

BURTON, Ian. *Types of Agricultural Occupance of Flood Plains in the United States*. University of Chicago, Department of Geography, Research Paper No. 75, 1962. Maps in two colors and illustrations.

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bois en France depuis l'Antiquité jusqu'à l'époque moderne, faisant ainsi une synthèse neuve qui, comme telle, n'existe pas pour l'ensemble du moyen âge.<sup>1</sup> Il s'est de plus attaché à préciser, à l'aide de documents et de cartes anciennes, les limites des bois du xvi<sup>e</sup> siècle par rapport à l'étendue de ceux du xx<sup>e</sup> siècle. Devant une pareille tâche, on ne lui en voudra pas de n'avoir mené une enquête systématique que pour le Nord de la France et d'avoir procédé à des sondages très judicieux, semble-t-il, pour le Sud de la Loire. Sa conclusion, à savoir que les bois sont actuellement à peine moins étendus de nos jours qu'au xvi<sup>e</sup> siècle, doit être retenue. Il en allait sans doute déjà de même au xiii<sup>e</sup> siècle.

En effet, la fin du xv<sup>e</sup> et le début du xvi<sup>e</sup> siècle marque un retour à l'état de crise du xiii<sup>e</sup> siècle. Pour nous qui avons étudié cette dernière, il est extrêmement intéressant de lire le livre de M. Devèze. Nous ne sommes pas convaincu que la crise du xvi<sup>e</sup> siècle ait été plus sérieuse que celle du xiii<sup>e</sup> siècle. Déjà, au xiii<sup>e</sup> siècle, les bois avaient été partagés fréquemment entre les différents usagers et possesseurs de façon à donner à chacun, grâce à des droits plus précis et plus nets, la faculté d'exploiter ses bois au mieux de ses intérêts économiques. La vente et les coupes de bois purent être organisées de façon systématique, les jeunes pousses protégées de la dent des bêtes par des restrictions ou même des interdictions aux droits d'usage. Déjà, à l'esprit d'entraide et de vie commune se substituait une mentalité plus individualiste et plus mercantile. C'est ce que M. Devèze nous signale de nouveau au xvi<sup>e</sup> siècle. Mais alors l'action royale est plus directe, plus raisonneuse. Même des chartes authentiques, confirmant des droits d'usage, se verront dénier tout effet, sous prétexte que les bois ne pouvaient pas les supporter sans grave inconvénient. On n'était pas allé aussi loin au moyen âge.

Ailleurs, il est aussi souvent difficile de dire ce qui est médiéval et ce qui est nouveau au xvi<sup>e</sup> siècle. De toutes manières, la documentation abondante du xvi<sup>e</sup> siècle permet d'établir un contact plus direct avec les paysans usagers des bois, leurs problèmes d'élevage (souvent les bêtes sont exclues des bois et pour les nourrir on dut, dès le xiii<sup>e</sup> siècle, recourir à plusieurs innovations dans les méthodes de culture) et de chauffage (réduit au bois mort et aux arbustes sans valeur, sauf à Noël où on avait droit à la « bûche »), contact aussi avec les artisans des bois qui, souvent, vivaient dans ses limites d'une façon à demi-sauvage, contact enfin avec les grands, les barons et les rois très amateurs de chasse au xvi<sup>e</sup> siècle.

L'ouvrage de M. Devèze étudie donc la crise du bois au xvi<sup>e</sup> siècle, et plusieurs monographies régionales permettent de nous faire une bonne idée de la situation du xiii<sup>e</sup> siècle. Entre les deux crises, les études sont moins nombreuses. Les années prochaines nous donneront sans doute les chercheurs, qui nous diront jusqu'à quel point la peste noire, les famines et la guerre de Cent Ans ont pu permettre aux bois de prendre aux xiv<sup>e</sup> et xv<sup>e</sup> siècles une petite revanche sur les hommes.

Roland SANFAÇON

## AGRICULTURE ET PLAINES D'INONDATION AUX ÉTATS-UNIS

BURTON, Ian. **Types of Agricultural Occupance of Flood Plains in the United States.**

University of Chicago, Department of Geography, Research Paper No. 75, 1962. Maps in two colors and illustrations.

This book, another in the most valuable series of research papers published by the Department of Geography at the University of Chicago, is apparently the outcome of the work of a research team headed by the author, Mr. Burton. It is at the same time Mr. Burton's Ph. D. thesis (*Professional Geographer* XIV (6), November 1962, p. 34), although no mention of this fact can be found in the volume itself. The study was supported financially by the Economic Research Service of the U. S. Department of Agriculture, by the University of Chicago, and by Resources for the Future, Inc. It is indeed gratifying to see such an ambitious research

<sup>1</sup> Cependant, depuis, sont parus les deux volumes de M. Georges Duby sur *L'économie rurale et la vie des campagnes dans l'Occident médiéval*, Paris, Aubier, 1962 (Collection historique, sous la direction de Paul Lemerle), qui traitent largement cette question.

project having been undertaken. Alluvial floodplains are one of the richest, and at the same time one of the most problematic, types of agricultural land in the United States.

