



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

### **Usage guidelines**

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

### **About Google Book Search**

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

No. 704.

KP316 20 Cents.

NEDL TRANSFER  
[Barcode]  
HN 2TLJ P



# LOVELL'S LIBRARY

A TRIWEEKLY PUBLICATION OF THE BEST CURRENT & STANDARD LITERATURE



Vol. 34. No. 704. January 30, 1890. Annual Subscription, \$10.00.

## EVOLUTION

A SCOTCH VERDICT

BY

CHARLES F. DEEMS, LL.D.

Author of "THE LIGHT OF THE NATIÖSS,"  
"HOME-ALTAR," ETC., ETC.

Entered as Second-Class Matter, July 16, 1879, at New York, N. Y., under No. 1053.  
Copyright, 1889, by John W. Lovell, Inc.



NEW-YORK  
\* JOHN W. LOVELL COMPANY \*  
14 & 16 NASSAU STREET



TID-BITS ONLY 3 CENTS.

THE BEST LITERARY AND  
RUMOROUS WEEKLY PUBLISHED. } — AT ALL —  
NEWSTANDS.

# LOVELL'S LIBRARY—Latest Issues.

<p>569 The Abbot, by Sir Walter Scott... 20</p> <p>570 Satanstoe, by J. Fenimore Cooper... 20</p> <p>571 Count Castiglione, etc., by Carlyle... 15</p> <p>572 Modern Painters, Vol. II... 20</p> <p>573 Pearl of the Andes, by Aimard... 10</p> <p>574 Stories for Young Housekeepers... 15</p> <p>575 Quentin Durward, by Walter Scott... 20</p> <p>576 Chain-Bearer, by J. F. Cooper... 20</p> <p>577 Modern Painters, Vol. III... 20</p> <p>578 Frederick the Great, Vol. I., by Thomas Carlyle... 20</p> <p>579 Lessons in Life, by T. S. Arthur... 15</p> <p>580 Frederick the Great, Vol. II... 20</p> <p>581 The Talisman, by Sir Walter Scott... 20</p> <p>582 Off Hand Sketches, by Arthur... 15</p> <p>583 Mrs. Hemans's Poems... 30</p> <p>584 Wise Women of Inverness, by Black... 10</p> <p>585 The Tried and the Tempted... 15</p> <p>586 St. Ronan's Well, by Scott... 20</p> <p>587 Ways of the Hour, by J. F. Cooper... 20</p> <p>588 To the Bitter End, by Braddon... 20</p> <p>589 Modern Painters, Vol. IV., Ruskin... 25</p> <p>590 Old Myddleton's Money, by Hay... 20</p> <p>591 Frederick the Great, Vol. III... 20</p> <p>592 That Terrible Man, by Norris... 10</p> <p>593 Between Two Sins, by Clay... 10</p> <p>594 A Summer in Skye, by Smith... 20</p> <p>595 Anne of Geierstein, by Scott... 20</p> <p>596 Dead Sea Fruit, by Braddon... 20</p> <p>597 Fettered for Life, by L. D. Blake... 25</p> <p>598 King of the Golden River, Ruskin... 10</p> <p>599 Like Dian's Kiss, by "Rita"... 20</p> <p>600 A Brighton Night, Margaret Lee... 20</p> <p>601 Precaution, by Cooper... 20</p> <p>602 Oliver's Bride, by Mrs. Oliphant... 10</p> <p>603 Red-skins, by Cooper... 25</p> <p>604 Sidonie, by Daudet... 20</p> <p>605 Aunt Margaret's Mirror, Scott... 10</p> <p>606 Forbidden Fruit... 20</p> <p>607 Chronicles of the Canongate, Scott... 15</p> <p>608 Modern Painters, Vol. V., Ruskin... 25</p> <p>609 The Monastery, by Scott... 20</p> <p>610 Frederick the Great, Vol. IV... 20</p> <p>611 Jack Tier, by Cooper... 20</p> <p>612 Carriston's Gift, by Hugh Conway... 10</p> <p>613 Jack, by A. Daudet... 20</p> <p>614 At a High Price, by E. Werner... 20</p> <p>615 The Little Good-for-Nothing... 20</p> <p>616 The Tinted Venus, by Anstey... 15</p> <p>617 Paul Vargas, by Hugh Conway... 10</p> <p>618 Dick's Sweetheart, by The Duchess... 20</p> <p>619 Frederick the Great, Vol. V... 20</p> <p>620 Guy Mannering, by Scott... 20</p> <p>621 A Maiden All Forlorn, by Duchess... 10</p> <p>622 Frederick the Great, Vol. VI... 20</p> <p>623 Unto this Last, by Ruskin... 10</p> <p>624 A Passive Crime, by The Duchess... 10</p> <p>625 Kenilworth, by Scott... 