axis there is considerable empirical diversity, both between and within regions (Benvenuti *et al.* 1989; van der Ploeg 1985, 1986, 1990a, 1990b). In synthesis, farmers relate their farm enterprises in quite different ways to markets, and although markets might increasingly represent one and the same set of external parameters for farming,³ the way in which farming is linked to this set of parameters is highly variable.

The vertical axis of Diagram 1 represents the conversion of resources into values. This conversion implies a particular technique or way of combining resources so as to obtain the required amount of value. Some empirical diversity might be viewed, especially under present conditions,⁴ as determined by the unequal supply of new technologies (de Benedictis and Cosentino 1979), which are largely designed within the realm of agrarian science and imply specific models for the organization of the labour and production process, models which explicitly prescribe (and eventually sanction) the 'conversion', i.e. of the labour process, and therefore, in turn, condition and legitimize the demand for technology. Farm labour processes then become structured along the lines designed by science and agribusiness.⁵

Diagram 1 Room for Manoeuvre



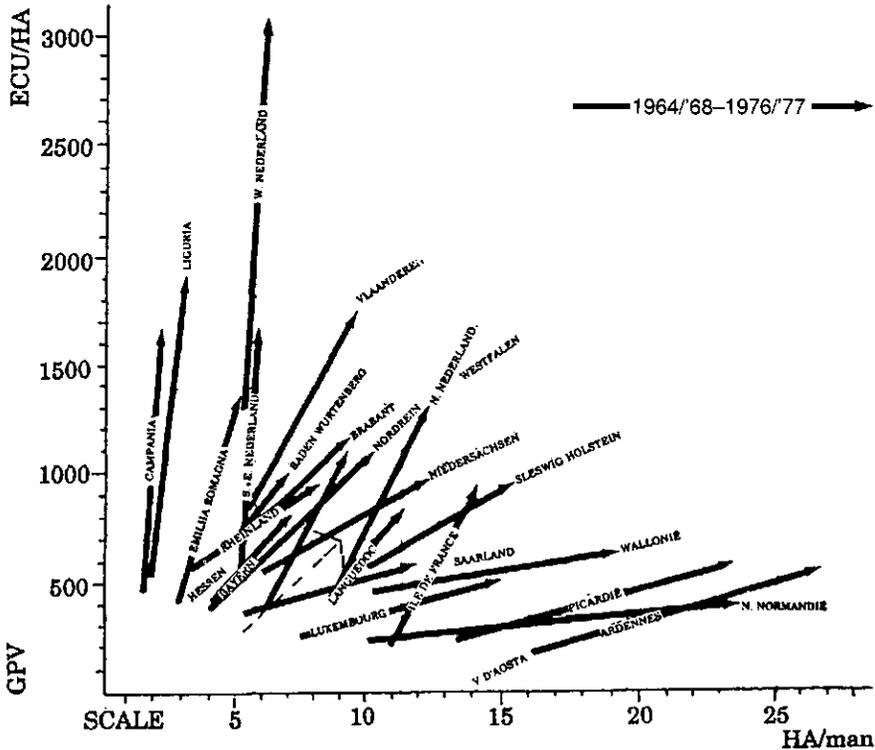
But technological designs are frequently deconstructed. Particular elements of the designs are then reconstituted and combined with elements already existing to provide the most appropriate methods for 'conversion' – methods that differ, sometimes considerably, from the original technological designs. In other words, craftsmanship replaces external technological design as an ordering principle for organizing the labour process, i.e. the 'conversion' of resources into values.

Markets and technology thus do not determine how farming will be carried out, but provide the context in which different positions are possible. Together, they constitute room for manoeuvre (Long 1984). Farmers themselves, as social actors, are able to define and influence the way they relate their farming activity to markets and technology. Distanciation from and/or integration into markets and technology is of course not a matter for capricious decision. It is the object of strategic reasoning, embedded in local history, ecology and prevailing politico-economic relations. Simultaneously, it is through such strategic reasoning that particular positions are created, that specific social relations of production are produced and reproduced and that future developments and decisions become conditioned.

Marginal Rural Areas

Starting from the premises developed above, we can now discuss the question of heterogeneity and differential development trends in marginal rural areas. Putting aside any discussion of what the exact meaning of such a concept might be, one can argue that, broadly speaking, 'marginal' areas are less market-dependent and less organized along the lines of the newest technological designs than is the case for so-called growth poles. Within the forms of development discourse now dominant, these features (in other words low 'market-integration' and 'technological backwardness') are currently used as indicators of an 'underdeveloped' status. 'Lagging behind in development', as official EC phraseology puts it, is a typical expression.

Diagram 2



It goes without saying that such a definition only makes sense in a strictly unilinear model, in which development in the 'areas lagging behind' is seen as an imitation of the developmental pattern that has already been realized in the 'growth poles'. The validity of such a unilinear model is,

however, highly doubtful, both theoretically and empirically. As Diagram 2 (derived from Meeus *et al.* 1988) shows, the regions of Europe demonstrate considerable heterogeneity in their patterns of development.

The M-position

So far differences between regions have been mentioned. But within regions, again one might assume that different positions exist, also in the marginal areas. This is illustrated in Diagram 3, where M (for marginal) represents the typical position of farming vis-à-vis markets and technology in such areas. Farming, in one way or another, 'lags behind' in the adoption of technology. For example, in relation to grain-growing, the diagram shows a considerable 'distance' from technologies applied in the Paris Grain Basin, and the same goes for dairy farming when compared with Friesland.