The volume is divided into five chapters. The first two (« Towards a Typology of Agricultural Occupance of Flood Plains » and « Theoretical Considerations ») are concerned mainly with theoretical considerations and culminate in twenty-seven « theoretically derived occupance types » (p. 22). The two chapters which follow comprise the empirical part of the study. Chapter III, « Observed Occupance Types, » presents the five occupance types which were found in reality, and Chapter IV treats sixteen « Case Studies of Agricultural Occupance of Flood Plains. » It would have aided the reader if this chapter had been subdivided in such a way as to show at a glance to which type each belongs. The final chapter, « On Understanding the Agricultural Occupance of Flood Plains, » examines present knowledge and possible practical implications in the light of the study.

In the opinion of the present writer, two serious criticisms must be leveled towards this study : (1) it begins with theory instead of reality and (2) it lacks a regional context. However, the interested reader should not be so dismayed by these shortcomings that he overlooks the outstanding value of the book, to which I shall return later.

The study commences with theoretically possible types of occupance and then attempts to make reality fit into these types. The opposite approach, obviously, would be to start with an interpretation of reality and then to search for categories which would fit it. It would be unfair to say that reality was not considered in the theoretical analysis. But those aspects of reality which were considered were individual « factors » (pp. 4-7) rather than the combinations of elements which occur together on real floodplains. One might argue that to insist on the empirical, inductive approach is a matter of opinion. But is not the fact that only five of the twenty-seven theoretical types were found adequate evidence that the author's theory-to-reality approach has poorly succeeded?

Both the theoretical analysis and the empirical part of the study lack a regional framework. The theoretical sections are without even such a simple but very necessary distinction as that between the Humid East and the Dry West ! That is, a large number of the theoretical assumptions are pertinent only to the Humid East but are presented as if generally applicable throughout the country. This is especially true of the arguments on page 11 maintaining that intensity of land use varies with the width of the floodplain. Consider, for example : « The smaller proportion of flood plain land on a farm . . . the less likely the flood plain is to be used because other land is available off the flood plain . . . » This statement ignores the common situation in range areas where only a tiny part of the ranch is on the floodplain but is intensively used for irrigated hay. Also, the strong emphasis given to the slope of the adjoining land does not take into account the dry areas where this land is not cultivated whether sloping or flat. It is clear that the author was quite aware of these things. In his defense I will hasten to point out that he qualified most such overgeneralizations, but the qualifications are for the most part either belated or come much later in the empirical part of the study. In sum, the unwary reader, especially one unfamiliar with the West, would be seriously misled by the theoretical chapters. In general, the study is more pertinent and more valid for the East than for the West.

The theoretical occupance types were based upon width of floodplain, slope of adjacent land, flood frequency, seasonality of floods, etc. Almost completely ignored at this stage was the regional context of agriculture in terms of either the climatic basis of agriculture or types of farming such as those mapped by Baker, Whittlesey, and, most recently, the U. S. Department of Agriculture. However, when the author came to the consideration of reality, he began talking in terms of regional climate and types of agriculture. In other words, to treat real rather than theoretical floodplains, it became necessary to consider, for example (pp. 31-33), that the area was semi-arid (regional climate) and that the adjacent land was not cultivated even though flat (type of farming). In fact, the author even went so far as to name four of the five observed types partly in climatic terms (p. 31) :

1. Semi-arid
2. Humid plains
3. Arid

4. Humid dissected
5. Wide flood plain

Is this not an admission that these aspects are important? If they are important, why were they not included among the factors upon which the theoretical occupancy types were based! In short, there is a great cleavage between what was assumed to be important in the theoretical considerations and what was revealed to be important in the examination of reality. We are further discouraged to find no mention of the pertinence of regional climate and types of farming in the author's concluding remarks about possible « further refinement and subdivision » of his typology: « Such a classification would use flood-plain width, farm size, and physiographic conditions as major criteria » (p. 155).

It is gratifying that a partly climatic framework was used in the treatment of observed occupancy types but disappointing that more attention was not given to the regional extent of these categories, especially since it was « inferred that these types have wider distribution beyond the study areas considered » (p. 31). With the best available maps of climate, physiography, and land use, it would have been a relatively simple task to construct a map showing the areas where one might *expect* to find the humid dissected type, the arid type, and so on. Even though such a map would admittedly be very tentative at this stage of the research, it is not likely that it would be more speculative than many of the theoretical assumptions involved in the typology!

The occupancy of the floodplain with reference to the type of agriculture on the adjacent land was partly handled in the empirical analysis by the criterion « cultivation of adjoining land » *versus* « no use of adjoining land » (p. 31). Good use could have been made of a much more sophisticated regional framework of types of agriculture such as that provided by the « Generalized Types of Farming » of the U. S. Department of Agriculture.