25</p> <p>626 Frederick the Great, Vol. VII... 20</p> <p>627 Munera Pulveris, by Ruskin... 15</p> <p>628 Frederick the Great, Vol. VIII... 20</p> <p>629 The Antiquary, by Scott... 20</p> <p>630 John Sterling, by Carlyle... 20</p> <p>631 A Family Affair, by Sir Walter Scott... 20</p> <p>632 Rob Roy, by Sir Walter Scott... 20</p> <p>633 Latter-Day Pamphlets, by Carlyle... 20</p>	<p>634 Uncle Jack, by Walter Besant... 10</p> <p>635 The Betrothed, by Sir Walter Scott... 20</p> <p>636 Life of Schiller, by Thomas Carlyle... 20</p> <p>637 "A Joy for Ever," by John Ruskin... 15</p> <p>638 Fair Maid of Perth, by Scott... 20</p> <p>639 Pleasures of England, by Ruskin... 10</p> <p>640 The Partisan, by Simms... 30</p> <p>641 Old Mortality, by Sir Walter Scott... 20</p> <p>642 The Two Paths, by John Ruskin... 20</p> <p>643 Oliver Cromwell, Vol. I., Carlyle... 25</p> <p>644 Lectures on Art, Ruskin... 15</p> <p>645 The Nabob, by Alphonse Daudet... 25</p> <p>646 Oliver Cromwell, Vol. II., by Carlyle... 25</p> <p>647 Aratra Pentelici, by Ruskin... 15</p> <p>648 Mellichampe, by Wm. Gilmore Simms... 30</p> <p>649 Oliver Cromwell, Vol. III., by Carlyle... 25</p> <p>650 Time and Tide, by Ruskin... 15</p> <p>651 At War with Herself, by Bertha M. Clay... 15</p> <p>652 Characteristics, by Carlyle... 15</p> <p>653 The Yemassee, by W. G. Simms... 30</p> <p>654 Love's Harvest, by B. L. Farjeon... 20</p> <p>655 Integral Co-operation, by A. K. Owen... 30</p> <p>656 Corn Law Rhymes, by Carlyle... 15</p> <p>657 Katherine Walton, by W. G. Simms... 30</p> <p>658 Baillie the Covenantar, by Carlyle... 15</p> <p>659 The Luck of the Darrells, by Payn... 20</p> <p>660 For Lillias, by Rosa Nouchette Carey... 20</p> <p>661 Dr. Francia, by Carlyle... 15</p> <p>662 Southward Ho! by W. G. Simms... 30</p> <p>663 The Flower of Doom, by M. B. Edwards... 10</p> <p>664 At Bay, by Mrs. Alexander... 10</p> <p>665 Mornings in Florence, by John Ruskin... 15</p> <p>666 Barbara's Rival, by Ernest Young... 20</p> <p>667 Story of a Sculptor, by Conway... 10</p> <p>668 St. Mark's Rest, by John Ruskin... 15</p> <p>669 Hilda, by Bertha M. Clay... 10</p> <p>670 Deucalion, by Ruskin... 15</p> <p>671 The Scout, by Simms... 30</p> <p>672 Slings and Arrows, by Conway... 10</p> <p>673 Art of England, by Ruskin... 10</p> <p>674 The Wigwam and Cabin, by Simms... 30</p> <p>675 A Rainy June, by Ouida... 10</p> <p>676 Eagle's Nest, by Ruskin... 15</p> <p>677 Vasconselos, by Simms... 30</p> <p>678 White Feather, by Black... 20</p> <p>679 Our Fathers Have Told Us, by Ruskin... 15</p> <p>680 Confession, by Simms... 30</p> <p>681 A Girton Girl, by Mrs. Edwards... 20</p> <p>682 Proserpina, by Ruskin... 15</p> <p>683 The Ghost's Touch, by Collins... 10</p> <p>684 Woodcraft, by Simms... 30</p> <p>685 Val d'Arno, by Ruskin... 15</p> <p>686 My Lady's Money, by Collins... 10</p> <p>687 Richard Hurdia, by Simms... 20</p> <p>688 The Last Days of Pompeii, by Ruskin... 15</p> <p>689 The Last Days of Pompeii, by Ruskin... 15</p> <p>690 The Last Days of Pompeii, by Ruskin... 15</p> <p>691 The Last Days of Pompeii, by Ruskin... 15</p> <p>692 The Last Days of Pompeii, by Ruskin... 15</p> <p>693 The Last Days of Pompeii, by Ruskin... 15</p> <p>694 The Last Days of Pompeii, by Ruskin... 15</p> <p>695 The Last Days of Pompeii, by Ruskin... 15</p> <p>696 The Last Days of Pompeii, by Ruskin... 15</p> <p>697 The Last Days of Pompeii, by Ruskin... 15</p> <p>698 The Last Days of Pompeii, by Ruskin... 15</p> <p>699 The Last Days of Pompeii, by Ruskin... 15</p> <p>700 The Last Days of Pompeii, by Ruskin... 15</p>
--	--