The V-position

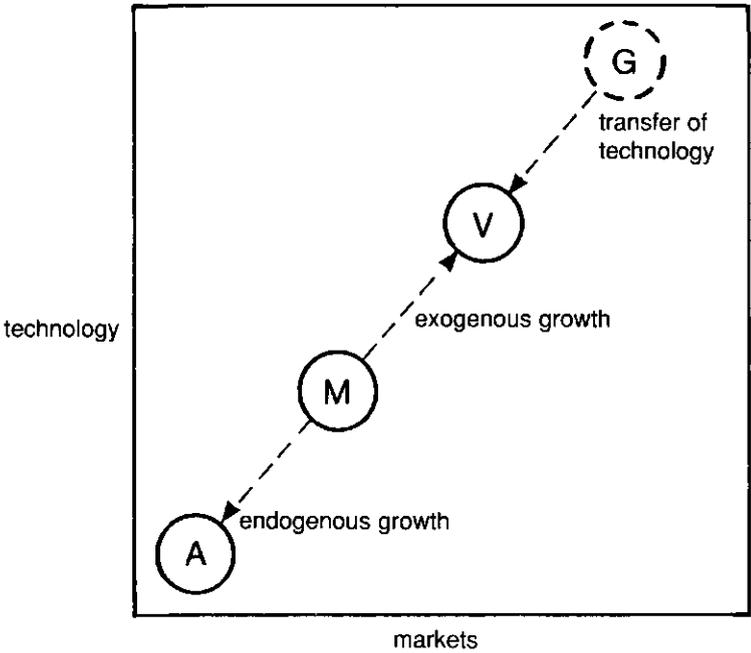
The M position, however, is only one position, although the most important in statistical terms. Alongside this 'modal point', at least two other (possible and/or empirical) positions can be distinguished. These are the V and A positions of Diagram 3, where V stands for 'Vanguard' farming, for the endeavour to create, within the global marginal conditions, a systematic effort to apply prevailing technologies and at the same time to enter into a more systematic and more tightened set of relations with the markets. It is, in synthesis, an endeavour to apply, in the marginal areas themselves, the development model of the growth poles (G). Transfer of technology then becomes strategic, and development will materialize along the lines of the exogenous growth model (Benvenuti 1990). Outside elements (such as technologies, organizational forms, capital) and intervention (heavy subsidizing so as to create the required conditions for 'modernization', technical assistance and control to secure the correct application of the designed model) compose the crucial features of such an exogenous approach to growth and development.⁶ (See also Long and van der Ploeg 1990.)

The presence of this kind of growth model in 'marginal areas' is not to be underestimated. In a recent study in Umbria we found that a specific expression of the transformation towards the V position, i.e. an abrupt and massive increase in agricultural output at farm enterprise level, was more present in the mountains (i.e. the more marginal parts of the region) than in the Umbrian plains (van der Ploeg 1990b; van der Ploeg, Saccomandi and Roep 1990). This is no surprise. 'Marginal' areas increasingly offer what are becoming structural constraints in the so-called growth poles – space and clean resources: space to expand production (through the acquisition of relatively cheap land, as well as additional space as far as quota, etc. are concerned) and clean resources, i.e. not yet contaminated

air, water and land, which can increasingly be used to obtain additional value on the urban markets, now rapidly turning to 'sound' food.⁷

It is also to be noted that most intervention strategies, including those financed by EC funding, strongly stimulate the growth pattern implied in position V of Diagram 3. Notwithstanding the strong institutional support for 'exogenous growth', the results are rather meagre. In the first place it turns out to be quite difficult to create the institutional conditions necessary for the maintenance (i.e. the reproduction over time) of this growth model. In practice, this is reflected in the fact that after the 'big leaps forward', a lot of the farmers are obliged to take 'steps backward', *passi indietro*, as the Italian expression goes (IRFATA 1990). Secondly, it is becoming increasingly obvious that although this particular model might alleviate or even change one or maybe more than one aspect of the global marginality of such regions, it simultaneously deepens other aspects. Output at farm enterprise level does indeed rise steeply (which is not to say that it will also rise at regional level), but dimensions such as rural employment, landscape preservation, defence of the environment, intra-sectoral interlinkages and possibilities for tourism, might easily deteriorate.

Diagram 3



The A-position

A third position that might be encountered, implies two features (indicated by position A for 'alternative' in Diagram 3) that differ noticeably from

those in the positions already described, and taken together, they comprise a unique pattern. I refer to farming based mainly on non-commoditized processes of reproduction (on resources reproduced within the farm and/or obtained through socially regulated exchange), and in which an optimal conversion (not based on a straight-forward application of exogenous technological models, but grounded on quality and quantity of farm labour)⁸ is simultaneously realized. Farming, in this case (as we shall demonstrate later), is built on an active and goal-oriented distanciation of the labour and production processes from both markets and technology. In this position, a relatively autonomous and historically guaranteed scheme of reproduction and craftsmanship are the typical constructions that characterize the mobilization of resources and their consequent conversion into the required social values and commodities.

Empirical Forms Reflecting the A-position

The specific empirical expressions of such a 'model' are far from being fully explored. But some indications can be derived from the little we do know. In the first place, there is an impressive but still far from completely documented range of farms specializing in the production of high quality or ecological products that entail a particular level and composition of costs (low external input agriculture) as well as a high level of value-added per unit of end product. The particular labour process and dependency on local resources that are more often than not strategic for producing such commodities (and the associated social value) inhibit a high degree of incorporation into supply markets and – simultaneously – exclude a straightforward application of current technological models: craftsmanship remains essential. In other words, particular and presently expanding niches in the markets, not only allow for, but assume and require a position such as the A position in Diagram 3 (see for a further discussion de Roest 1990).

