

**THE ORIGIN OF LIFE.**

**An Important Contribution to the Problem of Genesis.**

THE EVOLUTION OF LIFE. By H. Charlton Bastian. 8vo, pp. 318. E. P. Dutton & Co.

The din of the battle over the origin of life has almost died away from the ears of most persons. That battle began to rage in Europe while the Civil War was at its height in this country. This may account to some extent for the relatively small hold it gained on the interests and passions of Americans. Down to the time when the combatants across the Atlantic withdrew from the strife in the open, leaving the public with the certain impression that the great Pasteur and the less great but more fascinating Tyndall had settled the problem for all time, our countrymen were absorbed with Reconstruction and had scant time for biology. Therefore, those Americans who found pleasure in the study of life did not return to their favorite theme until Pasteur's "overwhelming demonstration" of the absurdity of Spontaneous Generation had been ratified by the British Association and had become a dogma of science. In spite, then, of the influence religious prepossessions naturally exerted upon the scientific opinion of American laymen, nearly everybody outside a small circle of distinguished amateurs implicitly believes that, whatever the primitive processes of genesis may be, they are certainly not processes bringing forth living beings from totally inorganic matter. Indeed, to many persons, the theory of the inorganic origin of life states a pure logical contradiction; for, they say, whatever produces life is thereby itself living.

It must be confessed that this piece of apparent quibbling is not without force, for, in order to discuss intelligently whether life arises from inorganic matter or not, we must agree upon some convenient definition of life. The difficulty of doing this adds both confusion and piquancy to the great and vexed controversy. Scientists, however, have found a *modus vivendi* by narrowing the problem of spontaneous generation down to this question: Do bacteria develop in perfectly isolated fluids which, after sterilization, show absolutely no trace of the presence of bacteria, their fissions or their gemmules? If they do, then this phenomenon shall be called spontaneous generation, or Archebiosis. It is in this highly limited but legitimate sense of the phrase that Professor Bastian has spoken of the "creation" of organic life in his present highly technical investigation. The old-time opponent of Pasteur and Tyndall, in striving to refute the dogma established by these eminent men over thirty years ago, explicitly says that he regards the remains of organisms which have undergone solution (by boiling) as "dead matter"; and he adds that, "if, in a solution thus formed, the evidence were to point to the *de novo* therein of living units, we might quite legitimately speak of it as a process of Archebiosis." As this view is the same one that Pasteur held when, in his famous memoir, he sought to disprove spontaneous generation, Professor Bastian's demonstrations are a fair reply to those who criticised him so severely many years ago. But his conclusion that there are true "generating fluids," in which, after all micro-organisms have been killed off by exposure to high temperatures, new organisms appear and multiply, must not be taken as a proof of spontaneous generation in the fullest, unqualified sense of this phrase.

There will probably never be either a demonstration or a disproof of the rise of organisms from totally inorganic matter; for recent physical discoveries have shown too clearly the incredible complexity of the smallest particles of matter visible through the most powerful microscope. From the molecule the physicist has been driven backward in his dissection of matter to the atom, and from the atom to its thousands and perhaps hundreds of thousands of planet-like corpuscles. In comparison with these systems, the bacteria at which the biologist peers are leviathans of the first magnitude, and they can be regarded as the lowest form of life only by pure assumption. Nevertheless, nobody ought to underrate the importance of the fact Professor Bastian seems now definitely to have established after a lifetime of experimentation. It is exceedingly significant, for both theory and practice, that bacteria arise in bacteria-free substances without the assistance and parentage of homogeneous organisms or that of any complexes which can be recognized as analogous to organisms in structure and behavior. The startling similarity between the crystallizing process in minerals and the genesis of typical forms of bacteria in fluids is made even more startling by Professor Bastian's investigations. It suggests that perhaps the much vaunted doctrine of heredity is a misconception, and that, at least in its primitive forms, life takes on its variety and maintains its species solely by virtue of some exceedingly primitive formative or crystallizing tendency in all matter.