**JOHN W.**

**14**

**Publishers,  
York.**

# BALL'S



# CORSETS

## LADIES!

If you appreciate a Corset that will neither break down nor roll up in wear,

**TRY BALL'S CORSETS.**

If you value health and comfort,

**WEAR BALL'S CORSETS.**

If you desire a Corset that fits the first day you wear it, and needs no "breaking in,"

**BUY BALL'S CORSETS.**

If you desire a Corset that yields with every motion of the body,

**EXAMINE BALL'S CORSETS.**

If you want a perfect fit and support without compression,

**USE BALL'S CORSETS.**

Owing to their peculiar construction it is impossible to break steels in Ball's Corsets.

The Elastic Sections in Ball's Corsets contain no rubber, and are warranted to out-wear the Corset.

Every pair sold with the following guarantee:

"If not perfectly satisfactory in every respect after three weeks' trial, the money paid for them will be refunded (by the dealer), *Solled or Unsolled.*"

The wonderful popularity of Ball's Corsets has induced rival manufacturers to imitate them. If you want a Corset that will give perfect satisfaction, insist on purchasing one marked, **PATENTED FEB. 22, 1881.**

**And see that the name BALL is on the Box.**

**For Sale by all Leading Dry Goods Dealers.**

# INTESTINAL TORPOR AND KINDRED EVILS

Relieved without Drugs.

The sufferer from Constipation and Piles should test the **GLUTEN SUPPOSITORIES** which cure most cases by **INCREASING THE NUTRITION OF THE FAECES**, thus inducing desire and strengthening the power of expulsion.

## READ THE EVIDENCE.

Dr. A. W. THOMPSON, Northampton, Mass., says: "I have tested the Gluten Suppositories, and consider them valuable, as, indeed, I expected from the excellence of their theory."