Second, the model implicit in producing high quality or ecological products is not limited to these products. The model of low external input⁹ (and consequent low external output)¹⁰ can equally be observed in the production of current commodities.¹¹ Let me illustrate this with a simple anecdote. On a particular Saturday morning, after a night of heavy rainfall, I arrived at an *azienda* in Umbria in Italy. It had been agreed some days before that I would visit to talk at length about particular topics. On my arrival, however, the owner and his wife and brother were busily engaged in an activity that at first sight completely astonished me. They appeared to be harvesting the leaves of their vineyard. I could hardly suppress my laughter. Their activity, in my eyes, was completely devoid of any sense. But they then explained that the rain had caused a high degree of humidity and there was a consequent danger of fungi breaking out in the vineyards. The current recommendation for this problem was an application of anti-cryptogammici or fungicides. However, they had

already experimented and determined years ago, that by taking away some of the leaves the wind would enter and clear up the humidity. They added two further observations: that in this way they were able to make the best use of their own labour force (*così si valorizza il nostro lavoro*)¹² and that afterwards they were able to drink their own wine with more *tranquillità* (part of production was for self consumption).¹³

That, in a nutshell, is what some colleagues have referred to as *resistenza sociale*, which is especially significant in so-called 'marginal areas'. It implies a dedication to continuing farmers' own 'practices', under difficult conditions, even though (or especially when) every 'authority' declares that it is becoming a hopeless affair (Lacroix 1981; Pernet 1982). Farmers are not the passive receivers of external doom: they react strategically and develop new responses, new lines of defence. And sometimes, such responses and defence lines come together into specific, but quite valid projects with which to tackle what seems an overwhelming marginalization.

In the third place, there is the organizational dimension which must not be neglected. Both the mobilization of resources and the conversion of resources into end-products (whatever their nature) imply specific (and highly variable) patterns in the social division of labour, of co-operation, of contradictions, etc. To be more precise, both exogenous and endogenous growth models imply specific and quite contrasting organizational patterns. Let me again give an example.¹⁴ In the Portuguese Trás-os-Montes region, dairy farming was and still is an important element of farming. The majority of milk-producing animals were (and are) to be found on small farms keeping from five and ten cows. Milking was done manually, and was increasingly associated with two problems. The first related to the purity of the milk. When milking by hand it is almost impossible to prevent impurities entering the milk. The second concerned the problem of milking itself. Milking twice a day, every day, is a heavy burden. The solution appears self evident: mechanize milking, and increase the number of cows kept. The latter is the only way to make mechanization profitable. This would imply an unavoidable restructuration, leading to a concentration of production on a reduced number of farms. At least according to 'theory', that is the way modernization goes.

However, the solution developed in Trás-os-Montes amounted to a drastic redefinition of this organizational scheme. Milking was mechanized, but at village and not farm enterprise level. Each village created co-operative milking parlours, and several women were trained to manage and operate them. Young children (and/or carers) could now bring the cows to the central milking parlour, where milking took place according to the highest hygienic standards. So two problems were resolved at one stroke (i.e. the problem of hygiene, and the 'slavery' of having to milk twice a day). Moreover, the now clean milk (that still comes from cows fed

in the 'traditional way', and thus of a superior quality) fetches a higher price, which raises the value-added at farm enterprise level.

What this example demonstrates is that through new linkages and new organizational models, a 'passage' from position M towards position A indicated in Diagram 3, is sometimes quite feasible. That is, an autonomous, historically (and in this case socially) guaranteed reproduction is maintained while the quality and quantity of labour is revitalized, offering alternatives to the current technological schemata.

I suppose that similar reasoning could be applied to the production co-operatives aimed at ecological production in Spain, to the creation of the '*veenweidekaas*' group in the province of South Holland in the Netherlands, and to the possibility of specific producer-consumer relations in Umbria, and so on.

A fourth specific expression of position A is to be found in its interweaving with so-called 'extra-agricultural activities'. The expression 'extra' here is somewhat misleading in so far as it suggests that these activities are external or only additional to farming. Pluri-activity is, of course, more often than not, strategic for the specific way farming is organized. Hence, the interlinkages, fusion and synergy of agricultural and 'extra-agricultural' activities within one and the same economic unit (currently the family) are central for understanding the particular A type indicated in Diagram 3.

Flows of Activities through Time

In the preceding section I tried to indicate that farming, as an 'organized flow of activities through time', can follow different patterns. Each pattern is based on particular driving forces, entails differently structured relations with markets and technology, and finally, evolves into a specific but coherent organization of the farm and a specific structuration of the labour process.

In order to explore and understand heterogeneity, we need specific schemes of classification. To date, these have largely been based upon a particular ordering of variables as manifested at a specific point in time. This is typically the case in FSR or Farming Systems Research, where time- and space-bound combinations of crops and/or animal husbandry are frequently taken as a starting point or basis for a decomposition of the sector into 'farming systems'. At least three problems are inherent to this approach. First, it is unable to handle the often considerable instability of patterns. From one year to the next a particular scheme of cultivation might be completely redesigned. For a variety of strategic reasons farmers might change from milk to beef production or even eliminate all animal husbandry (for a while or permanently) and dedicate themselves to grain production or to tomato growing. From an FSR perspective, these changes

(which in marginal areas are omnipresent) would indicate changes in the 'systems' themselves. What, from the point of view of the farmers might constitute the continuation of a specific rationale rather than a rupture in 'the organized flow of activities through time', emerges in the 'systems approach' as a negation of continuity through time.

A second problem is that if one takes heterogeneity as the starting point, then an unnecessarily complex and confusing scheme of classification could arise, and underlying patterns might easily be missed. For example, if the meaning that the farmers themselves attribute to their activities is not taken as an organizing principle for the construction of the classification schemes, approaches such as the current FSR approach could easily generate categories and distinctions that are completely empty and meaningless.

A third problem is that classification based on particular crops (or combinations of crops) might easily obscure the different patterns used in the production of one and the same crop. As we demonstrated in earlier studies, completely different 'logics of farming' (that relate to both the mobilization of resources as well as their conversion into commodities) can be distinguished in one and the same branch of farming, such as for example, in dairy farming (van der Ploeg 1985).

What I propose, is that a classification of heterogeneity in marginal rural areas should be founded on a careful analysis of the underlying patterns of farming in terms of a strategically organized flow of activities through time (Vincent 1977). Such patterns will allow us to isolate the theoretically meaningful trends of exogenous and endogenous development and stagnation. From such patterns, specific crop combinations, phenomena such as specialization or the reproduction of mixed farming, and trends such as the abrupt change from one set of crops to another or of flexible adaptation through time etc., can be reconstructed as meaningful activities and operations. If underlying strategies are ignored, that is if the linkages between theoretical and empirical levels, between past, present and future, and between farm operators and the environment in which they operate, are eliminated from the classification, then the latter will get lost in hopeless and confusing empiricism.

