man who has mastered the laws of evidence, but he knows little of the laws of evidence who has not studied the unwritten law of the human heart; and without this last knowledge, a man of action will not attain to the practical, nor will a poet achieve the ideal.

He who has no sympathy never knows the human heart; but the obtrusive parade of sympathy is incompatible with dignity of style in a writer. Of all the virtues necessary to the completion of the perfect man, there is none to be more delicately implied and less ostentatiously vaunted than that of exquisite feeling or universal benevolence.

In science, address the few; in literature, the many. In science, the few must dictate opinion to the many; in literature the many, sooner or later, force their judgement on the few. But the few and the many are not necessarily the few and the many of the present time; for discoverers in science have not unoften, in their own day, had the few against them, and writers the most permanently popular not unfrequently found, in their own day, a frigid reception from the many.

By the few, I mean those who must ever remain the few, from whose dicta we, the multitude, take fame upon trust; by the many, I mean those who constitute the multitude in the long run. We take the fame of a Harvey or a Newton upon trust, from the verdict of the few in successive generations; but the few could never persuade us to take poets and novelists on trust. We, the many, judge for ourselves of Shakespeare and Cervantes.

He who addresses the abstract reason addresses an audience that must forever be limited to the few; he who addresses the passions, the feelings, the humors, which we all have in common, addresses an audience that must forever compose the many. But either writer, in proportion to his ultimate renown, embodies some new truth, and new truths require new generations for cordial welcome. This much I would say meanwhile, doubt the parmanent fame of any work of science which takes immediate reputation with the ignorant multitude; doubt the parmanent fame of any work of imagination which is at once applauded by a conventional clique that styles itself "the critical few."

The Advertisement.

The advertisement can sell millions of yards of shoddy for broad cloth! The advertisement can import millions of chests of tea direct from China, and sell cheaper than sloe-leaves and carpet-sweepings! The advertisement can bring millions of tons of all Wallsend coals from Newcastle to London, and let the Cockneys burn at no more cost than Welsh, Midland, or Anthracite! The advertisement can supply millions upon millions of miscellaneous articles, from half-penny toys and cheap Jacks, to newbuilt houses and shiploads of invaluable merchandise, all the firstrate class, and at an incredible reduction of price! The advertisement can not only import millions of bales of the finest Georgian cotton, but change millions of bales of other cotton into Island, and by its dexterity, pass the whole, in a manufactured state, into alpaca, flax, wool, silk, or other produce, and by its simple process, at the enhanced cost of far more expensive fabrics! The advertisement can cleanse the Augean stable of millions of boxes and bottles of quack medicine, and induce millions of fools to anoint their bodies with, or swallow their contents! The advertisement can make as many fools believe that spurious and adulterated concoctions of hardly less poisonous trash—unhealthy, nasty, and injurious materials of every sort contributive to imposition—are really generous wines, neat as imported (and that, too, come to be a taxing pull), and of genuine spirits and beer, from the vine, sugar-cane, and John Barleycorn, to be drunk on the premises or anywhere else, *con gusto*, accordingly. The advertisement can carry under its ostensibly feeble little arms, thousands of miles of railroad, with tens of thousands of passengers and prodigious traffic, by means of common, fast, and pleasure trains, about to realize enormous profits; and admirable to relate for its care and humanity, never having been known to wound seriously or to kill even one of the well assured multitude who trust their lives to consequences so satisfactorily accredited. The advertisement can bear the entire burden of hundreds of bubble companies, with many millions of (their) capital, resting solely on its veracity and responsibility. This advertisement is equally stout in the support it can afford to foreign loans; for example, see its Archimedean capacity in the Greek, and its Herculean vigour in the country where one of Hercules' pillar is reported to be still standing. The advertisement can lend millions of money (flash) at once on mere personal security, without inconvenient inquiries or reference on either side, at almost nominal interest, without expenses, and repayable by instalments at pleasure, &c. The weight of the nuggets (query, called ingots? of old) is not so very ponderous, but there is a good deal to stoop under so as to gull hnndreds of thousands of idiots into disastrous loss or utter ruin. The advertisement can keep up, for hundreds of nights without intermission, the heaviest tomfoolery and outrageous performances at the theatres (though amenable to fall by every law of gravitation), as if they were light and entertaining, instead of not being worth an old song. The advertisement can support and circulate tenfold more matchless magazines and other periodicals, good, bad, and indifferent, than could find existence but for its mighty help; and as for sensationalism, spiritualism, ritualism, political associations, monster meetings, nonsense, trash, rubbish, imposture, and poison of every possible kind, millions of reams of paper are inadequate to demonstrate its infinite capability. The advertisement can maintain the greatest manufacturers in the world as original dispensers of intelligence and useful knowledge; thousands of semi-professors, lecturers, and professsionals, *en masse*, retailing superfluous nothings to ignorant audiences; inspired writers for the press, and millions of other classes of retail dealers laden with every article of want or luxury in life and society and all "guaranteed" just as affirmatively and with as free a conscience as if the whole were the very truth, and simple matter of course.—*Fraser's Magazine.*

