

Chapter 2

The Origins of Comparative Agriculture and René Dumont's Legacy

2.1 Origins of Comparative Agriculture

François Sigaut, Director of Research at the Ecole des Hautes Etudes en Sciences Sociales, recalled recently that Dumont did not invent comparative agriculture, but reinvented it: “When he began his career, we had practically forgotten the name and the subject, except for the corresponding chair of agronomy . . .” (Sigaut 2004: 17).

Indeed, it would seem that we owe the appearance of experimental agronomy and that of comparative agriculture to Duhamel de Monceau (1700–1782). The establishment of experimentations (concerning the use of mechanical seeders and horse hoes), under different and partly uncontrollable circumstances, made careful observation and the *comparison* of practices necessary.

One century later, and while the perspectives of progress were widening, reasoning practices out was no longer on the agenda, but changing them as quickly as possible was: “Agronomists then stopped taking an interest in practices – these were left to folklorists – to become progress extentionists. The past, and even the present insofar as it is only considered as an extension of the past, were no longer important. Only the future mattered, a future that was no longer decided in the field but in laboratories and research stations” (idem).

François Sigaut continues: “René Dumont is probably the first person, in the 20th century, who fought against this mistake, the consequences of which have not yet been measured” (idem). Thus, Dumont's lesson and his reinvention of comparative agriculture were about returning to observations and comparatist analyses.

Yet, the “Chair of Comparative Agriculture” was founded as early as 1878 by Eugène Risler, who proposed a course on “The comparison of agricultural systems currently practiced in different countries, under various economic, geological and climatic conditions” (Boulaine and Legros 1998: 219). The incomparable merit of his major work entitled *Géologie Agricole* (Risler 1897), was that it insisted on the spatial diversity of agriculture, which many experts had neglected before him. Despite the title which reveals the author's point of view and expresses a certain

determinism as far as the physical environment is concerned, Risler examined also agricultural practices and the characteristics of livestock farming: “in order to better understand these countries, he becomes a sociologist and sometimes a historian; he is also an economist (...) and foresees economic globalisation; he discusses customs duties and protectionism...” (Boulaine and Legros, op. cit.: 222).

However, it was Dumont who gave this global and multidisciplinary approach its full dimension, by emphasising the importance of economic, social and political conditions to describe and understand the multiple forms and paths of agricultural development (Dufumier 2002a). As an “agronomist concerned with hunger around the world”, Dumont was particularly concerned with increasing the food production of the countries the most affected by malnutrition. Nonetheless, he had to face the facts: “Technical progress in agriculture cannot be reasoned out from outside. It is part of a complex network of social relations (right of access to land, distribution of production means, available savings for the acquisition of new means of production deemed ‘modern’, the place of the different categories of farmers in the social process of exchange and redistribution of the fruits of labour, etc.). As such, the centre of gravity of the agronomist’s preoccupations is shifting progressively, from technical expertise towards understanding the social relations of production, predicting the implementation of this expertise” (Kroll 1992: 10).

2.2 Comparing in Order to Improve

Dumont’s only published text dealing explicitly with comparative agriculture, seems to be that published in the 1952 edition of the *Larousse Agricole*, under the article entitled “Comparative agriculture”. As a Senior Lecturer at the Institut National Agronomique, he then outlined the “definition and basics” of comparative agriculture: “Comparative agriculture proposes to study the essential characteristics of agriculture in various geographic units (hamlets or suburbs, *communes*, *cantons*, areas, regions, nations or continents) in order to try to find means of improvement. [...] It seems that, as part of the agronomist’s work, his main duty is to recommend not modern techniques [...] but the choice of the most recommended animal and vegetal operations, as well as the *framework* in which the application of these techniques would be less difficult” (Dumont 1952).