Actors and Projects

Although conceiving of patterns of farming as strategically organized flows of activities through time might lead to an emphasis on the so-called structural features of agriculture and the regional economy, we should not ignore the fact that their very presence, persistence or disappearance and their specific distribution are to an important degree actor dependent. That is to say, the creation as well as the development of these patterns is and remains crucially dependent on the goal-oriented, strategic behaviour of the men and women who run farms. Defining the specific position of their

farm enterprises vis-à-vis the markets and the supply of technology is a central element in this strategic behaviour.

If farming is understood as the social (and therefore goal-oriented) co-ordination of the whole range of tasks which together constitute the totality of the farm labour process, and that such social co-ordination implies the ongoing observation, interpretation and evaluation of similar and different forms of social co-ordination (i.e. one's own and the farming practices of others) then it is clear that the 'organized flows of activities through time' and their specific expressions as styles of farming, are socially constructed projects.

Again: on Empirical Diversity

The degree to which the different strategies are articulated at the level of discourse and, consequently, emerge as socio-political projects, can only be assessed through empirical inquiry. Such research will have to focus in particular on processes of communication and organization, not only among the groups of farmers concerned but also among the other actors involved (e.g. urban consumers, political movements, regional authorities, etc.).

There are interesting indications that at least in certain rural areas, the positions vis-à-vis the markets and technology, as defined by farmers, is well recognized and associated with specific modes of organizing production and development at farm level. In Dutch and Italian research on styles of farming this has been highlighted for several regions.

Styles of Farming

Style of farming is a concept that can be defined (and illustrated) from various points of view. The 'original' definition, elaborated by the founding father of Wageningen agrarian sociology, Hofstee, stresses the dimensions of culture and locality. A style of farming then is the complex but integrated set of notions, norms, knowledge elements, experiences etc., held by a group of farmers in a specific region, that describes the way farming praxis should be carried out (Hofstee 1985). Hofstee then made clear how such notions effectively constitute a specific praxis that embraces the lay-out of the fields, the architecture of farm buildings, and the social division of labour within and between farms. At the same time, from numerous studies covering mainly the pre-war period, he argued that the impressive variety in agriculture could not be understood without taking into account these 'local cultural patterns'. The latter were not conceptualized, of course, as isolated phenomena. Local cultural patterns were understood as actively constructed responses to local eco-systems, local relationships between town and countryside, and the insertion of the locality into wider trading patterns, etc. That is, they constituted specific, actively constructed responses to the structuring principles which then dominated and within which farming was embedded.

There is no need to point out that these structuring principles have been deeply transformed in the post war period. It is increasingly markets and technology that function as such. Consequently, styles of farming have changed. They have become the (intra-regional) responses adopted by farmers to technology and the markets. One could go even further. Since the structuration of markets and the orientation of technological development have become increasingly the object of agrarian policy, styles of farming have, to a large extent, consequently emerged as farmers' responses to national and international agrarian policies.

What nonetheless remain, are some of the other core elements of Hofstee's concept. First, farming styles represent a specific unity of farming discourse and practice, a specific unity of mental and manual labour (this is especially important in SCP which entails a unity and not, as is the case in Capitalist Commodity Production, a separation of design, execution and control).

Second, farming styles entail a specific structuration of the labour process, of the organization of time and space as concrete dimensions, and consequently, farming styles result in a particular organization of the process of production (including a wide range of technical, economic and social interrelations), and in a particular structuration of the development process at farm enterprise level. Consequently, styles of farming might be defined in terms of their scale, their level of intensity, the implied interrelations between capital and labour, and the specificity of particular technico-productive aspects and relations.¹⁵

Third, styles of farming represent specific connections between economic, social, political, ecological and technological 'dimensions'. Since each style contains a specific co-ordination of the domains of production and reproduction, the domain of economic and institutional relationships and the domain of social (i.e. non-commoditized) relations, it continually emerges as the specific nodal point between the indicated 'dimensions', a nodal point that allows for the transfer of meaning from one 'dimension' to the other. That is, styles of farming are not only pluri-dimensional entities, but also the specific locations where, for example, 'the economic' presents its 'ecological' consequences, or where, vice versa, ecological considerations are transformed into a specific position vis-à-vis the economy.

Cultural Repertoire

As argued earlier, linking farming to the markets and the supply of technology is a goal oriented activity subjected to the strategic reasoning of the farmers. Such reasoning evolves through a process of interaction, negotiation and renegotiation with the other actors in the various arenas constituted by the markets and by the relations between the farms and those institutions developing and implementing new technologies. As empirical research shows, farmers have a cultural repertoire at their

disposal for creating linkages with markets and technological development (de Bruin *et al.* 1991; Roep *et al.* 1991; van der Ploeg 1992). The same goes for their interaction with other actors: anticipation of the meaning and activities of others; the transformation of meaning; the maintenance of a 'grey zone' between the farming unit and the surrounding institutes; the creation of confusion; feeding others with wrong information – all form part of a repertoire that quite often embraces a wide array of historical examples and experiences. The point I am making is that farmers not only have a shrewd awareness of the diversity of styles within a specific region, but frequently they also have a thorough and detailed knowledge of the interlinking mechanisms with the markets and technology on which such styles are founded and of the particular elements of the local cultural repertoires that are mobilized and used in the different styles.¹⁶

