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the map as a whole does give a good indication of the characteristics of the landforms as far as the scale permits.

The more detailed map of the area around Isachsen is on a scale of 1:30,000. This allows considerably more detail to be shown by a different set of symbols. Colour is used more successfully on this map to differentiate features formed by various different processes. Orange is used for structural features, which are of limited importance in the area covered. The general impression gained from the map at a glance is a preponderance of brown colouring. This shade is used for periglacial forms which are very extensively developed. Twenty features, including slope forms, are differentiated. Red is used for fluvial features apart from the blue colour to denote the actual water courses. Nivation features are shown in green. Deposits, in mauve, are either fluvatile, marine or lacustrine, the differentiation is not clearly defined, as the types frequently merge, for example in deltaic deposits. Countours at 50 feet intervals are shown in brown. The map as a whole provides a clear picture of the geomorphology of the area and the distribution and relative importance of the different features.

The report and its accompanying maps and diagrams provide a very valuable summary of the landforms and processes operating in an arctic island. The geomorphological maps are a good example of this method of terrain analysis and mapping, which could be applied with suitable modifications of the symbols to other types of environment.

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GÉOGRAPHIE DES SOLS

BUNTING, Brian T. **The Geography of Soil.** London, Hutchison (Publisher) Ltd., 1965, 213 pages, illustrations, index, bibliography.

Substantial literature in soils geography is extremely scarce. A limited number of articles can be found but in the past books have been virtually non-existent. Soil, in the geographical sense, is often incorporated in studies focusing on soil science, land use, agricultural geography, climatology, biogeography and geomorphology, but in all cases a definitive book on soils geography is lacking. It was a joy to find a text with the title *A Geography of Soil*; hopefully a gap in geographical literature was about to be partially closed. Unfortunately this book is limited in its contribution to an understanding of soil geography.

The book, which has several faults from a geographical viewpoint, may be favorably viewed by scholars in other disciplines. Its title implies that it is geography but in actuality it is primarily soil science and not geography; this is its major deficiency.

The first chapters are entitled :

Introduction

Factors of soil formation

The inorganic factor in soil formation

The organic factor in soil formation

Climate and soil formation

Geomorphic factors in soil development

The time factor in soil formation

The process of soil formation

It is necessary to have some soil science background to fully appreciate and understand the role of soil in the total milieu, thus the subject matter of the early chapters is quite acceptable to the geographer. Mr. Bunting obviously knows his soil science and presents a variety of specific data which illustrates examples such as the changing chemical composition of the soil with climate, carbon/nitrogen ratios, variation of biomass with age and area and evapotranspiration. The text in this section is well written, but it is conceived for the individual who has some background in soil science, chemistry, botany or geology. The advanced student will find many interesting soil science topics discussed in these chapters but they are often covered rather briefly.

The level of difficulty of many parts of the book precludes its use for most introductory students of soils geography. Thus, the early chapters have value by adding to a geographer's soil science background, but these chapters are not strictly geographical in themselves.

Chapter 9 concerns soil description, classification and nomenclature. Soil classification is more amenable for geographical uses since it often provides a geographer with a basic areal soil distribution which is an initial step in a significant soils geography analysis. Mr. Bunting introduces subdivisions of soil classification systems and nomenclature from Europe, United States and the U.S.S.R. but again assumes a broad soil background on the part of the reader. Few comments were made concerning the use of soil classification in geographical analyses, much less than to discuss the effect of the influence of different levels of classifications on the scale of geographical study.

The last half of the book has the following chapters :

Azonal soils or entisols

Intrazonal soils

Desert and tundra soils

Light coloured soils of the boreal zone (podzols)

Brown podzolic and brown earth groups

Soils of subhumid plainlands

Soils of Mediterranean and humid subtropical areas

Soils of intertropical areas

These chapters are also basically soil science but with somewhat more readily geographically usable material. Most of the material discusses the genetic formation of various soil groups, soil profiles, and soil characteristics. As anticipated, the soil nomenclature used is primarily European but mixed with United States and Soviet soil terms, especially with regard to soil found in the drier and colder areas of the world. As in earlier chapters, Mr. Bunting incorporates a large amount of technical material into short chapters, but even so he cannot possibly cover all soil orders — soil groups (upper levels of soil classification) — as completely as many other soil science books. Soil classifications which are used on the topographic scale (lower levels of soil classification) are not discussed extensively, probably because of the limited size of the book, but it is at this level which is of the greatest value to the field geographer.

Mr. Bunting often correlates various soil groups with climate, vegetation and topography but culturo-economic correlations of the soil with the environment are absent. Thus the emphasis in the latter chapters is also soil science, but there is some geographical material of value. The most valuable features are four diagrams showing the variations of soil with elevation on mountains in various parts of the world and nine diagrams showing variations of soil in different topographic site associations in nine different climatic environments. These diagrams are worthy of serious study by the geographer.

