Much more is to be done, especially in sweeping away the distinction of real and personal estate, in forbidding the settlement of land, and by establishing a cheap and compulsory registration of land-titles. There must also be a revision of local taxation. Such changes must be gradual. The remedies for present evils are not to be sought so expectantly in philanthropy as in the modification of laws and privileges. Other countries, as well as England, suffer from bad government, and even the United States is not free from disastrous laws. When government goes beyond its proper function, it makes itself responsible for failures, and engenders the belief, that, if man is unhappy, government has made him so.

The condition of London is then briefly considered, — 'the greatest manufacturing town in the world,' which levies an *octroi* duty on coal to an amount "which seems insignificant, but is sufficient to *kill* such manufactures as depend on its prodigal consumption." Bad as the condition of London labor is, the author is persuaded that it is not so bad as was that of all urban labor sixty years ago, and that the metropolis is not so ignorant or unclean as it was twenty years ago. The unrestricted reception of foreigners is condemned. While approving of charities in extraordinary cases, the author opposes compulsory and governmental charity on a general plan. "To adopt such an expedient would be to despair of the recuperative power of modern industry," and the relief of poverty would soon absorb all the products of labor. Henry George's plan for the nationalization of land is condemned; so is entail. Migration is commended. Small land-holdings are most desirable. The advantages of trade-unions are pointed out with frankness and emphasis. Finally, the author, seeking for measures which will tend toward the just distribution of material comforts, takes courage for the future in the recollection, confirmed by careful historical studies, that England has taught mankind the machinery of government, and that its free institutions, now spreading through the civilized world, depend upon enlightened public opinion. "The reforms which have been effected are the work of the people, and they are to be traced in the stubborn perseverance with which Englishmen have criticised their own condition, and have discovered that from themselves only can the remedy be found."

Before concluding this inadequate notice of a very important book, we may mention that the last eight chapters, comprising the modern facts, have been reprinted by themselves for general circulation. We may also call attention to an elaborate treatise, well adapted to collateral study, on the subject of taxes and taxation in England, — four octavo volumes just given to the public by Stephen Powell, assistant solicitor of inland revenue.

A NEW GEOLOGICAL MAP OF CANADA, WITH AN OUTLINE SKETCH.

This sketch of the physical geography and geology of Canada has been prepared to accompany a new geological map, prepared by the geological survey, in two large sheets on a scale of forty miles to an inch. Both the map and the sketch derive their materials from a review of all the topographical and geological work that has been accomplished in Canada, and give, in graphic and condensed form, a general view of the present state of the physical exploration of the northern part of our continent. The physical geography is not treated with so much attention as it deserves: indeed, the pages of the sketch that are devoted to this subject are more occupied with descriptive than with truly physical geography, and leave much to be said. The geology is given more space, as is natural in the present stage of development of the two studies. Many of its topics will probably continue to excite a controversial interest in the future, as they have in the past: as, for example, the great St. Lawrence and Champlain fault, and its continuation in a series of dislocations "traversing eastern North America from Alabama to Canada," as well as the relation of the formations on either side of it; the Lake-Superior copper-bearing series, which Dr. Selwyn regards as lower Cambrian; the subdivisions of the Archaean, of which only two — the Laurentian and Huronian — are recognized, and even these are not always clearly defined, while the so-called Norian is denied existence in Canada. Intrusive and eruptive masses of Archaean date are properly mentioned with emphasis, although they have "been singularly overlooked or ignored by most writers on American geology." Dr. Dawson's 'western section,' being a region of more recent exploration, has hardly yet reached the controversial stage. His descriptions of the several levels on the plains east of the mountains, and of the little that is known about the northward extension of our Cordilleras, are here presented in good form

Descriptive sketch of the physical geography and geology of the Dominion of Canada. By A. R. C. Selwyn and G. M. Dawson. Montreal, *Dawson bros.*, 1884. 55 p., map in 2 sheets. 8°.

for study by the younger generation of coming geologists, who have yet to begin their acquaintance with the structure of that vast region.

The geological map is a very welcome contribution to our records of the physical history of British North America. It measures the great progress made in western explorations since Sir William Logan and Professor James Hall prepared the well-known map of Canada and the north-eastern United States in 1866, and presents an authorized graphic digest of the many sketch-maps and reports that have been published since that time. Much of the work is, of course, broadly generalized, and is doubtless open to serious changes; but the great features of the country are well represented, and in the west show a very clear continuation northward of those found within our territory, with the addition of certain peculiarities probably dependent on a more extensive glaciation and a greater recent depression in the northern area. The vast breadth of the horizontal mesozoic and tertiary strata of the plains, between the undetermined confusion of the Archaean on the east, and the paleozoic mountain ranges on the west, gives a character to this region that finds no close parallel in other parts of the world.

The 'general map of part of the north-west territories,' prepared at the Dominion lands-office at Ottawa, may be recalled while mentioning the geological sheets. It represents the region northward from our boundary, between Hudson Bay and the front range of the Rocky Mountains, on the same scale of forty miles to an inch, and, in the latest edition we have seen, is corrected to March, 1883. Its topographic detail, especially as regards the ragged outlines of the numerous lakes drained by the Nelson River, is decidedly greater than that of the later geological map. Both are, we presume, in great part only approximations to the exact truth; but, unless the former is imaginary in its details, the uninitiated can hardly understand why it was not used as the base-map for the geological coloring. Perhaps there is need of better co-ordination of government work in Canada as well as with us.

GOODALE'S VEGETABLE HISTOLOGY.

UP to the time of the translation of Sachs's text-book of botany into English, something over ten years ago, comparatively little interest was felt in vegetable histology and physiology in this country; and no modern English treatise on the subject, of any importance, existed. The direction given to the work of students by Sachs's book was soon manifested by a demand for less comprehensive text-books, adapted to the use of more elementary classes; and Thomé, Prantl, Bessey, and Kellerman have successively appeared as the result of this demand.

While the space given to physiological subjects in the earlier editions of Gray was doubtless adequate when these were prepared, the revision of the book required that these subjects should be treated far more comprehensively than was possible within the limits of the original work: hence the appearance of a separate volume allotted to them.

For convenience the author has divided this volume into two parts, devoted respectively to histology and physiology. The first of these has recently come from the press, and sustains the high character of the work of which it forms a part.

An important feature of this volume is the concise introduction, in which the histological appliances and methods most frequently used are brought together for discussion, the writer's long experience as a laboratory teacher making this condensed account of much practical value to the student. Following this are chapters on the cell and its parts; modified cells, and the tissues they compose; the structure and development of the root, stem, and leaf of phaenogams; and the structure and development of the flower, fruit, and seed.

These subjects are treated in much the same manner as in several of the later text-books, though an unusual degree of facility in grouping the topics in a logical manner is shown; and no opportunity is lost of indicating the practical aspects of the subject under consideration.

While this part maintains the conservatism with regard to insufficiently substantiated theories that characterizes the earlier volume of the text-book, it is well abreast of the times in a branch of botany which is admittedly in a far from settled condition. A marked improvement on the usual classification of tissues is observable in the adoption of a smaller number of types, the limits of which are capable of more precise definition, while the treatment of their derivatives is probably the best possible on a morphological basis. A physiological classification of tissues, based largely on the admirable work of Haberlandt, forms

Gray's botanical text-book, sixth edition. Vol. ii., *Physiological botany;* i., *Outlines of the histology of phaenogamous plants.* By GEORGE LINCOLN GOODALE, A.M., M.D., professor of botany in Harvard university. New York and Chicago, *Ivison, Blakeman, Taylor, & Co.*, 1885.