SCIENCE.

The Total Eclipse of the Sun.

Total eclipses of the sun, for a given locality on the earth, are of a very rare occurrence. Thus, in London, not a single total eclipse of the sun happened between 1140 and 1715; that is, in a space of 575 years. In Paris only one eclipse occurred in the whole of the 18th century, while during the 19th century not one happened or will happen in that locality.

Total eclipses of the sun can last no longer than 7 minutes and 58 seconds. This greatest possible duration happens only when the centres of the sun, moon, and earth lie exactly in a straight line, and at the same time the sun is at his greatest distance (apogee) and the moon at her least distance (perigee) from the earth; and even then the duration of 7 minutes and 58 seconds obtains only on the equator. A coincidence of these conditions has not happened since the creation of man.

The observations which are made in eclipses of the sun may be divided into two kinds: first, those which refer to the time of the motions of the earth and moon; and second, those which refer to the nature of the sunlight. In regard to the former, we may remark here, that *every* eclipse of the sun will serve for a correction of the *elements of the orbits*. The time when the moon enters the disc of the sun, the duration of the eclipse, and the time when the last trace of the moon leaves the edge of the sun, have been calculated beforehand with the utmost minuteness, even for the twentieth part of a second, thanks to the accurate knowledge which our astronomers have of the motions of the earth and of the infinitely more complicated motion of the moon. Now, if the mentioned phenomena happen exactly at the time calculated, they evidently confirm the correctness of the calculations, and of the supposed motions and distances of these heavenly bodies. But if there is a discrepancy even of the twentieth part of a second, the previous calculations must be corrected, and thus every new observation will furnish either a new proof for the absolute correctness of the astronomical calculations, or lead to corrections which finally must approximate this part of astronomical knowledge to a state of absolute perfection.

But by far the most important part of the observations, which will be made in this eclipse, refers to the *nature of the sunlight*. There is a very widely-spread opinion that in a total eclipse of the sun a total darkness prevails, and the stars become visible. This opinion, though repeated by our astronomical handbooks, is entirely erroneous. Only the very brightest stars become visible. Thus, in the total eclipse of July 18, 1860, the four planets, Mercury, Venus, Jupiter, and Saturn were seen near the sun with the naked eye, and in the total eclipse of July 28, 1851, in Dantzic,—Mercury, Venus, Jupiter, Procyon, Regulus and Spica were visible; but it was in vain that Galle tried to find Castor and Pollux. The fact that during a total eclipse there is only a twilight, but by no means darkness, is easily explained when we consider that the atmosphere in places next to the total eclipse will *reflect* the sunlight in all directions, and that by this reflected light those parts of the atmosphere which lie within the total eclipse are illumniated, though feebly.

But there is another phenomenon which, in the moment of the total eclipse, is presented to the eyes of the observers, so glorious and wonderful that no description can give an adequate idea of it. This is the Corona, which suddenly appears in the moment when the