Comparing in order to improve, orientate and develop agriculture: this is what, in Dumont’s mind, seemed to be the first objective of comparative agriculture and its *raison d’être*. Solicited from all quarters to give his opinion and involved in agricultural planning soon after the Second World War, Dumont outlined the major production areas of the future, selected for each region activities worth developing, i.e. those that seemingly would have been condemned in the future. Comparative agriculture was, on a worldwide scale, the approach that helped him move forward. At the time, it is true, French agriculture, despite important regional contrasts stemming in particular from the first regional specialisation movement enabled by the development of the railway at the end of the nineteenth century,

was still largely dominated by mixed crop-livestock farming systems, combining a large number of productions, and as such was little specialised. Dumont explained: “After describing existing cropping and livestock farming systems, the role of the agronomist is therefore to advise the farmer (on sole proprietorship economics), otherwise sometimes to take a decision (on programme economics): in any case, to indicate the desirable evolution of these systems. This is the most delicate task that can be requested of him. Elements of knowledge on the environment [...] and the current production systems must be tied up with the national objectives of the programme that indicates those speculations to be developed and those to be slowed down” (1952: 907). At the time, the idea was to boost a movement of regional specialisation deemed in keeping with the common good (which is the meaning Dumont always gave to planning), a movement that was to be conducted according to the comparative advantages of each region... “In a context deeply marked by 70 years of Melinist protectionism,¹ by the celebration of farming autarchy by conservative Republicans as well as Agrarian Catholics, this call to trade, exchange and specialisation is an unequalled break” (Hervieu 2002).

By combining the approach to comparative agriculture with the need for regional and worldwide specialisation, Dumont made of this discipline a science that became fully geared towards action and, in the context of the time, towards the establishment of the broad outlines of agricultural specialisation. As a result, he proposed the following: giving up cereals and developing livestock farming systems in the mountains with an increase in forage supplies; ploughing permanent meadows and intensifying forage production in the West and on the margins of the Massif Central; dispersing vineyards and increasing quality; replacing lands that were still fallow on the limestone plateaux of the North–East with temporary meadows and intensifying livestock farming; decongesting Armorican bocages, uprooting hedges and intensifying dairy production in the West; irrigating and producing hybrid maize and associated livestock in the South–West; irrigating the Lower Durance and developing fruit tree cultivation; developing colza as rotation head in the Paris Basin to compete with African groundnut, but giving up sugar beet, because competition with sugar cane was too harsh, among other things.

Recalling the development of heavy long-distance transportation at the end of the nineteenth century, and its consequences on the first specialisation movement, he declared curiously: “And so we have entered the *dynamic phase of comparative agriculture* before the 20th century”, almost likening the discipline to the result of its application (Dumont 1952: 904). Dumont even saw in the beginnings of future production quotas (of beetroot) and *appellation contrôlée* wines, monopolistic tendencies leading to a status quo, which would make any work on comparative agriculture useless (idem: 926)!

¹Méline (Jules), French Minister of Agriculture under the Third Republic, then Prime Minister, the main instigator of the protectionist policy of the time.

Comparing in order to improve: comparative agriculture was not yet a scientific discipline per se but, rather, an action science. He added in this regard: “In reality, the subject is too complex and insufficiently studied to be able to bring out universal laws; it remains an art that will rather indicate tendencies, and sometimes even fairly general rules. An art that will require a lot of commonsense for the simultaneous implementation of extraordinarily multiple scientific data, which any regional agricultural study must rely on” (idem: 903).

2.3 Decisive Renewal for Agronomy and Agricultural Economics

Beyond the objectives of comparative agriculture mentioned by Dumont at the time, which were slightly restricted because of the specific post-war context, the fact remains that the comparison of farming systems established in different parts of the world, brought a new dimension to agronomy in the general sense of the word. Widening considerably the comparatist perspectives initiated by Arthur Young² two centuries before that, Dumont began a comparison of the different farming systems worldwide.

For example, the *comparison* of gross labour productivities, measured in kilograms of cereals produced per work day dedicated to cultivation, a comparison systematically put forward in Dumont's works³ at the time already, proved to be increasingly unavoidable in trying to foresee and anticipate the respective evolutions of the agricultural sector, in different regions of the world. Dumont was the first to point out the incredible gaps in labour productivity, and to inquire about the huge consequences of these inequalities worldwide. With a hindsight of more than half a century on these works, today while the increasing unification of the market and prices, and its consequences, are mobilising international conferences and large-scale social organisations, we can appreciate the visionary nature of these works and, at the same time, the necessity of measuring and understanding these gaps in productivity, which have in fact increased tenfold since Dumont's first works. The idea that the world is *one* and that what happens in a given place cannot be truly understood without referring to what is happening on the other side of the planet, thereby already outdating any approach to agronomy or geography by geographic field, from then on constituted the main thread of comparative agriculture.

