

brain are fascinating.<sup>1</sup> Three patients came to him whose skulls had been so disturbed by disease or accident that he was able to see and register the pulsations of their brains through the window-like opening thus formed. The observations were made in sleeping and in waking moments. The registered curves proved that every emotion, every thought, is accompanied by an increase in the volume of blood in the brain. The severer the mental work, the more violent the emotion, the stormier were the pulsations of the brain. Another interesting series of experiments which the author describes are those made with an originally constructed balance, by means of which he was able to register the respiratory movements and the flow of the blood from the feet to the head. The table of the balance was large and wide enough for a man to lie at full length upon it. It was upon this table that Mosso observed that a sudden noise caused the blood of a man asleep upon the table to leave the lower extremities and flow to the head; further, that the head end of the balance sank deeper during the solution of a difficult mathematical problem than when the mind was less severely occupied. By these two methods, as well as by means of the more common methods of registering the beat of the heart and the respiratory movements of the lungs, he found that any sensation exciting fear sends the blood to the brain, increases the strength and frequency of the heart-beat, and alters the regularity of the breathing. He describes the effect upon our system thus: "We men, who constantly carry the fragile machinery of our body about with us, must remember that every jolt that exceeds the ordinary limit can be fatal to us; that a slight shove accelerates the motion of the wheels, a stronger one arrests the motion, a gentle push drives us forward, a violent jerk throws us to the ground. For this reason the phenomena of fear, which in a small degree might be useful to us, become unhealthy and fatal to the organism as soon as they exceed certain limits: hence one must look upon fear as an illness."

He denies that the phenomena of fear, as trembling, scowling, the raising of hair and feathers, are essential to the survival of the fittest, and claims that the strong and healthy animals are those who do not fear, but concentrate all their powers to escape or defy the enemy. To the weak man a sudden danger brings fear; to the strong it is an incentive to action.

Fear, however, does not act upon the distribution of the blood and upon the respiration alone; but, since our body is a unit, it acts also upon the muscles,—those of the eye, the skin, the face, the digestive and secretory organs, as well as upon the larger muscles of motion. All this is of special interest (1) to the educator, the physician, and parent; (2) to the artist, the novelist, and poet. To the former Mosso's words are, "The first purpose of an education must be to increase man's strength, and to favor every thing that sustains life." Further, "One moment of violent fear causes far more dreadful effects and significantly severer injuries in woman than in man; but the fault is ours, who have always considered woman's weakness as a charm and an attraction; it is the fault of our educational system, that seeks to develop the emotional nature in woman, and, on the other hand, neglects that which would be more effectual,—to give her character. We imagine sometimes that the most important part of culture is that which education and study have given us; that the progress of mankind is accomplished entirely through the science, the literature, the works of art, which the generations have handed down to one another; but we carry a no less important part of the progress of culture with us in our blood. Civilization has reconstructed our nervous system; there is a culture that is transferred to the brains of the children by inheritance; the superiority of the present generation depends upon its greater ability to think and act. The future of a nation does not exist in its trade, its science, its army alone; but it exists in the bodies of its citizens, in the lap of its mothers, in the courageous or cowardly disposition of its sons."

To the latter he says, "When art extends its territory over all visible nature, it will find an incomparably greater number of

powerful effects in the reproduction of pain than art possessed in classical times. The difficulties are certainly far greater here than in the dignified production of ideal beauty. And the painters and sculptors who undertake the great problem of reproducing pain will be obliged to equip themselves with a study of nature, and with anatomical and physiological knowledge to an extent for which, up to the Hellenic period, we have no example in art."

It is to illustrate the expressions of the face in suffering and fear in their wonderful variety, that the author reproduces, in two lithographic plates, a series of sixteen photographs taken of a boy while enduring an oft-repeated painful operation. They are worthy the study of psychologist and artist. The width of the horizon which art is to possess when incited by this new physiological knowledge is best indicated by his own words, which shall at the same time be the final ones of this article.