The hostility this suggestion has aroused in many reputable bacteriologists and biologists is due, of course, to the revolutionary effect it has upon all current theories of heredity, mutation, contagion and so on. But, before we join in condemning Professor Bastian as a deluded scientist, it will be well to read his book carefully, with a view to seeing whether his facts and his logic are shakier or firmer than those of his adversaries. His pessimistic ideas about the pos-

sibility of stamping out contagious diseases should not be allowed to weigh against his general theory. "The Evolution of Life" ought to call forth much profitable discussion on all the important topics it touches.

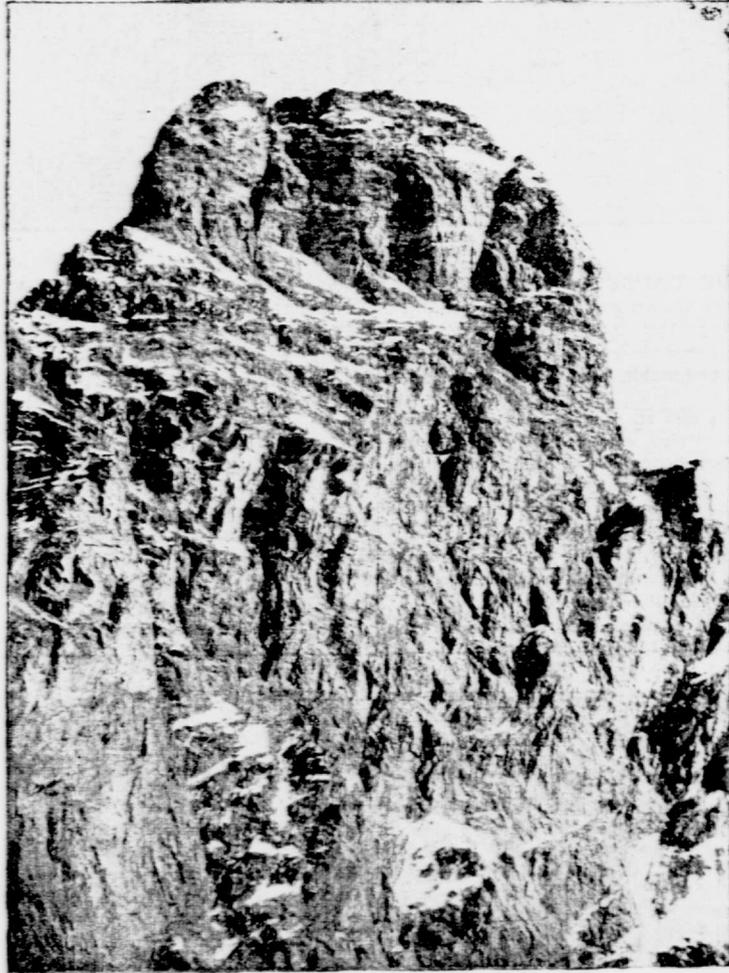
**PICTURE BOOKS.**

**Praise for the Illustrator—and Some Criticism.**

From The London Saturday Review.

In these days of copious and too often careless illustration a great many people prefer to take their text unadorned, neat, so to speak, without sugar. Bad pictures to a text are certainly much worse than none at all; but abusus non tollit usum. Though some illustrators are irritatingly bad, though their team has a terrible "tail," there are great names on the list, Hogarth, Turner, Millais, and a multitude of excellent workers, Cruikshank, "Phiz," Leech, Maclise and Cattermole. As for the very superior beings who do not care for books with pictures, they may be neglected. While human nature remains as it is, it will retain a good deal of the baby.

Illustration has been most lavishly scattered on the two branches of literature that need it least—poetry and novels. These, if of any intrinsic worth, will produce a mental impress-



THE SUMMIT OF THE MATTERHORN.

