

"citizen," but neither State nor nation can legally do any thing to give effective support to that proud title.

Such is the state of the law, the details of which are presented and condemned, with great variety of illustration, in the present volume. But the remedy does not seem to be presented with equal clearness. The future of the colored race in America is indeed a dark cloud. To us the only solution is the scientific one, and that is only another name for the highest morality, justice, and humanity. We have said the only appeal from the Supreme Court is to the people. To encourage such an appeal seems to be the main object and effect of this book. It is sustained by the extraordinary fact that every successful political party has had for its main purpose the reversal of the decisions of that court. The old Republican party of Jefferson came into power to reverse the decisions of the United States courts sustaining the "Alien and Sedition laws." The Democracy of Jackson came to, and did, reverse the Supreme Court decisions in favor of the United States Bank. The Republican party of Lincoln came to reverse, and did reverse, the Dred Scott and Fugitive Slave law decisions; and the Republicans with Grant, in imitation of Cromwell, actually took judges off and put others on the supreme bench, until the court reversed its own "legal tender" decisions. These are surprising instances, and they may well encourage the colored people, by such appeals as the present, to remind the people that the objects they sought to attain by the war amendments to the Constitution, as Judge Harlan declared, have been defeated by two unfortunate accidents in the Supreme Court, which it is their bounden duty to remedy. It may just now seem impossible to get a sufficient number of States to amend the amendments. But it will soon become clear that there must be some law on these subjects. The late slave States will do nothing in their present mood. Both races are thus more and more appealing to violence. The result will be that the law-abiding elements, which placed those amendments in the Constitution, must take up the work again and make them effective. Anarchy and violence cannot be tolerated in any part of our country, and the legal remedy can come only from the general government.

Then, again, we are often reminded that the problem of the happy and beneficent adjustment and co-operation of the two races cannot be solved by statutes only. Most true, but without some solid law to fall back upon, the weaker race are practically remanded to slavery, and such is their present condition. The appeal for justice should be heard, but to insure a favorable hearing, the wise, prudent, virtuous, and industrious conduct of the colored people themselves is also practically a necessary concomitant. Without that, they will not find their old friends at the North again, and of those friends they were never in greater need than now. They are certainly right in their prayer for legal protection, for some law, so plain that the Supreme Court cannot set it aside. Unless this prayer is granted, the next appeals will be more and more to violence; and with a result that recalls perhaps the darkest blot in Grecian history, which is told as follows: When the Spartans were hard pushed in war, they called out the best of their Helots to help them. The Helots responded, and were promised their liberty for their services, which, it seems, turned defeat to victory. They were ordered to repair to the temples [of justice?] to receive their emancipation. They went, with banners and garlands, but they never returned, "and," says the careful historian, "no one ever knew by what means they were severally dispatched" (*Thucydides* 4, 80). The thought that some such passage may be written about the loyal people of America, and that it may be substantially true, is not a pleasant, but a probable outlook from our present situation.

That this publication should appear anonymously is a matter to be regretted. The plain avowal of a public purpose by every American citizen is his prerogative and duty. If he is a member of the bar, it is still more a duty to relieve the country from an error of the courts affecting grave public interests, by honestly and frankly explaining the error, and indicating the remedy, as has been attempted in this article. We have entirely too much unhealthy private grumbling, and too many secret societies seeking to do covertly what no American need to be ashamed of. We believe that the colored people back of this movement would do better to give their names, and apply to Congress, by proper petition, to

have the needful amendment to the Constitution submitted to the States. That would clear the atmosphere, and bring the issue to the front.

As to style and execution of this rather pretentious work, the florid and eloquent language, with pages of interesting but remotely relevant quotations, are indications of the African exuberance of rhetoric, about which, as a matter of taste, there is no disputing. That should not conceal from any one the intense earnestness, and the real ability, it often almost hides with the flowers which were meant to adorn and attract. In the next edition we suggest that the amendments, and the two decisions mainly involved, be printed *verbatim*, so that the reader can see the issues without reference to other books, which few but lawyers have at hand.

T. B. WAKEMAN.

Thermodynamics, Heat-Motors, and Refrigerating Machines.

By DE VOLSON WOOD. New York, Wiley. 8°. \$4.