The fact that the observation and description of farmers' practices is making a big comeback, undoubtedly also constitutes a founding act of comparative agriculture. “In any case, comparative agriculture must study cropping and livestock farming

² Arthur Young (1741–1820) is an English agronomist and economist, the author of *Travels in the Kingdom of France*, published just after the French Revolution (1792).

³ Including in this first definition of comparative agriculture written for the *Larousse Agricole* of 1952. See also *Economie agricole dans le monde* (1954) and Marc Dufumier (2002b).

systems in their current state, but also from a dynamic perspective, by following past and especially recent changes, which indicate the direction of the evolution” (Dumont 1952: 907). Specific knowledge of the environment, the current state of agriculture and the direction of its historical evolution, needs to be accompanied by an inventory of available human and material resources, then by current and potential prospects. In the “essential characteristics” attributed to comparative agriculture, Dumont outlined “what a study of comparative agriculture [ought to] describe”: climatic and soil conditions, human conditions and land tenure, the dimension of production units and their source of energy, cropping and livestock farming systems as well as their dynamic, the degree of intensification and equipment (idem: 904).

The first 30 years in the professional life of Dumont (1933–1961) were marked particularly by long field studies, as well as several works relating in minute detail the main characteristics of agriculture in a few large regions of the world (Tonkin, United States, France and China⁴). On reading these works, one is struck by the way in which observations and conversations with farmers are reproduced. His works did not include any standardised survey or sampling guide, but loads of observations organised according to a path suggested by intuition, and carefully selected in the agricultural diversity of the region studied, sometimes also imposed by chance encounters: an abundance of concrete images, testimonies and meticulous survey reports, documenting with frightening accuracy crop sequences and crop management sequences, herd flock movements and forage calendars, the description of ploughing equipment and work organisation, productivity and farm incomes among others. In the Belgian colonies, it was Pierre de Schlippé who initiated this return to the field, direct observation and survey, using his own method of “agricultural anthropology” (de Schlippé 1956a, b).

Because he gave as much importance to the detailed and accurate description of Indochinese or African farmers’ actions as those of French farmers in this demanding comparison, Dumont also ended up shaking colonial agronomy rather abruptly, although beneficially. At the time, only ethnologists for the most part could afford to spend time observing and describing in detail the actions of distant populations. When Dumont was sent to Tonkin, it was to “improve” Indochinese rice-growing; but when he studied traditional rice-growing techniques at length, in the end he concluded that they were “generally valid” (Dumont 1954: 15). Making of a technical sequence of slash-and-burn agriculture an object of study as important and interesting as a three-field system in Eastern France, attributing a certain “validity” to it and measuring its labour productivity with the same tools and methods, is what sparked new and long-lasting interest among agronomists in what was then called the *Third World*. At the time of the Independences and in the new abundance of ideas to which they gave rise, many social sciences were shaken

⁴*La culture du riz dans le delta du Tonkin* (Société d’éditions géographiques, maritimes and coloniales, Paris, 1935), *Les leçons de l’Agriculture américaine* (Flammarion, éditeurs, 1949), *Voyages en France d’un agronome* (Editions M.-Th Génin, Paris, 1951), *Révolution dans les campagnes chinoises* (Editions du Seuil, Paris, 1957).

and, as a result, compelled to renew or “reposition” themselves. As a technical science, agronomy escaped this renewal of ideas for many years still, without the comparative agriculture of a Dumont or other agronomists who, incidentally, were few in numbers.⁵

Breaking away from teaching the “special cultures” of our colonies in favour of a class on comparative agriculture,⁶ asserting the validity of the farming practices of the “autochthons”, suggesting that certain North American farmers or Algerian settlers had been deteriorating the national land because of their erosive practices, as much as or more than their African colleagues who were practicing slash-and-burn agriculture, all this in 1952 represented a real challenge, all the more daring since it was taking shape inside a prestigious Paris-based high education institute . . .