(From a photograph.)

which no graver will approach. To a mind of any imagination a picture, however well executed, of Shelley's skylark or Wordsworth's daffodils is an offence. Yet these are objects possible to the artist. When, more ambitious, he seeks to "adorn with cuts" "Paradise Lost," as Gustave Doré did, he becomes a blasphemer. The Flaxman outlines to Homer (or Pope) may be an exception, but most men, we think, prefer to be without them. In novels, again, what artist has ever been able to embody, so as to be satisfactory to admirers, the creatures of the story teller? If it can be done, it must be only where the story is very light comedy, not to say farce. It is rumored that the masses think of Pickwick and Micawber as they were imaged by Seymour and Browne. There is no accounting for the taste of the masses.

Now and then a writer can draw, and if he illustrate his own books one would hope for a happy result. But does he get it? Rarely, if ever. Thackeray succeeded pretty well in grotesque, but his scratches are too amateurish for the more serious books. He wrote much better than he drew. Against Du Maurier no such accusation can hold, and he is probably the most successful author-artist on record. But, alas!—in spite of Trilby "booms," in spite of the fact that parts of his books have charm—he drew so much better than he wrote.

When another hand is employed to illustrate, the unhappy author is brought face to face with what we can only call the "pure cussedness" of what illustrators. They will not draw what is set down for them. As an instance, the frontispiece of "Can You Forgive Her?" represents "The Balcony at Basle" occupied by the heroine and George Vavasor, "the wild man." Basle and the balcony are all right. The heroine, for those who can abide "Phiz's" women, is not amiss, but who can abide "Phiz's" pair of mutton chop whiskers. George has a huge pair of mutton chop whiskers. Now, Trollope is not often at much pains to describe his characters' outward appearance, though he generally gives the reader a very good idea of it, but it happens in this case that he has been very particular. George, in a comb as with a burglar, had had one side of his face dreadfully scarred from his left eye to his lower jaw. "People said of him that he was so proud of his wound that he would not be grow a hair to cover it. The fact, however, was that no whisker could be made to come sufficiently forward to be of service, and therefore, he wore none." And therefore, we suppose, "Phiz" gave him a pair.

The Macmillan Company has just issued the first volume of its complete translation of the memoirs of the elder Dumas, and also announces an English version of his "Celebrated Crimes." It will be issued in four volumes, and, as in the case of the Memoirs, it will be the first complete edition ever issued in English.

**LITERARY NOTES.**

Captain A. T. Mahan has brought together in a volume a number of papers demonstrating the necessary and righteous part played in modern civilization by war. Under the title of "Some Neglected Aspects of War" the work will presently be published by Little, Brown & Co.

Benjamin of Tudela was a resolute traveller who in the twelfth century, one hundred years before Marco Polo, visited Rome, Constantinople, Palestine, Bagdad and Cairo. His "Itinerary" has been translated and annotated by Mr. Marcus N. Adler, from the Hebrew text in the British Museum, and this new version is presently to be issued by Mr. Henry Frowde.

The Arthur H. Clark Company, of Cleveland, announces a biography of Dr. John McLoughlin, by Frederick V. Holman. Dr. McLoughlin was the pioneer of the Northwest, familiarly known as "The Father of Oregon." This book about him will be freely illustrated with portraits and documents.

Not long ago Mr. Bertram Dobell, the lucky London searcher after literary rarities, was fortunate enough to discover an old manuscript copy of Sir Philip Sidney's "Arcadia." Recently he has obtained a second manuscript copy, and, writing about it in "The Athenaeum," he notes that the evidence furnished by the two manu-

scriptures, together with other evidence since discovered, makes it certain that in them we have the work as it was originally conceived and written by Sir Philip Sidney. He continues as follows:

In one highly interesting passage which appears in the MSS. (but not in the printed copies) the author, who, as is well known, introduces himself into the story under the name of Philisides, gives a short autobiography of himself and an account of his love disappointments. Though I will not say that this passage supplies any particularly novel information as to the author's character or the events of his life, it is at any rate not a little interesting thus to see in what light he regarded himself and his own achievements. Here, as elsewhere, he depicts himself as a somewhat melancholy and disappointed, or at least disillusioned, person, who found himself, as all poetical and imaginative natures must do, at variance with the real world, which differed so much from the ideal one which existed in his own spirit. That these MSS. should be now in the hands of Messrs. Dodd, Mead & Co., of New York, and are therefore likely to find a permanent home in the United States, may possibly be a matter of regret, though not of surprise, to most Englishmen. But that they will go into very good hands can hardly be doubted; and probably they will be utilized before long for the preparation of a critical edition of the "Arcadia," which has only now become possible, owing to their discovery.

Brettkopf & Hertel, the music publishers of Leipzig, will issue this season the first volumes in the complete edition of Haydn's works, which has been in preparation for some twenty years. This edition, which is to be uniform with the editions of Mozart, Beethoven and Schubert printed by the same house, will consist of about fourscore volumes, to cost, all told, about \$150. Many eminent musicians have concerned themselves with it, and the editors have been given access to all manuscripts in the possession of private individuals and public institutions.

Students of Shakespeariana were favorably impressed some ten years ago by the book which Mr. W. H. Madden then published, "The Diary of Master William Silence: A Study of Shakespeare and of Elizabethan Sport." They will be glad to hear that it is presently going into a new and cheaper edition, for which the author has written a long preface and a number of notes. Longmans, Green & Co. are the publishers.

The autumn books of travel will include one by Mr. A. Henry Savage Lander, "Across Wildest Africa." If he writes as picturesquely as he did in his book on Tibet he ought to be amusing. His latest expedition extended from Djibuti on the East Coast to Cape Verde, a distance of 8,500 miles. Another new travel book will be Mr. Douglas Sladen's "Queer Things About Persia," written with the assistance of Mr. Eustache de Lorey, who was for two years at-

tached to the French legation at Teheran, and was privileged to visit places inaccessible to the ordinary tourist. Chatto & Windus, the London publishers, have projected a series of volumes to be issued under the general title of "The New Medieval Library." Of the early volumes in this collection of little known compositions of the past the first is Christine de Pisan's "The Book of the Duke of True Lovers," now first translated from the unique MS. in the Middle French, preserved in the British Museum, with notes and an introduction by Alice Kemp Welch, and the lyrics translated into the original metres by Mr. Eric Maclagan and Mr. Laurence Binyon. Six photographs reproduce the illuminations found in the MS. The second volume—"Of the Tumbler of Our Lady, and Other Miracles"—contains the first translation from the MS. preserved at Soissons, only the first of the nine miracles here recorded having hitherto been done into English. The third volume in the series is a new edition of the first English version of the medieval romance entitled "The Lady of Vergil," translated from the Middle French by Alice Kemp Welch, and originally issued in 1903. "The Lady of Vergil" went out of print as soon as it was published, and has been considerably revised for the present edition.

More art books are toward. The Rev. J. Burns has written a volume of "The Christ Face in Art," to be published, of course, with illustrations. There are to be new books on Delacroix and the Van Eycks, and Professor Gardner is to bring out a study of "Six Greek Sculptors." The Century Company will add to its series of volumes of wood engravings by Timothy Cole one on "Old Spanish Masters," with text by Charles H. Caffin, and notes by the engraver.

An interesting note on the reading public in Sweden appears in "The London Bookman." Writing from Stockholm a correspondent of that journal says: English authors are read here less than German and French, and in the Tauchnitz editions chiefly, but there are Swedish translations, at moderate prices, of most of our popular novelists. A year or two ago there was a great run on Mr. Kipling's books, and they are still widely read. So are the works of Lafcadio Hearn. I find Stevenson little known, and Thackeray, little read. Dickens is, without doubt, the popular English classic. The Swedes are at the moment neglecting foreign literature comparatively, and giving more encouragement to their own authors. All the publishers now issue cheap reprints of Swedish classics, and some recent and living writers have attained high circulations. Selma Lagerlof has just been given the honorary degree of LL. D. by the University of Upsala—the first Swedish woman so honored.