THE fact that a third edition of this work has been called for within a year of its first publication proves that Professor Wood possesses the two essential qualifications of a successful text-book maker, namely, a thorough knowledge of his subject, and the happy faculty of imparting that knowledge to others without causing a waste of energy on their part in acquiring it. As Professor Wood aptly remarks in the preface to the first edition of this work, the "giant-like processes" of Rankine and the other founders of the science "are not adapted to the wants of the average student." Of course there is no royal road to learning for the student of any branch of science, but many unnecessary obstructions have been removed from the path of learners, in recent years, by the application of scientific principles to the art of teaching; and the application of those principles to that art are well exemplified in the work under consideration. It does not attempt to bring the subject down to the comprehension of the average reader, but we think the author has met with a fair share of success in endeavoring to lead the student up, "by a more easy and uniformly graded path," to a thorough comprehension of the subject, while at the same time familiarizing him with the way by a free use of illustrations, exercises, historic references, and numerical examples.

In this revised and enlarged edition the treatment of the theoretical part of thermodynamics, including its application to the steam engine, is mainly the same as in previous ones. Additions have been made, since the first edition, on the following subjects: the vapor engine, Sterling's engine, Ericsson's hot-air engine; gas, naphtha, and ammonia engines; the steam injector and pulsometer, compressed air engines, the compressor, the steam turbine, refrigerating machines, and the combustion of fuel. There has also been added some miscellaneous matter in an addendum, besides steam, ammonia, and other tables. The ammonia tables are new, having been computed from formulas of the author.

Fuel and its Applications. E. J. MILLS and F. J. ROWAN (Vol. I of Chemical Technology, ed. by C. E. Groves and W. Thorp). Philadelphia, Blakiston. 8°. \$7.50.

THE fact that any great work must usually be the product of a growth, rather than a single effort of however great a mind, is well illustrated by the process of evolution which has produced this cyclopedia of chemical technology. Those who remember the earlier editions of "Knapp's Technology," and who can compare its bulk and its extent, to say nothing of the perfection and accuracy of the editor's work, with its latest representative, just coming out under the editorship of Messrs. Groves and Thorp, will be amazed at the enormous extent to which the development of the chemical and related industries here treated of have expanded during the generation just past. The edition of Richardson and Ronalds illustrated the progress of a few years; that of Richardson and Watts presented another step in the path of improvement and growth, and we now have a substantially new work in which the editors have endeavored to give a fair synopsis of the facts and principles of science, as applied in the chemical industries, that shall satisfy, at least to a reasonable extent, the needs of the working chemist and of the chemical engineer,—a new but most important functionary in all great works,—and to give them a reference cyclopedia of their respective arts.

We have here the first part issued, a substantially bound and closely printed volume of 800 pages, full of well chosen illustrations, devoted entirely to the subject of fuel and its applications. A very good table of contents and a remarkably good index, both of essential importance in a work of this character, make it easy to find what is wanted, and to appreciate the magnitude and value of the work performed by the editors and writers. This volume is prepared by Dr. E. J. Mills and Mr. F. J. Rowan, the latter the well known engineer. It treats of the fuels, their chemical and physical characteristics, their sources, methods of exploiting, of preparation for their various applications, and their calorific value. The apparatus and methods of use of the several classes of combustibles, including the modern fuels, the mineral oils, and the gaseous combustibles, are exhibited at length and in detail, and the forms of apparatus employed in their utilization are illustrated. The theory of heat and of the heating efficiency of combustibles is well presented, and the methods of computation of heat developed and of temperatures attained are illustrated by examples. The principles of chimney draught are considered at great length, and the prevention of smoke, — a most important subject, especially in localities compelled to submit to the use of soft coals, — is well treated.

The portions in which the heating of houses by hot water and steam, and those in which the laws of heat-transmission are studied, are perhaps the most satisfactory and valuable in the book. These are matters which have rarely been as fully, and very seldom if at all, as well treated as we here find them. The book is worth its price for this part alone. Thirty pages are devoted to the study of furnaces using solid fuels, and as many more to the use of gas as fuel, including the theory and operation of the Siemens furnace and its many relatives. The work concludes with a very valuable examination of the practical effect of fuel, and includes very extensive and most admirably arranged tables of the American as well as foreign coals, their composition, their heating power, and their practical value as shown by experiment and use under ordinary conditions of metallurgical and engineering work.

Taken as a whole, this is probably the best work on the fuels and their use and applications that has ever yet been printed, and it possesses the advantage, for American chemists and engineers, that its contents are available for use in the United States as well as in Europe; and the special fuels of America are practically as fully treated, and in as available a manner, as are those of the transatlantic countries. This volume, if it may be taken as the index of usefulness for the whole cyclopedia, indicates that we may fairly expect the work, as a whole, to become the standard work of reference on its subjects, and to remain so for many years to come. Cyclopedic works of this character have usually been found to command a very large sale in this country, — witness the wonderful sale of the *Encyclopedia Britannica*, — and this new cyclopedia, if its sale is at all proportioned to its relative value, will find a market sufficiently extensive to handsomely repay its proprietors and contributors for their most admirable and conscientious labor.