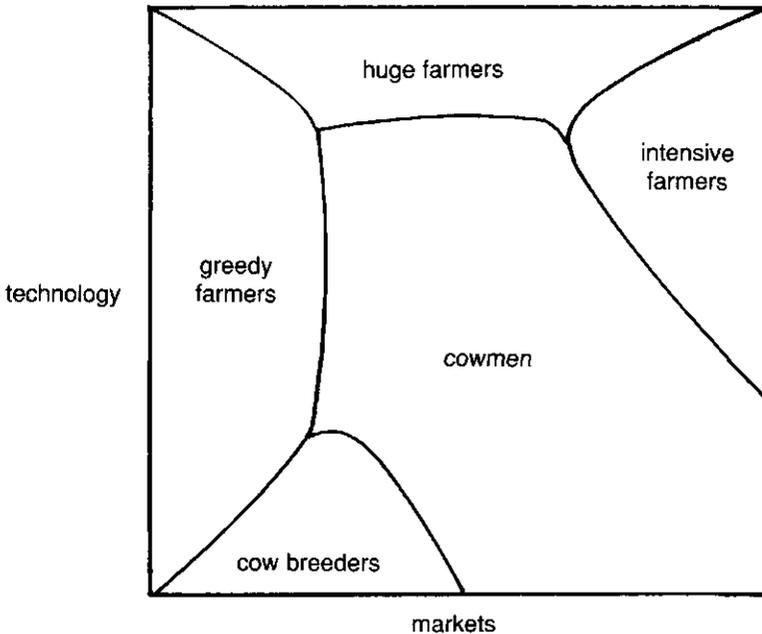
Friesland: An Illustration

Let me illustrate this with an example from Friesland, one of the northern provinces of the Netherlands which was once famous for its cattle, but which is now defined as an area becoming steadily marginalized. It goes without saying that its 'marginality' is a highly relative category. Friesland is – within the Netherlands at least – at the bottom as far as average milk-yields per cow are concerned. A large part of the province now seeks recognition for special help under the EC financed 'mountainous area policy', although there are no hills, let alone mountains. Yet there is considerable heterogeneity to be found in dairy farming in Friesland, a heterogeneity that can in no way be ordered and classified in unilinear terms. Farmers themselves understand and order it in terms of different farming styles. Heterogeneity for them is not a random phenomenon: it entails specific clusterings. Each 'cluster', i.e. each 'way of farming', is the outcome of the specific strategies of the actors involved. In other words, the complex 'totality' of the dairy farming sector does not represent, at least for the farmers, a chaotic reality, a total confusion, neither does it represent a not yet complete transition towards 'competitive farming'. On the contrary, it is a meaningful whole, composed of many different styles. The latter are described in an every day language that, from a strictly academic point of view, might seem confusing, ambiguous and imprecise. But to the farmers themselves, this everyday-language is quite unequivocal (Darré 1985; Kessel 1990). I refer to terms such as *cowmen*, *breeders*, *economical* or *greedy* farmers, *big* farmers and *intensive* farmers. For Frisian farmers each term is an umbrella, a metaphor, linked to very precise, detailed and multi-dimensional discourses. Taken together, these terms refer to the cultural repertoire with which Frisian dairy farmers define, reproduce, adapt and/or transform their farming practices.

A research programme which applied Bennett's (1981) 'social mapping' technique, linked cultural repertoire to the way in which Frisian farmers defined and managed specific relations with markets and technol-

ogy. The results are summarized in Diagram 4.¹⁷ Each particular style also represents a specific structuration of the current labour process and of farm development over time.¹⁸ This double classification (that regards the specific organization of farming as a productive activity as well as a specific interlinking of farming with markets and technology) is able to capture a substantial part of the existing heterogeneity.

Diagram 4 Styles of Farming in Friesland in Relation to Markets and Technology



Umbria: Another Illustration

The different styles are not always manifest as a coherent and multi-dimensional cultural repertoire with associated metaphors. Sometimes the underlying heterogeneity is ordered only through particular aspects. This, for instance, is the case in Umbria. As research carried out in 1988 demonstrated (van der Ploeg, Saccomandi and Roep 1990; van der Ploeg 1990b), Umbrian farmers operate a classification scheme that especially focuses attention on growth patterns. Three particular patterns have been commonly identified. These are *stare calmo* (remaining quiet), *andare passo a passo* (progressing step-by-step) and finally *il crescere in un solo colpo* (growth at a single stroke, i.e. growth that implies abrupt and far reaching reorganization of the process of production and sudden 'jumps' in total output). Among these 'folk concepts' it is the second (*andare passo a passo*) that is clearly linked to endogenous growth. This was underlined by a qualitative analysis of associated concepts such as *autosufficienza* ('self-

sufficiency'), *spazio*, *famiglia*, etc. The global interlinkages between each growth pattern and markets and technology, are summarized in Diagram 5.

These concepts were contracted into more operational categories and used to analyze a large and constant sample of Umbrian farms (513 farms over six years). A large part (73 percent) of the impressive variety contained in this constant sample (a variety that expressed itself both diachronically and synchronically) could thus be captured and explained using methodologies grounded in the specific folk-concepts of the Umbrian farmers. The 'territorial map', produced through discrimination analysis and presented in Diagram 6, may be interpreted, together with the description of the two canonical discriminant functions (see Table 1), as an illustration of the powerful kind of analysis that emerges when the 'ordering concepts' of the farmers themselves are used as a foundation for deciphering 'chaotic' diversity.

It is not possible to go into the methodological details. I prefer here to broaden the description of how, through this particular approach, specific elements are highlighted which might have remained obscured in the more traditional type of analysis. In the first place, the exogenous growth model or style, implied a tripling of total output over the years considered, to augment the income per working family member by a factor of one. To raise family income by the same amount in farming styles embodying a more endogenous type of development, production needed to be raised by only fifty percent. Equally significant is the fact that in the exogenous growth pattern, expansion of production mainly depended on an increased use of external inputs, whilst within the endogenous model growth crucially depended on an autonomous increase of technical efficiency.¹⁹ All this implies that the styles that embody endogenous growth patterns, cannot simply be seen as a kind of 'reduced' version of their 'big brother'. They represent a model of their own, which must be evaluated with specific and adequate criteria.