The lady who publishes her books over the name of Christopher Hare has shown in her Italian studies that she has a *flair* for a good subject, and she shows this again in her forthcoming volume. Under the title of "Louis XI of France" she treats of personalities and affairs in fifteenth century Europe. Around the career of the grim French king she weaves a story involving such events as the appearance of Joan of Arc, the capture of Constantinople by the Turks, and the death of Edward IV of England.

Mr. Randall Parrish is evidently an author of some versatility. The McClurgs of Chicago have just published an interesting historical work by him, "The Great Plains," in which he surveys the development of the Western frontier from 1527 to 1870, and simultaneously it is announced that he is bringing out a novel called "Beth Norvell," the story of a Colorado mining camp. The same publishers have just issued two works of importance to students of American history. One is "The Campaign of Santiago de Cuba," by Colonel Herbert H. Sargent, a military treatise in three volumes, and the other is "A Handbook of the Philippines," by Hamilton M. Wright.

There is to be a new edition of all the works of George Borrow, and it is to be illustrated. This is peculiarly interesting news. The great master of gypsy lore has been illustrated before but never fully, and though we recall a few clever drawings made for his text, we have always regarded him as waiting, on the whole, for a sympathetic artist. We shall watch with keen curiosity the experiment now to be made. One needs temperament as well as powers of observation and rare skill to make a proper pictorial accompaniment to his enchanting books.

**THE NIGHTINGALE AND DEATH.**  
Coleridge's Defence of the Songster as Not a Melancholy Bird.

From Notes and Queries.  
The traditional view of the nightingale's song is supremely given in the familiar lyric by Richard Barnfield. Here the poet finds the forlorn bird, with "her breast up-till a thorn," earnestly pouring forth her melodious sorrow. Milton in his juvenile sonnet apostrophizes the ineffable singer as giving forth notes that portend success in love; and, when he comes to describe sober pleasures in "Il Penseroso," he appropriately finds the same strains "most musical, most melancholy." Against this Coleridge enters a vigorous protest in "The Nightingale: a Conversation Poem," characteristically advancing in the following passage a general truth and a specific criticism:—

A melancholy bird? O! idle thought!  
In Nature there is nothing melancholy.  
But some night-wandering man whose heart was pierced  
With the remembrance of a grievous wrong,  
Or slow distemper, or neglected love  
(And so, poor wretch, fill'd all things with himself,  
And made all gentle sounds tell back the tale  
Of his own sorrow), he, and such as he,  
First nam'd these notes a melancholy strain.

Annotating this, the poet further illustrates his philosophic acuteness, and takes the opportunity of expressing his loyalty to his eminent poetical predecessor. "This passage in Milton," the note runs, possesses an excellence far superior to that of mere description; it is spoken in the character of the melancholy man, and has therefore a dramatic propriety. The author makes this remark to rescue himself from the charge of having alluded with levity to a line in Milton, a charge that which none could be more painful to him, except perhaps that of having ridiculed his Bible.

In a letter to Christopher North, Wordsworth refers to the "false notions" regarding the nightingale's song, and expresses his belief that Coleridge's poem, with its theory that "in Nature there is nothing melancholy," will in all likelihood "contribute greatly to rectify these." In his own poem, "Enterprize," he touches on the same point, and alludes to the nightingale as "the sweet Bird, misnam'd the melancholy." It is hardly necessary to add that Keats, in his great ode "To a Nightingale," rises to exquisite rapture over the happiness manifested in the singing of the "light-winged Dryad of the trees."