"I believe that with the progress in scientific criticism, together with an exact knowledge of physiology and the functions of the muscles, we shall come to the point where we can claim that the Greeks were not adequately prepared to represent the violent emotions effectively."

*Economic and Social History of New England, 1620-1789.* By WILLIAM B. WEEDEN. New York, Houghton, Mifflin, & Co. 2 vols. 8°. \$4.50.

THIS is an elaborate and painstaking work, dealing with the whole subject of New England industry from the first settlements to the foundation of the present Federal Government. Beginning with the landing of the Colonists in the wilderness, the opening chapters are largely devoted to the subjects of agriculture, the distribution of land, and trade with the Indians. Ocean commerce and manufactures claim attention a little later, and soon become the most prominent parts of the subject. The social life of the Colonists is described with less fullness than the economic, but yet is never neglected. The whole subject of the book is treated by periods,—a method that has some advantages, and is to a certain extent necessary, but which has led to some repetition and diffuseness. The work is also encumbered with too much detail; the commercial and manufacturing operations, and even such matters as dress and equipage, being treated with a minute particularity which is wholly unnecessary, and wearisome to the reader. Facts in history are chiefly valuable as illustrating natural and moral laws, and in enabling us to mentally reconstruct the life of the past, and all details that are not needed for these purposes may better be dispensed with. Nor can we think Mr. Weeden altogether happy in his pictures of social life, his attention being too much fastened on the trifling matters of dress, manners, amusements, etc., and too little on the more important themes of morals and education. He gives a good deal of space to the sumptuary laws and other restrictive measures of the Puritans, but is not equally satisfactory in delineating the nobler elements of the Puritan character.

But though the book has in our eyes these defects, it is nevertheless a valuable work, and an addition to our historical and economical literature. It is written in a clear and simple style, which makes it at once more interesting and more easily understood than works of this kind often are. The author seems also to have taken great care in collecting his facts; town records, personal diaries, and merchants' accounts having been ransacked for the purpose, and often with good results. One of the strong points of the book is its treatment of political subjects in relation to economic life. The account of the settlement of the country and the beginnings of industry and commerce is one of the best parts of the work, and shows the working of both political and economical agencies in the formation of the new community. Again, in dealing with the navigation acts and other oppressive measures of the British Government, the author shows with much felicity their effect in injuring trade as well as in rousing the spirit of rebellion among the Colonists. Yet, though he has clearly grasped the economic bearings of political agencies, he has not allowed himself to be drawn off into political history itself, but has confined himself to his own proper theme. Mr. Weeden shows that the fisheries, in which the Massachusetts people always excelled, were the main foundation of New England commerce, agriculture being only a

<sup>1</sup> Ueber den Kreislauf des Blutes im Menschlichen Gehirn (Leipzig, Veit u. Co., 1881); "La temperatura del cervello studiata in rapporto colla temperatura di altre parti del corpo," in the pamphlets of the R. Accademia dei Lincei (Rome, 1889); Sui movimenti idraulici dell' veide (K. medic. Akademie in Turin, 1875); Mosso et Pellacani, Sulle funzioni della vescica (R. Accademia dei Lincei, Bd. XII., 1881; Archives italiennes de Bologne, 1882).

means of subsistence, while beaver-skins, rum, and timber, all contributed to swell the merchants' cargoes. The rise and growth of manufactures receive due attention at all stages, and considerable space is devoted to the details of foreign trade. In the appendix there is a list of prices during each year of the period dealt with, while a very full index adds to the value of the book.

#### AMONG THE PUBLISHERS.

THE latest of the volumes treating of the "Famous Women of the French Court," translated from the French of Imbert de Saint-Armand by T. S. Perry, and issued by the Scribners, is entitled "Citizeness Bonaparte." It sketches the career of Josephine from the time of her marriage to the period of Napoleon's consulship, covering the most romantic and happy portion of her life; and includes the campaign in Italy, the expedition to Egypt, and Napoleon's subsequent personal success and triumph at Paris. The former volumes are entitled "The Wife of the First Consul," "The Happy Days of the Empress Marie Louise," and "Marie Antoinette and the End of the Old Régime."

