

Professor Hough and Mr. Burnham made frequent examination of the planet Saturn whenever the best conditions of observation were present. They made a special search for markings on the rings, with negative results. The belts on the ball were very conspicuous, but no marking was seen which could be used in determining the period of the planet's rotation.

The conditions of weather in the spring of the year, so unfavorable elsewhere, prevailed at Chicago; and, in their attempts to observe the satellites of Uranus, the astronomers were rewarded with success in observing these difficult objects on only a few occasions.

From the *Observatory* for February we learn that forty-five chronometers are now on trial at the Royal observatory, Greenwich, for purchase by the admiralty; that the small planets (206) Hersilia and (210) Isabella, which had not been observed since 1879, the year of their discovery, have recently been re-observed; that Herr Palisa of Vienna, the discoverer of small planets, being desirous of raising funds for the intended expedition to observe the total eclipse of August, 1886, desires to sell for two hundred and fifty dollars the right of naming the latest discovered small planet (244); and that Dr. Gill, her Majesty's astronomer at the Cape, has obtained a sum of money from the government grant for scientific purposes, in order to enable him to set on foot a photographic survey of the southern heavens. Mr. C. Ray Woods is proceeding to the Cape for the purpose of taking the requisite photographs, and he also intends to continue the work of photographing the solar corona which he lately undertook in Switzerland, under the direction of Dr. Huggins.

The Rev. S. J. Perry, director of the observatory of Stonyhurst college, communicates to the *Observatory* a summary of his observations of the chromosphere in 1884, with an automatic spectroscope by Browning, having a dispersion of six prisms of 60°. He has found the greater part of the past year favorable for this work. The mean height of the chromosphere, which varied little in 1882 and 1883, attaining its maximum in May of the latter year, fell away rapidly in 1884. A great diminution is also reported in the number of the prominences, and some falling off in their average height. The number of observed displacements of the C line differed but little in the last two years; but the amount of displacement was slight in 1884, compared with 1883. No distortions have been recorded during the past two years so great as those of April and May, 1882.

ROGERS'S HISTORY OF ENGLISH LABOR.

THOSE of our readers who are devoted to political and social science need no introduction

Six centuries of work and wages. The history of English labour. By JAMES E. THOROLD ROGERS, M.P. New York, G. P. Putnam's sons. 591 p. 8°.

to the recent volumes of Mr. Thorold Rogers. It is eighteen years since he published the first two volumes of his history of agriculture and prices, — a work of incalculable value to the critical inquirer. He has since then made an elaborate study of the wages of English labor during the last six centuries, and of their corresponding purchasing-power. The data, which he has collected with marvellous industry, have been printed in part, and in part they still remain in the author's notes. His work is therefore unique. No one, he tells us, has entered on this field of research except himself, and no one has attempted to make use of the data he has published for the purposes which the author has in view; yet, for all his statements, he assures the reader that he can give ample verification. The narrative which he bases upon these inquiries is by no means so statistical as to be dry. The writer is never dull, and is generally entertaining as well as instructive. He brings before the public, information, hitherto hidden, respecting the daily life, needs, burdens, comforts, and helps of the inhabitant of England since the middle of the thirteenth century.

His volume begins with a sketch of English society at that period when the vast majority of persons were engaged in agriculture; and, after devoting six chapters to this introduction, the author proceeds to the subsequent history of wages and labor, and to a consideration of the influence of legislation upon the distribution of wealth. He shows that the evils of pauperism and the degradation of labor were largely due to governmental acts designed to compel the laborer to work at the lowest wages possible. Although this bad legislation has long since been abandoned or modified, the effects remain in England to-day. It will thus be seen that the volumes are a contribution to the historical method of political economy. If the author's figures are correct, and his mode of presenting them trustworthy, it is obvious that he has enabled the statesman and the economist to study the actual results of economic legislation during a period quite long enough to be very instructive. His conclusions have an important bearing upon the spread of communism as well as upon the existence of poverty.

We can perhaps exhibit the tendency of the entire work most readily by giving an analysis of the closing chapter, in which the remedies for present evils are succinctly pointed out.

During the last sixty years parliament has done much toward abrogating severe laws which interfered with the freedom of labor.

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. 8s.