2.4 Returning to the Field as an Antidote Against Theorising Drifts

At the time when the development of comparative agriculture was spurred on by Dumont, then by Mazoyer from 1974, the world was experiencing major political evolutions, on the occasion of the African Independences in particular. The debates at the time on development and underdevelopment, gave rise to the tremendous expansion of the social sciences around the notion and interpretation of “underdevelopment” (Guichaoua and Goussault 1993). The major schools of thought of the time (theories of modernisation, dependentist approaches, Marxist approaches, etc.) could not ignore the agricultural sector of the societies they were trying to understand. Their influence on comparative agriculture could have been notable, particularly the eminently modern idea according to which the economies of the South and the North are interdependent on the world market, or that according to which underdevelopment in the South could not be understood or analysed, unless it was integrated as an endogenous component of the development of the countries of the North.

In the Anglo-Saxon academic world, that era was marked by the multiplication of research works claiming to be *peasant studies*, marked at the beginning in particular by Shanin (1970), later to be outlined by Bernstein and Byres (2001). In the context of studies on the development of poor countries in the days following the Independences, the idea was to see how knowing more about these farming communities could lead to apprehending better pre-capitalist agrarian formations in different parts of the world, the paths of developing countries transiting towards capitalism, as well as the consequences of colonial development on the dynamics

⁵In Belgium, it was undoubtedly Pierre de Schlippé who assumed the break away from colonial agronomy.

⁶This is what Dumont proposed in 1953 in his note “title and works” . . . written for his presentation at the competitive exams to become a teacher . . .

and processes of the subsequent development/underdevelopment (Bernstein and Byres 2001). At a time when Marxist references occupied an important place in the social sciences, sound debates concerned (1) pre-capitalist formations and “feudal production mode”, (2) “transition to capitalism”, (3) “transition to socialism”, (4) colonialism and (5) the relationship between development and underdevelopment.

Fundamental inputs from the development economics of the time undoubtedly include, on the one hand, the idea of the *deterioration of the terms of trade*, therefore calling into question the importance of the countries of the South specialising in primary (particularly agricultural) products and, on the other hand, the notion of *dualism*, which postulated the existence of a structural surplus of labour in the economies of the third world (Assidon 2000). The first fuelled a long and animated debate on export crops versus food crops, which has become slightly outdated today; however, the basic idea behind it, i.e. the relative decline in the remuneration of producers, is more than ever topical. As to the idea of dualism, it inspired policies “to put the labour surplus to work” (set to be transformed into profit), in the domain of agriculture in particular, with an authoritarianism and dogmatism that were just as bad as the development policies of the colonial era.

One must say that, at the time, all the theoreticians of underdevelopment were almost in complete ignorance of peasant farming, and displayed little regard for the farming community. Bugged down in so-called “pre-capitalist” social relations, or open only to *kulakisation*, these farmers were set to “evolve” in accordance with the principles in force, i.e. “modernisation”, transition towards capitalism or collectivisation. What was the use of studying their practices when these were doomed to a rapid and desirable disappearance? From West to East, there was a common refusal to take into account the heterogeneity of the national situations and concrete processes of social and economic change (Guichaoua and Goussault, op. cit.).

That era was also marked by another theoretical debate animated around the issue of agricultural development in particular: the debate that saw Malthusians and Neo-Malthusians opposing followers of the theory of Ester Boserup. Countless works on the development of African agriculture in particular, recalled in their introduction the theories developed in their days by Thomas Robert Malthus and Ester Boserup, as if the definition of a research problematics could not do without these references, or established one of the two theories as an interpretative model of the transformations observed.

In England, at the end of the eighteenth century, despite the considerable ongoing changes in the English agricultural revolution, Malthus⁷ made of the food production level (his “subsistence level”) an independent variable, or one that could only be extended in proportion and according to the extension of cultivated surface areas, to the detriment of the unlimited forests or lands of America. Under these conditions, the geometric increase in population inevitably resulted in the two curves

⁷Here, we are referring to *An Essay on the Principle of Population* published in 1798, which subsequently inspired his more famous text from 1803.

of subsistence and population crossing each other, and in the triggering of a cycle of “Malthusian regulation”: a preventive brake for the wealthy classes haunted by the thought of moving down the social scale (pushing back marriage timelines, waiting longer before having a second child, etc.), starvation, destitution and infant mortality for commoners. But destitution had its virtues: by provoking salary cuts, it encouraged ploughmen to hire more hands to increase clearings in particular and, as such, to expand cultivated areas, which raised the subsistence level, encouraged in the process the recovery of the birth rate, and met once more all the requirements for a new “cycle of regulation”. Pessimistic and, at the same time, fatalistic, steadfast in his belief in the unchanging order of things and social order, Malthus did not envisage any form of technical – and even less – social progress.