Dr. WM. TOD HELMUTH declares the Gluten Suppositories to be "the best remedy for constipation which I have ever prescribed."

"As Sancho Panza said of sleep, so say I of your Gluten Suppositories: God bless the man who invented them!"—E. L. RIPLEY, Burlington, Vt.

"I have been a constipated dyspeptic for many years, and the effect has been to reduce me in flesh, and to render me liable to no little nerve prostration and sleeplessness, especially after preaching or any special mental effort. The use of Gluten Suppositories, made by the Health Food Co., 74 Fourth Avenue, New York, has relieved the constipated habit, and their Gluten and Brain Food have secured for me new powers of digestion, and the ability to sleep soundly and think clearly. I believe their food-remedies to be worthy of the high praise which they are receiving on all sides."—REV. JOHN H. PATON, Mich.

"I cannot speak too highly of the Health Food Company's Gluten Suppositories, as they have been a perfect God-send to me. I believe them superior to anything ever devised for the relief of constipation and hemorrhoids. I have suffered from these evils more than twenty years, and have at last found substantial relief through the use of the Gluten Suppositories."—CYRUS BRADBURY, Hopedale, Mass.

Send for all our **HEALTH FOOD LITERATURE.**

**HEALTH FOOD COMPANY,**  
4th Ave. and 10th St., adjoining Stewart's, New York; N. Y.

---

# LOVELL'S LIBRARY.

**AHEAD OF ALL COMPETITORS.**

The improvements being constantly made in "Lovell's Library," have placed it in the Front Rank of cheap publications in this country. The publishers propose to still further improve the series by having

**BETTER PAPER,**

**BETTER PRINTING,**

**LARGER TYPE.**

and more attractive cover than any series in the market.

## SEE WHAT IS SAID OF IT:

The following extract from a letter recently received shows the approval in which the Library is held by those who most constantly read it:

"MERCANTILE LIBRARY,  
BALTIMORE, August 29, 1888. }

"Will you kindly send me two copies of your latest list? I am glad to see that you now issue a volume every day. Your Library we find greatly preferable to the 'Seaside' and 'Franklin Square' Series, and even better than the 12mo. form of the latter, the page being of better shape, the lines better headed, and the words better spaced. Altogether your series is much more in favor with our subscribers than either of its rivals.  
S. C. DONALDSON, ASSISTANT LIBRARIAN."

**JOHN W. LOVELL CO., Publishers,**  
14 & 16 Vesey Street, New York.

# A SCOTCH VERDICT

*In Re* EVOLUTION

BY

CHARLES F. DEEMS, LL.D.

PASTOR OF THE CHURCH OF THE STRANGERS, NEW YORK

---

NEW YORK  
JOHN W. LOVELL COMPANY  
14 AND 16 VESEY STREET

RP 316



Morris I. Rosenberg

COPYRIGHT, 1885, BY  
CHARLES F. DEEMS

TROW'S  
PRINTING AND BOOKBINDING COMPANY,  
NEW YORK.

## PREFACE.

---

PORTIONS of this tractate originally appeared in the *Homiletic Monthly* for September, 1884, some time after much of it had been written. In the summer of 1885 certain portions were delivered in a lecture at Chautauqua.

In the examination of the hypothesis of evolution, the author has endeavored to avoid all dogmatism and all special pleading. His aim has been to ascertain *for himself* just what is the posture of the hypothesis at this time, without much regard to how it stood in the past, or any regard to its possible future, or any care for the effect which the result of his honest study might



have on any scientific, philosophical, or theological opinion previously held by him.

In that spirit it is given to the reader, with the simple reminder that it was not written for scholars, but for the people who have no time for scientific and philosophical studies. The feeling that he was writing *ad populum* has made him more scrupulously careful in his employment of expressions and use of statements, in which, if errors occur, scholars can more readily supply the correction than can those readers who must take what they know in these departments on authority.