Table 1 Structure of the Discriminant Functions (pooled within group correlations)

	1 function	2 function
delta production 1981-86	0.91	-0.17
delta income 1981-86	0.41	0.28
delta acreage 1981-86	0.32	-0.05
delta inputs 1981-86	0.17	-0.59
delta labour input 1981-86	0.23	0.57
delta cattle 1981-86	0.37	0.38
delta ammortizations 1981-86	0.16	-0.22

Diagram 5 Global Interlinkages Between Each Growth Pattern and Markets and Technology in Umbria

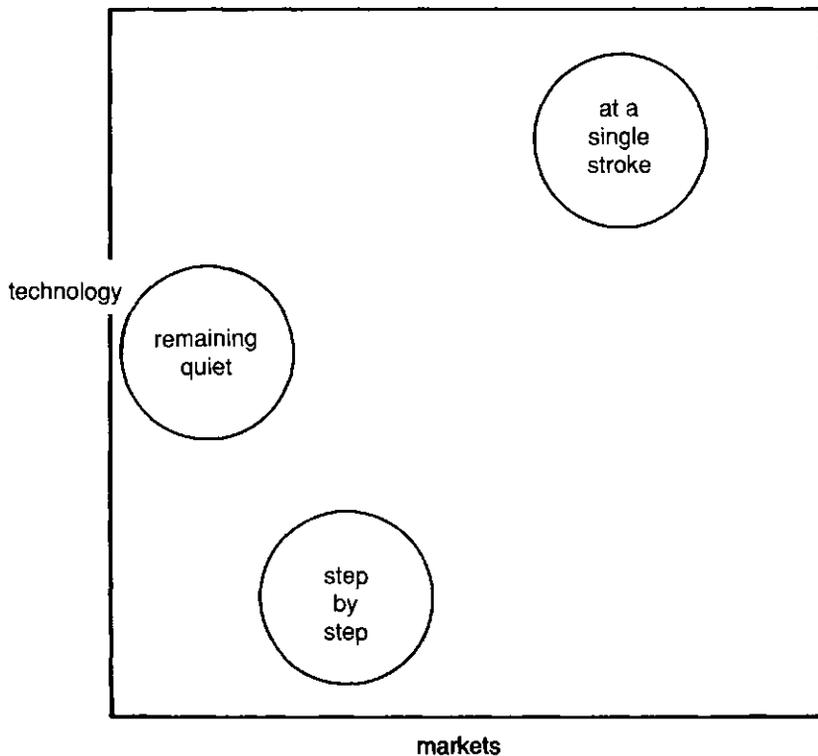
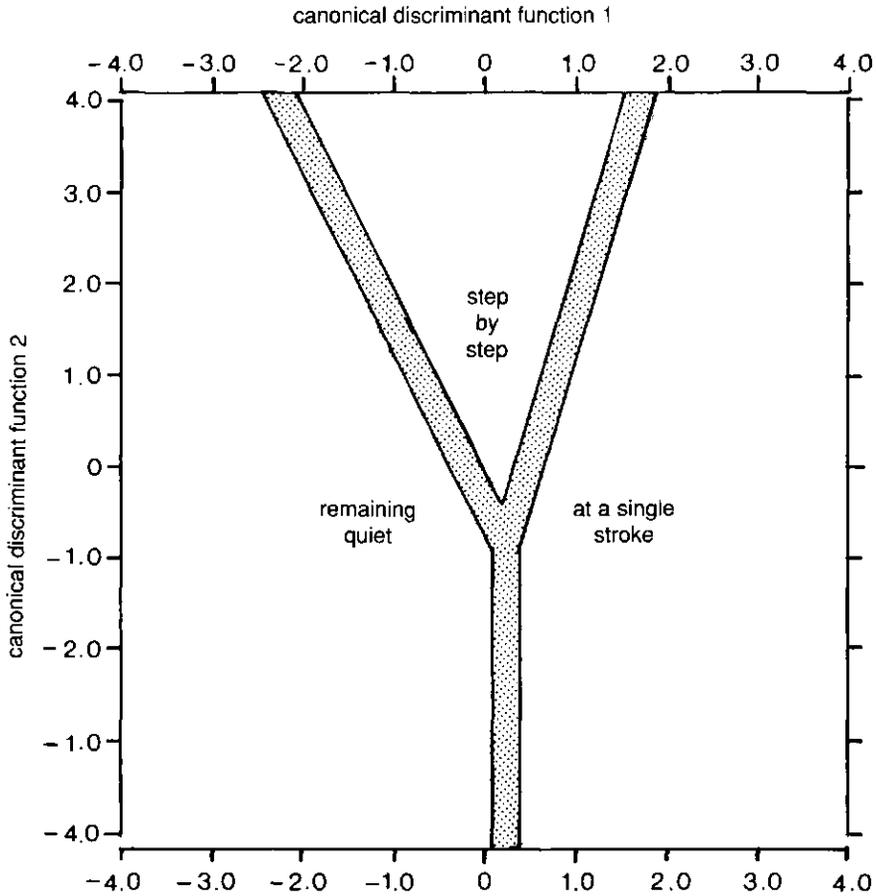


Diagram 6 Territorial Map: Umbria



Synthesis

In the discussion on the alternative or A-position in marginal areas, several methodological approaches were suggested as a preliminary identification of farming styles that possibly embody endogenous development patterns:

- the identification of high quality products that allow for a relatively high value-added per unit of end product;
- the identification of low external input agriculture that together with a high technical efficiency founded on the quantity and quality of labour, allows for additional room to achieve a reasonable income even under adverse conditions;
- the identification of specific organizational patterns that allow for alternatives to current modernization schemes;

- the identification of specific combinations of 'extra' agricultural activities, which give a particular dynamic to the agrarian process of production.

We may now add a fifth entry to this methodological repertoire:

- the local recognition and knowledge of styles of farming, their inter-linkages with markets and technology, their potential and their limits.

It goes without saying that the potential suitability of this methodological approach is largely dependent on the specific culture, the patterns of communication etc., as they are encountered in each particular region. In some regions one might meet a very detailed and thorough local knowledge and expression of styles, in others a more limited knowledge of the specific expression of basic trends, whilst in others such classifications might be completely missing (Scott 1985).