In summary, the book has several geographical shortcomings as geography : (a) It is primarily soil science. (b) No philosophy concerning the relationship of soil science to soils geography is given, or, in other words, few thoughts on the use of soil science data in geographical studies are presented. (c) No concrete examples of areal interrelationships of soil with environment, other than the physical environment are given. (d) There is not a single map in the entire text. Maps are a major tool in all geographic studies and are of great value to a soils geographer, especially when showing basic soil distribution and soil interrelationships with other phenomena. The text describes soil distribution in the following manner : « The Urals from 56° to 53°N have thin mountain forest podzols » or « Reddish brown desert soil occur in Coahuila and in western Texas. » This type of description wastes words and lacks precision. (e) It is impractical to use the text to teach introductory soils geography, although certain sections contain background material for advanced students. (f) The book contains no photographs. Photographs of soil profiles and topographic sites and situations of soils would be very valuable in a soils geography study.

In conclusion, the book is written by a good scholar with knowledge of the subject matter which in this case is not geographically oriented. Selected passages, and especially the diagrams

referred to earlier, are of value to the geographer. There are over 600 footnotes primarily from recent periodical sources from Europe, U.S.S.R., and the United States which, with the selected bibliography of books, provides a good basic source of soil science references. However, overall this book does little to fill the gap in soils geography literature.

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BOTANIQUE

MARIE-VICTORIN, Frère. **Flore Laurentienne**. 2^e édition, revue et mise à jour par Ernest ROULEAU, illustrée par le Frère ALEXANDRE. Presses de l'Université de Montréal, 1964, 926 pages, illustrations, cartes, glossaire, index des abréviations des noms d'auteurs, index des espèces, genres, etc.

Le fait capital de la publication de la deuxième édition de cette flore du Québec n'est pas tant les changements apportés à la première édition que la réapparition de cette œuvre. La première édition, parue en 1935 et réimprimée en 1947, est devenue depuis quelques années presque impossible à obtenir. Tout chercheur dans les sciences des plantes se réjouira de la réédition de cette œuvre, malgré le fait qu'il sera sans doute un peu choqué par son prix élevé qui est de \$16.20.

Deuxième fait, la nouvelle édition est beaucoup moins volumineuse que la première. Le livre est maintenant d'un format suffisamment petit pour qu'on puisse l'apporter sur le terrain, ce qui éliminera souvent la pénible tâche de ramasser les spécimens pour l'identification en laboratoire. Malheureusement le papier, qui est très mince et délicat, supportera mal l'usage sur le terrain.

Comme l'ancienne édition, celle-ci traite principalement du sud de la province (carte, p. 2), essentiellement la région de la forêt mixte des Grands-Lacs – Saint-Laurent.

Mise à part la réduction du format, les changements sont considérables, mais nous osons dire qu'ils sont moins importants que la préface ne nous le laisse entendre. La deuxième édition, selon la préface, «... apporte au texte original tous les changements requis par les règles internationales de la nomenclature botanique. Elle inclut aussi la mention de toutes les espèces ajoutées à la flore du Québec depuis 1935, soit plus de six cents espèces. D'autre part, plusieurs changements ont été apportés au texte original et quelques notes y ont été ajoutées.»

Il y aurait eu lieu en particulier de faire des changements majeurs dans l'esquisse phytogéographique du Québec à la suite des recherches récentes, ce qui n'a pas été fait. Le seul changement concernant la carte dite «phytogéographique» qui était en couleurs dans l'édition originale est sa réimpression en noir et blanc. Il faut dire que cette carte est plus physiographique que phytogéographique. Les autres cartes n'ont pas été modifiées. Celles du climat en particulier sont vieilles. Le dessin de quelques illustrations a été retouché et tous les croquis ont vu le lettrage fait main de l'ancienne édition changé en lettres imprimées. Il n'y a pas d'additions à la liste des «Principales publications intéressant la flore du Québec» (pp. 17-18), ce qui est assez décourageant puisque 30 ans se sont écoulés depuis la dernière publication.

Bref, les transformations apportées à l'ancienne édition, mise à part l'insertion d'espèces découvertes dans la province depuis 1935, ne sont pas importantes. Celui qui se sert du nouveau volume aura nettement l'impression d'être en présence de l'ancien. Les caractères d'imprimerie sont de même style mais plus petits. Chaque page a la même apparence. Il faut les scruter soigneusement, pour y découvrir quelque nouveauté. L'index lui-même n'a reçu aucune modification. Nous nous demandons comment l'on a réussi à augmenter le volume de 60 espèces sans perturber la pagination.

Ceux qui ont éprouvé beaucoup de difficultés à apprendre par cœur le nom latin des espèces seront désolés de constater quelques changements propres à les frustrer davantage. Par exemple, *Betula Lutea* est devenu *B. alleghaniensis* (p. 150) et l'on préfère que nous l'appellions dorénavant «bouleau des *Alléghanys*» et non merisier ou bouleau jaune; *Pinus Banksiana* est changé à *P. divaricata* (p. 142) et l'on suggère que nous l'appellions «*pin divarique*» plutôt que