C. F. D.

CHURCH OF THE STRANGERS,  
NEW YORK, December 4, 1885.

# CONTENTS.



## PART I.

	PAGE
I. THE CASE STATED.....	7
II. DEFINITIONS.....	10
III. NEITHER A RELIGIOUS NOR SENTIMENTAL QUESTION.....	12
IV. READJUSTMENT OF TERMS.....	21
V. HYPOTHESIS.....	26
VI. TESTIMONY OF THE VEGETABLE WORLD...	30
VII. TESTIMONY OF THE DAKOTA GROUP.....	34
VIII. TESTIMONY OF ANIMALS.....	39
IX. THE EXISTENCE OF INSTINCT.....	50
X. LANGUAGE.....	53
XI. GENIUS.....	56
XII. THE MORAL SENSE.....	58
XIII. ETERNITY OF MATTER.....	62
XIV. RELATION OF EVOLUTION TO SCIENCE.....	67
XV. THE ATOMIC THEORY.....	74
XVI. SPONTANEOUS GENERATION.....	76
XVII. IS EVOLUTION SCIENTIFIC?.....	84

## PART II.

	PAGE
I. BUDDHA, JESUS, AND EVOLUTION.....	92
II. NATURAL SELECTION .....	97
III. A WEAK POINT.....	98
IV. IMPORTANT UTTERANCES.—ARGYLL, DAW- SON, DRURY, ELAM, ELLICOTT, GUYOT, HÆCKEL, HUXLEY, MIVART, MUNGER, PIPER, QUATREFAGES, THOMPSON, TYN- DALL, VAN BENEDIN, VIRCHOW, VON BISCHOFF, WINCHELL.....	100
V. A VOICE FROM THE BRITISH MUSEUM.....	107

## PART I.



### I.—THE CASE STATED.

AMERICAN juries render in each case which involves a felony a verdict of *Guilty* or *Not Guilty*. There must be many cases submitted to juries in which they cannot decide that the accused is "Guilty," and yet his innocence has not been so established as that they can pronounce him "Not Guilty." Scotch juries, in such a case, save the accused, while they avoid indorsing his character by bringing in a verdict which is a judgment made up, not upon the accused, but upon the allegations contained in the indictment, and that verdict is "Not Proven."

Outside the court-house there must come for judgment before every thoughtful mind propositions, hypotheses, theories, which have some show of evidence, which can pro-

duce something to raise a suspicion, or even create a possibility, and perhaps some probability, of their truth, while so much known truth lies against one's accepting them that the only rational verdict that can be rendered is the Scotch verdict, "Not Proven."

It seems that that is the status of the hypothesis of evolution. In many journals, in many lectures, in many conversations, we find it taken as a *closed case* which had gained a favorable verdict. Even sometimes we find this groundless assumption in our school-books. Moreover, books are written, and lectures delivered, and (save the mark!) sermons are delivered, which could have no coherency without the cool assumption that evolution is as settled a scientific doctrine as the doctrine of gravitation.

One writer, Mr. John Fiske ("Destiny of Man," p. 20), tells us that man descended from a stock of primates, back to which we may also trace the converging pedigrees of monkeys and lemurs, until their ancestry becomes indistinguishable from that of rabbits and squirrels. And then, apparently upon the supposition that he would not have a

single well-informed reader, he ventures to tell us that

there is no more reason for supposing that this conclusion will ever be gainsaid than for supposing that the Copernican astronomy will some time be overthrown and the concentric spheres of Dante's heaven reinstated in the minds of men.

And this in face of the fact that the statement *is* rejected by a majority of the leading scientific men of this day, such men as Von Baer, Virchow, Barrande, Alfred Russel Wallace, Mivart, De Quatrefages, Dana, Dawson, Sir William Thomson, Carruthers, Clerk Maxwell, and others.