On the Production of Ignorance

It is safe to assume, for several reasons, that whatever the real magnitude and impact of endogenous growth patterns in specific rural areas, their real significance is largely underestimated by the institutionalized systems for data-registration and representation (Benvenuti 1991). This clearly introduces enormous problems into the study of endogenous development patterns and their impact. Let me present some illustrations to clarify this problem.

In a specific region of the Netherlands, the Gelderse Vallei, the small farm is an omnipresent phenomenon (de Bruin 1991). Between 1900 and 1990 the number of farms remained almost constant.²⁰ The medium acreage of the farms of the region also remained roughly the same. From the data available (collected each May), it is almost impossible to understand how a decent living can be made from these farms. Official registration shows that there is simply not the production capacity to realize even the lowest levels of income. However, as field research has demonstrated, nearly all of these so-called small farms are engaged in a large number of 'grey' activities that are not registered in the official May census, simply because they are not allowed by law. In addition, these 'small farms' are founded on mechanisms²¹ that, on the one hand, imply very low monetary costs, but on the other, cannot be represented through current farming accountancy schemes. To cut a long story short, using only 'official data', the image emerges of a stagnant, if not starving peasant economy, whilst in reality there is considerable dynamism, continuity and a wide range of strategic and valid responses through which the actors involved tackle their particular situations.

There is in Umbria, according to the sample elaborated by INEA, a persistent shift towards specialization at farm level. But field work consistently suggests indications of the opposite. The explanation for this appar-

ent contradiction is, in the end, quite simple. To the officials (*i tecnici agrari*) responsible for the annual book-keeping schedules, the presence of mixed farms presents a major headache. Instead of having to register the facts for just one productive section, they have to analyze up to eight or ten, plus their interrelations, for every mixed farm. Thus, they obviously prefer specialized farms, especially as their work is evaluated and paid according to the number of farms that are 'followed up'. So from year to year they substitute some of these more complex mixed farms for other more 'easy' cases. The difficulty, however, is that this produces an underestimation of the number of A-type farms (see Diagram 3), since farms embodying endogenous patterns of growth are of the more mixed type.

Another bias is introduced by the simple fact that only particular categories of farms (and thus possibly only particular styles) are represented in farm accountancy systems such as the European RICA system. The interest in and utility of farm accountancy records is not the same in all styles, especially since participation in national (and hence in international) accountancy systems is obligatory for those farms that undergo abrupt restructurations (and 'jumps') through EC sponsored funding. Hence, one might assume the presence of the V-type of farming, i.e. exogenous types of agrarian development, to be over-represented in the data systems currently available, while the A-type of farming, embodying endogenous growth patterns, is under-represented if not absent.

In addition, the current methods for representing data imply that the A-type, if present, will be largely 'distorted'. Its specific rationality is likely to be obscured rather than reflected in the farm accountancy methods adopted.²² All this implies that an inquiry into the nature, dynamics, scope and limitations of endogenous growths patterns cannot be based on a unilinear interpretation and elaboration of existing 'data-sets'. The latter are part of the problem. What we really need is a deconstruction of this kind of 'official data' – a deconstruction based on a thorough knowledge of the actual diversity existing in the agrarian sector.

Towards New Knowledge

The important, but far from easy challenge we confront revolves around two interlinked sets of questions. In the first place, around questions relating to the adequate identification of different styles of farming and an analysis of the types of development they embody, and subsequently around questions relating to an assessment of the comparative advantages of the different development patterns. Here we should ask questions such as what impact endogenous patterns of growth have on regional economies (in terms of income generation, productive employment, and links with other regional sectors, both in terms of environmental impact, contri-

bution to regional cultural identities, etc.) compared to the impact that exogenous growth or stagnation have on such economies. This comparative analysis should not be limited to looking only at actual impact, but should, for obvious reasons, also consider potential impact. In the research on styles of farming in the Netherlands, as well as in Italian research on the same topic, one encounters an interesting range of methods that might be helpful for exploring such potential impact (van der Ploeg and Ettema 1990; Soldaat, van der Meulen and Ventura 1990).

On the Assessment of Potential Impact

Endogenous forms of rural development are not to be considered as the 'artificial constructions' of a particular group of scientists, nor are they to be treated as a '*deus ex machina*'. There is no need to talk about angels when the real richness is to be found at grassroots-level. Endogenous development trends are, and can be identified as *empirical phenomena* through a careful empirical analysis of heterogeneity in marginalized rural areas. Heterogeneity is not to be seen as unstructured 'chaos' (or as the result of the 'survival' of archaic forms of production), but as produced and reproduced through the goal-oriented, strategic actions of the actors involved. And since these actors are not isolated individuals, but related through all kinds of social networks and patterns of communication, as well as through patterns for defining and articulating interests, their strategic responses will, to a degree, be socially mediated responses. That is how and why styles of farming emerge.

These styles, then, are in no way to be considered as static entities. As a consciously organized flow of activities through time, they not only have a past and a present but they also entail specific projects for the future. Such projects for the future can also be explored, and this may go some way to assessing their potential impact. But one can go yet a step further.

The notion of heterogeneity not only applies to farming styles in their entirety but also to the variance within each style of farming. This stems from the simple, but nonetheless quite often neglected fact that some actors are more successful than others in applying a particular strategy. Let us take for instance the movement of Andalusian day-labourers and small farmers oriented towards the creation of ecological co-operatives. The various groups that constitute this movement are different. The co-operatives themselves are equally varied, some more successful than others. The main trends within sociology usually neglect such differences and the co-operatives are then represented through the 'modal' experience or through an 'ideal-typical' model. The eventual differences would thus be seen as rather irrelevant or accidental (if not confusing).