Almost two centuries later and in a very different historical and demographic context, developing countries experienced their first demographic transition, which Neo-Malthusian approaches explained with the deterioration of living and production conditions resulting from the population explosion. Unless emigration was conceivable and the colonisation of new lands possible, population densification was necessarily leading to the over-exploitation of lands, the diminution of their fertility and the accelerated degradation of the environment.⁸

More than 150 years after Malthus and in reaction to Neo-Malthusian currents, Ester Boserup published in 1965 *The Conditions of Agricultural Growth, The Economics of Agrarian Change under Population Pressure*. In it, demographic growth was becoming the independent variable. By provoking an underlying drop in hourly labour productivity, and by compelling people to change their production techniques, demographic growth was then becoming the true driving force of agricultural progress. Published right in the middle of a population explosion, and by relying on a gradual series that was supposedly characteristic of developing countries (the progressive reduction cycle of the duration of the “fallow”, by changing successively from long-term forest fallows to intensive cropping systems with several cycles per year, via all intermediary stages), this text brought a breath of optimism, and somewhat rehabilitated farming societies by endowing them with an endogenous capacity to evolve and modernise. Increase in cropping rates, technical change and intensification... but under what conditions? Two were sufficient for the author: hourly productivity had to be dropping, which is what “motivates” farmers in changing techniques, and additional work had to be generated collectively and dedicated to agriculture, particularly in the form of “labour investment”⁹ for land developments, as required when changing from one technique to another (marsh drainage, erection of terraces, hydraulic infrastructures, etc.).

Finally, whether inspired by Malthus or seduced by the hypotheses of Boserup, everybody agreed on what seemed essential, i.e. that it was indeed the popula-

⁸Concerning this debate opposing, during the 1950s, Malthusians and “optimists”, see Sauvy (1958).

⁹“Investment” or “rural investment” in E. Boserup’s work, although the author refers to an investment as labour more than capital.

tion/resource relationship that was the driving force behind agrarian dynamics. Combined in the greatest simplicity, these theoretical references in a way exempted anyone from having to look further, and to think about the true nature of crises and how to confront them.

Beyond the theoretical debates of the time, which very often flouted the specific characteristics of each situation, the heterogeneity of the national situations and concrete processes of social and economic change represented the actual object of Dumont's investigations. Although during his "productivist" and "developmentalist" period, he might have justified and appropriated certain aspects of these policies "to put the peasantry to work", his constant field work made him stay in the background in relation to these major schools of thought. And it was thanks to this distance, maintained de facto through comparative agriculture, with these major schools of thought and global interpretations of underdevelopment in the 1960s and 1970s, that Dumont was actually able, and the first, to anticipate the failures of development and to denounce them, not without causing a certain sensation, in *L'Afrique noire est mal partie* (1962).

Later on, and while the major development models (and schools of thought) began to fall apart together with the disillusion of development, the fall of the Eastern Block and the general increase in development inequalities, operational pragmatism had become essential in the same social science disciplines (Guichaoua and Goussault, op. cit.), very much like an approach that had already been established by comparative agriculture. Because its object of study lent itself to concrete and localised field studies more than global constructions, comparative agriculture went through this update without any crisis, unlike other disciplines or schools of thought developed soon after the Independences.

Since then, a new global steamroller has been threatening the social sciences: liberal globalisation with an economic theory supposed to be unique and capable, on its own, of explaining the present, as well as anticipating and prescribing the desirable transformations of societies, including the agricultural sector. Once more, it is the return to the field, to the *local*, to the meticulous search for *concrete* dynamics of development or marginalisation in different regions of the world and the *comparison* of current processes, which is more in a position to go beyond simplifying or distorting explanations elaborated away from the field.

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