—The *Popular Science Monthly* for October will contain a further discussion of the fall of man and anthropology, by Dr. Andrew D. White, in which he reviews the futile efforts of Archbishop Whately and the Duke of Argyll to prove that the lowest races of men have sunk from an earlier civilization, and the equally successful attempts of certain church organizations in recent years to silence professors of science who were teaching the truths of evolution; a delightfully simple and practical talk to mothers about interesting children in the study of nature, by Mary Alling Aber, under the title "Mothers and Natural Science," in which the author points out the beneficial influence of scientific ideas on the formation of character, and tells how mothers may use the common things around them in teaching their children how to question Nature, and how to interpret her answers;

"Liquor Laws not Sumptuary," by G. F. Magoun, D.D., being a reply to an article by Dr. William A. Hammond on sumptuary laws in an earlier number (Dr. Magoun quotes old colonial and recent State laws to show that existing statutes against the liquor traffic have not been made to enforce economy); and a copiously illustrated account of ancient dwellings of the Rio Verde valley, in Arizona, by Capt. Edgar A. Mearns, assistant surgeon, U.S.A., containing a description of ruined cliff-dwellings and pueblos explored by Dr. Mearns, with plans showing the exact arrangement of the rooms on the five floors of one of the former.

—Professor George T. Ladd of Yale University has just completed an important work entitled "Introduction to Philosophy,"—a broad and comprehensive view of the whole field of philosophy. It will be published by the Scribners, who also have in preparation an abridgment of Professor Ladd's "Physiological Psychology."

—On Oct. 1 The Open Court Publishing Company of Chicago will begin the publication of a new quarterly magazine of philosophy, science, religion, and sociology, *The Monist*. The first number of this new magazine will contain articles by Professor E. D. Cope of Philadelphia, Professor George J. Romanes of London, M. Alfred Binet of Paris, Professor Ernst Mach of Prague, Max Dessoir of Berlin, and Dr. Paul Carus of Chicago. The foreign correspondence and the departments for the general review of foreign philosophical and scientific literature will be conducted, for Italy, by Professor C. Lombroso, the criminologist; for France, by Lucien Arréat, the critic of the *Revue Philosophique*; for the northern countries, by Professor Harald Höffding of Copenhagen; for Germany, by Professor F. Jodl of Prague, and others. Reviews of American and English books will appear separately. Articles will appear in *The Monist* by Professor Joseph Le Conte, Professor William James, Charles S. Peirce, Professor Max Müller, Professor Ernst Haeckel, and Th. Ribot. The magazine will be