What I would propose is a different view. The co-operatives face a huge number of serious problems. Some co-operatives may find effective answers to some of these problems while failing as far as other problems are concerned. For other co-operatives the situation is different. They may

solve the latter but remain 'defenseless' in face of the former. Thus, even in the relatively 'unsuccessful' cases, important lessons are there to be learned. More important, however, is the following consideration. Some co-operative groups solve more problems than others, or have proved to be particularly successful in developing certain areas such as, for example, reproducing soil fertility without the use of chemical inputs, or managing relations with the authorities, or strengthening their own position through the mobilization of political support from the surrounding communities, etc. In brief, they are more successful than others in organizing a particular praxis that embodies and reinforces a particular strategy.

It is in this particular form of variance that the assessment of the potential impact and the construction and elaboration of particular design methods aimed at consolidating endogenous forms of growth might be grounded (Glaser and Strauss 1967).

Back to Empirical Reality

I am fully aware that such a methodological approach differs markedly from the pattern now dominant in agrarian science. Those with some knowledge of the history of agrarian science will recognize my position as a 'step backwards' towards classical agronomy. Classical agronomy indeed differs sharply from the current technology-oriented agrarian sciences. Whilst the former was based on an extensive knowledge of empirical diversity, on implied 'logics' and specific sets of social relations of production, the latter stand for a far reaching 'adieu' to the empirical reality of farming, since they are mainly oriented to technological transformations. I believe it is no shame, but is even necessary, to revitalize classical agronomy in an epoch in which agrarian science is confronted by a crisis that reflects, but also reproduces, the crisis that exists in farming practice.

Notes

- 1 Part of total production is oriented towards consumption within the family, another part might be used for socially regulated exchange, a third, and often considerable part of total production will be used as non-factor inputs in forthcoming cycles (i.e. so-called internal deliveries) and finally, the reproduction of factors of production could also be considered as an integral part of the total 'output'. Hence, a considerable, though highly variable part of total output, might consist of specific use-values. For a further analysis see van der Ploeg (1990a).
- 2 An excellent discussion of different reproduction schemes is to be found in Saccomandi (1991: 489-503). Saccomandi uses the neo-institutional approach to interpret the phenomena indicated.
- 3 The growing centralization of markets, the underlying trans-nationalization of capital, the globalization of price and cost levels over widening areas, the increase of external turbulence, are all increasingly important factors. However, as history shows, uniformization, globalization and centralization at the macro-level more often than not go together with growing differentiation and 'distantiation' at the micro-level. See among others the historical work of Slicher van Bath (1960) and Bloch (1939).
- 4 Under former conditions diversity was strongly related, though not fully explained, by inter-regional differences that partly reflected different ecological settings.
- 5 Especially since technological development is now increasingly oriented towards the design of all-embracing 'technological systems', i.e. to technological chains in which one set of innovations presupposes the other.
- 6 Intensification of production is, within this model, mainly based on the mobilization of factors of production and inputs embodying additional productivity (i.e. intensification follows as a consequence of increased market-integration), whilst scale-enlargement emerges mainly as the result of the application of new (mechanical) technologies. This markedly differs from intensification and scale-enlargement as realized within the endogenous growth model.
- 7 The same phenomenon is to be encountered within the Netherlands, though it is more pronounced at the EC level.
- 8 I remind the reader that technological designs are nearly always oriented towards a reduction, if not to the almost complete elimination of both the quantity and quality of labour.
- 9 This does not, however, imply that the level of total inputs is necessarily low. Mostly, it is labour that replaces the use of external inputs (de Wit 1975). This particular 'substitution curve' has been described and analyzed in a considerable number of studies. This was the case for Latin America in the so-called CIDA studies. Abundant historical illustrations are to be found in the recent studies of both Bieleman (1987) and van Zanden (1985).
- 10 Taking into account the internal deliveries, that is, the reproduction of factors of production and non-factor inputs, the total input might indeed be quite high.

- 11 Empirical data can be analyzed through several indicators from this perspective, e.g. the relation between labour input and variable costs, the relation between variable costs and gross value of production, the capital-labour ratio, the relation between value-added and gross value of production, etc.
- 12 That is, their own labour force did not become superfluous.
- 13 The interrelation between self-sufficiency (which is, after all, an important feature of Umbrian agriculture, especially when socially-regulated exchange is taken into account) and the absence or at least highly reduced use of chemical inputs, is striking. This is also reflected in INEA data-sets (see van der Ploeg 1990c).
- 14 The need to fall back so frequently on examples is admittedly indicative of the still poor theoretical level of any discussion on the diversity of development trends in European agriculture.
- 15 This again offers specific operational clues for the identification of different styles of farming as well as for the identification of underlying growth patterns.
- 16 It is remarkable that in the blossoming attention given to local knowledge systems, considerable attention is given to the way in which farmers classify their soils, their potatoes, their cattle, etc., but very little is given to the equally important classification (one could even say 'folk taxonomy') which farmers make between themselves (Bennett 1981).
- 17 See Bennett (1981) and Long and Long (1992).
- 18 This is largely identical to the research results discussed in the chapter of Roep and de Bruin in this book.
- 19 This increase in technical efficiency (to be understood as autonomously produced progress) was associated with an actual decrease in the use of external inputs (See van der Ploeg 1990c).
- 20 This does not imply a stagnant situation. On the contrary, some farms disappeared, others emerged. Also the total output of farms significantly increased. The interweaving of farming with other economic activities also changed considerably.
- 21 For example, very low external financing, considerable flexibility combined with the highly mixed character of the farms, the consistent fall-back on socially regulated exchange for the realization of investments, improvements and expansion, a low degree of externalization, direct commercialization to consumers, and specific mechanisms for the intra-generational turn-over of farms (through extra-agricultural activities for instance) (Bruin 1991).
- 22 This bias is mainly due to (a) the introduction of specific time horizons that correspond quite well to some styles but introduce strong distortions in the understanding of others, and (b) to the fact that the essential differences between commoditized and non-commoditized circuits and resources are completely obscured in current farm accountancy practices, since every resource is evaluated according to current price-levels. A third type of problem relates to the required income-levels, which in the first place differ consider-

ably from one style to another and are, in addition, typically misrepresented by current accountancy categories.