To turn to less serious weaknesses of the study, four situations were cited (p. 24) in which floodplains are unused and, consequently, the theoretical considerations of the thesis not applicable. These are the cases in which the floodplain: (1) is too narrow, (2) is in a desert or near-desert area and lacks water for irrigation, (3) has inadequate drainage, or (4) has soil whose characteristics discourage or prevent cultivation. The author thereby placidly eliminates two of the more common types of floodplains in the U. S. (poor drainage, lack of irrigation water) and gives them no further consideration!

We are never told the difference between a steep and a gentle slope, a narrow and a wide floodplain, and so on. On page 6 we are led to believe that « slope of the adjoining land » is measured in degrees. However, we find on page 10 that steepness of slope is really being judged according to whether the land is cultivable or non-cultivable. Furthermore, although the author refers repeatedly to « cultivable » or « tillable » land, we suspect that he really means « cultivated » or « tilled. » The author very generously points out many of these problems on pages 154-155 under the side-heading « Some Strengths and Weaknesses of the Typology. » Should not the reader have been warned of these very vague distinctions before the final pages of the volume?

The conclusions presented in the closing chapter, which are based on an extensive literature as well as the findings of this research project, are most informative. Particularly valuable is Mr. Burton's emphasis (especially on page 144 but frequently throughout the book) upon the importance of taking into consideration the whole farm unit over which the individual farmer has control. He refers repeatedly to « management units, » the farmer's « view of the resource, » and so on. The author's analysis of the outcome or probable outcome of various federal programs relating to floodplains is most credible. It can only be hoped that his findings will in the future be taken into consideration in the formulation of flood-control programs. Perhaps the most important conclusion reached is that the flood hazard is not always of primary significance among the variety of conditions which influence the agricultural occupancy of floodplains (p. 144).

The great value of the book, in the opinion of the present writer, is the empirical part of the study, that is, the chapters on observed occupancy types and case studies. Happily these two sections make up the larger part of the book, about 119 of the 167 pages.

The chapter treating observed types is brief but informative. It is probably more comprehensive than it at first appears. One will probably find that the semi-arid occupancy type

will have to be divided into at least three types according to whether the adjacent dry land is (1) used for dry farming, (2) used only for grazing, or (3) not integrated with the irrigated agriculture on the floodplain. Also there are probably important contrasts within the wide floodplain occupance type. For example, can the occupance types on the Stillaguamish River in Washington, in the Brownsville area of Texas, and in the Yazoo Basin really be considered members of the same category? A sub-humid plains type may even be identified. Nevertheless, here is a base — a starting point — for a further understanding of the agricultural use of floodplains. The thoughtful reader cannot leave the chapter without feeling that he has been instructed.

Each of the case studies is a geographical analysis of exceptional quality. Each presents not only an analysis of one or more real farms but usually also information on land use in the surrounding area, historical changes, flood occurrences, and any flood-control schemes which have affected the area. The two-color maps are well-drawn, clear, pertinent, and generally excellent. Here is a collection of case studies relating to one of America's most valuable types of agricultural land. It will be very useful to the geographer, whether interested specifically in floodplains or not, who undertakes the study of agriculture by a consideration of the *unit* of agriculture, which is the individual farm. I heartily congratulate the author on this valuable contribution to our literature of agricultural geography.

John M. CROWLEY

### LES RESSOURCES ET LE DÉVELOPPEMENT DU CANADA

**Resources for Tomorrow.** Queen's Printer, Ottawa, 1961, 1,061 pp., 2 vols. (Also edited in French.) \*

These masterly volumes constitute one of the most important recent publications in Canada. One thousand double columned pages contain maps, photographs, tables, graphs and invaluable textual material.

The eighty papers in these two volumes were published as background material for the Montreal Resources for Tomorrow conference in October 1961. There is far more here than just a study of resources. Each article is written by an authority in his field. These authoritative syntheses are invaluable contributions in dozens of fields of study which interest geographers, economists, lawyers, social scientists, conservationists and the general reader. The eleven government departments which organized the conference and this publication have done a wonderful job.

\* \* \*

Perhaps this review can serve as a guide. The subjects covered include agriculture, water and regional development in Volume I; forestry, wildlife, recreation and fisheries in Volume II. The Steering Committee and the writers have wisely approached these subjects from the widest possible viewpoint. The studies not only range far around the resources theme but examine activities in other countries, showing the kind of competition which Canadian resource industries must now try to meet.

For each topic listed above, except regional development, there is a basic series of studies and several special studies. The standard studies for each subject include past and current resource use, probable future demand, amount of the resource available, rates of renewal, foreign competition, legislation affecting the resource, administration, research, responsibility for research and extension work. Basic information has been assembled here which was previously almost inaccessible. These basic articles comprise about half of the papers presented.

The background articles show several trends which are common to all these resources. In the first place, all the resource industries suffer from jurisdictional complications. In many cases it is hard to know whether the federal or provincial, local or metropolitan government is

\* Voir sur la conférence elle-même: Fernand GRENIER, *Le Canada s'interroge sur ses ressources et sur son avenir*, dans *Cahiers de géographie de Québec*, n° 11, octobre 1961 — mars 1962, pp. 113-117.