AMONG THE PUBLISHERS.

THE Open Court Publishing Company of Chicago announces an authorized translation of M. Th. Ribot's "Psychology of Attention."

— Jefferson Davis's article on Andersonville, which the Confederate leader is said to have withdrawn from the *North American Review* because its editor insisted on certain changes, will appear in *Belford's Magazine*. The Belford Company will also publish Mr. Davis's "Short History of the Confederate States."

— D. Appleton & Company have ready the third edition of David A. Wells's "Recent Economic Changes;" the second edition of "The Ice Age of North America," by G. Frederick Wright; and new editions of "California of the South," by Lindley and Widney; "The Florida of To-Day," by J. W. Davidson; and of the "Handbook of American Winter Resorts."

— The various aspects of sore throat are considered in an article by Dr. J. M. Mills in the January number of *Babyhood*, which describes a new apparatus for the treatment of tonsillitis. The di-

rections for gargling may also be new to many mothers of young children. Startling facts are given in Dr. Dorning's paper on "The Administration of Opiates to Infants," which shows how prevalent this pernicious practice is. The comparative advantages and disadvantages of early music study for young children are discussed in another article, and there are useful hints for busy and anxious young mothers in the departments of "Nursery Helps and Novelties," "Nursery Problems" and "Mothers' Parliament."

— "Mr. Bryce's 'American Commonwealth' is out of print in England," writes Mr. Smalley to the *New York Tribune*. "The first edition in its three octavo volumes was of 1,500 copies, and is destined to become moderately scarce, for it is not likely to be reprinted in its complete form. Messrs. Macmillan are just bringing out a new and cheaper edition in two volumes, with the dangerous chapter by Mr. Goodnow omitted, or, at least, not fully reprinted. Mr. Oakey Hall has chosen to bring his action for libel against Mr. Bryce and not against the publishers, but no firm would wish to reprint an alleged libel while an action was pending; nor would Mr. Bryce himself care to."

— Charles H. Kerr & Co. of Chicago have published a discussion of the religious question by E. P. Powell, entitled "Liberty and Life." The author, having been brought up a Calvinist, has been led by the spirit of the age and his own investigations to renounce his early faith, and now stands, with many others who have passed through the same experience, on the ground of agnosticism. A large part of his book is occupied with criticisms of the old theology, which are not always in the best spirit, and are ill calculated to win converts. The part of the work to which we turned with most interest, however, is that in which he undertakes to tell us what the religion of the future will be; but we failed to find any thing new or satisfactory. All supernatural beliefs, he thinks, will be abandoned, and religion will consist mainly in cultivating our own characters and promoting the material interests of society. The book closes with one of those Utopian visions of what human life will be a hundred years hence, which have lately become so fashionable, but which, we take leave to say, are neither interesting nor edifying.

— We took up the Rev. William M. Campbell's "Footprints of Christ," published by Funk & Wagnalls, in the hope of finding something fresh in the author's conception of Christ's character and work; but in this we were disappointed. Mr. Campbell's views are those now held by the mass of Protestant theologians, according to which Christ is to be looked upon chiefly as a model of moral perfection, absolutely free from sin, and exhibiting all the virtues in their fulness; while the old theory of the supernatural being, or divine Logos, is hardly alluded to. From its own point of view the book is fairly good. Mr. Campbell endeavors to trace the various shades and lineaments of Christ's character, the special excellences which at different times he exhibited; and though his views are largely traditional and his method uncritical, his work is not without merit for moral instruction. We like in particular the stress he lays on the stronger and more rugged elements in the character of Jesus, which preachers are apt to underestimate, but which are really among his most prominent traits. But a perfect treatment of the subject requires a different method from that of this book.

— The announcement is made of the change of title from *Building to Architecture and Building* by that well known weekly. In making a change the desire has been to indicate more fully the character of the paper than is signified by the name of *Building*. *Building* has, especially of late years, devoted itself to the interest of architecture as a profession, and while it has made itself valuable and interesting to builders, this interest has been rather from the architectural side than otherwise. Yet the name has led many to suppose that it was being published rather as a representative of the builders than of the architects, and to overcome every possible misapprehension of this character in the future they have adopted the present title as better representing the character of the journal. Quite a change is made in the make-up. The two supplements that have heretofore been regular weekly features will be omitted, and departments substituted for them. In place of