#### Publications received at Editor's Office, Sept. 2-13.

- BARDEEN, C. R. Home Exercise for Health and Cure. Tr. from German of D. G. R. Schreiber, M.D. 23d ed. Syracuse, N.Y., C. W. Bardeen. 91 p. 16¢.
- FISKE, J. Civil Government in the United States considered with some Reference to its Origins. Boston and New York, Houghton, Mifflin, & Co. 360 p. 12¢. \$1.
- GALLAGHER, G. W. One Man's Struggle. New York and London, Funk & Wagnalls. 169 p. 12¢. \$1.
- GUVER, A. The Earth and Man. Tr. by C. C. Felton, LL.D. Revised ed. New York, Scribner. 334 p. 12¢. \$1.75.
- HARKNESS, A. An Easy Method for Beginners in Latin. New York, Cincinnati, and Chicago, Amer. Book Co. 348 p. 12¢.
- HOUSE and PET DOGS; their Selection, Care and Training. New York, Forest and Stream Publ. Co. 115 p. 16¢. 50 cents.
- MACFARLANE, J. An American Geological Railway Guide. 2d ed. New York, Appleton. 426 p. 8¢. \$2.50.
- MARTYN, C. Wendell Phillips: the Agitator. With an Appendix containing three of the orator's masterpieces never before published in book form. New York and London, Funk & Wagnalls. 600 p. 12¢. \$1.50.
- OSTWALD, W. Outlines of General Chemistry. Tr. by James Walker. London and New York, Macmillan. 396 p. 8¢. \$3.50.
- PREBLE, H., and PARKER, C. P. Handbook of Latin Writing. Revised ed. Boston, Ginn. 109 p. 12¢. 55 cents.
- PRUDDEN, T. M. Dust and its Dangers. New York and London, Putnam. 111 p. 16¢. 75 cents.
- SIDNEY, Sir Philip. The Defense of Poesy: Otherwise known as An Apology for Poetry. Ed. by A. S. Cook. Boston, Ginn. 143 p. 12¢.
- SMITH, C. E. The World Lighted, a Study of the Apocalypse. New York and London, Funk & Wagnalls. 218 p. 12¢. 75 cents.
- WEEDEN, W. B. Economic and Social History of New England, 1620-1789. 2 vols. Boston and New York, Houghton, Mifflin, & Co. 964 p. 8¢. \$4.50.
- WOODY, S. E. The Essentials of Medical Chemistry and Urinalysis. 3d ed. Philadelphia, Penn., Blakiston. 157 p. 12¢.
- ZABRISKIE, F. N. Horace Greeley, the Editor. (American Orators and Reformers.) New York and London, Funk & Wagnalls. 398 p. 12¢. \$1.50.

#### PRACTICAL ELECTRICAL NOTES AND DEFINITIONS.

For the use of engineering students and practical men by W. P. MAXCOCK, together with Rules and Regulations to be observed in Electrical Installation Work, with diagrams. 120 pages, 32mo, cloth, 60 cts. E. & F. N. SPON, 12 Cortlandt St., New York.

READY SEPT. 20.

#### RACES AND PEOPLES.

By DANIEL G. BRINTON, M.D.

This book is a review of the whole domain of ethnography, with particular attention to the white or European race, the Aryan peoples, their origin and distribution. The latest opinions of the leading European scholars have been consulted, but the work is largely the result of independent research, and does not follow any especial school of ethnographers.

Price, postpaid, \$1.50.

N. D. C. HODGES,  
47 Lafayette Place, N. Y.

#### CAN THE MOSQUITO BE EXTERMINATED?

THE LAMBORN PRIZE ESSAYS.

#### DRAGON-FLIES vs. MOSQUITOES.

8vo, cloth. Illustrated. \$1.50.

D. APPLETON & CO., 1, 3 & 5 Bond St., N. Y.

We would announce that we have  
secured the American Agency  
for the Quarterly

#### JOURNAL OF MICROSCOPY AND NATURAL SCIENCE:

THE JOURNAL OF

The Postal Microscopical  
Society.

EDITED BY

ALFRED ALLEN and WILLIAM  
SPIERS, M.A., F.G.S., Etc.  
\$1.75 Per Year.

#### CONTENTS OF JULY NUMBER.

Bacteria; a Study in Biology.  
The New Apochromatic Lens.  
Our British Plants.  
Microscopic Fauna of Kennett and Avon Canal  
Intelligence of Ants.  
On the Presence of a Tarsal Comb in Spiders.  
Paper.  
The Trees of the Wood. I.—Beech.  
Colorless Preparations of Plants.  
Dips into my Aquarium.  
Differential Staining of Saccaromyces.  
Among the Fylde Flowers—The Woodlands.  
Pencil for Writing on Glass.  
Aspect of the Heavens.  
Paste for Mounting Botanical Specimens.  
The Pine Destroyer.  
Wesley Naturalists' Society.  
Reviews.

N. D. C. HODGES, 47 Lafayette Place, N. Y.