*Nothing could be farther from the fact than the statement that the doctrine of evolution is a settled scientific doctrine.* Guyot says ("Creation," p. 128) that

the question of evolution within each of these great systems—of matter into various forms of matter, of life into various forms of life, and of mankind into all its varieties—is still open.

In this treatise from a mass of matter a few facts are selected, from the fair consideration of which it is believed that in this case

the candid reader will conclude that the only verdict which can be rendered is the Scotch verdict, "Not Proven."

Let us bear in mind that it is not undertaken to show that the evolution hypothesis is false, but simply to show that its advocates have not established its truth up to Christmas, A.D. 1885.

## II.—DEFINITIONS.

EVOLUTION is a word used to designate a certain theory of the universe. It may be represented as the doctrine which sets forth the production of all things from a primordial germ, by a process which has been described as a change from that which is homogeneous to that which is heterogeneous; from the indefinite and undetermined to that which is definite and determined; from the incoherent to the coherent; from the simple to the complex. The cause of this change is supposed to be in the ultimate laws of matter, force, and motion. Mr. Spencer, who, more than any other man, has endeavored to "elaborate a consistent philosophy

of evolution on a scientific basis," sets out with "the assumption of a limited mass of homogeneous matter, acted upon by incident forces." Professor Huxley ("Critiques and Addresses") says that the fundamental proposition of evolution is

that the whole world, living and not living, is the result of the mutual interaction, according to definite laws, of the forces possessed by the molecules, of which the primitive nebulosity of the universe was composed.

In the words of Principal Dawson, it is a hypothesis

which solves the question of human origin by assuming that human nature exists potentially in mere inorganic matter, and that a chain of spontaneous derivation connects incandescent molecules or stardust with the world and with man himself ("The Earth and Man," pp. 316-317).

There are very many difficulties in this theory. These, however, do not prove it false. They simply postpone its acceptance. One serious difficulty lies in the very fact of this postponement. When a question has been fairly before the world for hundreds of years, and when the ablest minds in three



most recent generations of scientific men have been devoted to its investigation, and yet so little approach is made to unanimity, men practically say that there must be some latent but powerful vice in the reasoning by which it is upheld.

### III.—NEITHER A RELIGIOUS NOR SENTIMENTAL QUESTION.

IT is to be observed that all the difficulties of evolution have a scientific basis. There is no religious reason for its acceptance or rejection.

Professor Francis L. Patton (*Presbyterian Review*, January, 1885) has shown that it is not evolution in its scientific aspect so much, but rather the metaphysical supplement of evolution, that is specially hostile to the Gospel.

Sir William Thomson, the eminent English scientist, refuses to accept the doctrine of evolution, not because it would interfere with his religious belief, but simply because it is wholly unproved. Dr. Field, of the *Evangelist*, reports him as saying :

That man could be evolved out of inferior animals is the wildest dream of materialism, a pure assumption, which offended him alike by its folly and its arrogance.

One theory of evolution does not touch the question of origin. It simply describes a process of development. It is easy to conceive a man believing in God the Father Almighty while holding that that God originally created a single cell, or monad, or molecule, and endowed it with all potencies, so that it might grow into all there now is in the universe. At a meeting in Boston, September 11, 1882, Professor Gray, who is known as a follower of Darwin, is reported to have presented the following views :

Nature is either the outcome of mind, or mind is the outcome of nature. These are the only alternatives. The former has been more commonly held, at least till the beginning of the present generation. The question is, Has modern science proved the contrary? No. In response to the question, however, the naturalists have said not a little. They have presented many facts which help to make an answer. But the present demand is for the theologians to tell us what they think. I, for one, do not believe that, after the matter has been thoroughly

sifted, the grounds of our faith in Jesus Christ are to be materially affected. The cause of Christianity will not suffer at the hands of physical science. We may be obliged to recast certain beliefs, but we may still be good Christians, and accept the religion of Christ as contained in the four Gospels.

He has since published his views in two lectures delivered to the Theological School of Yale College.

Professor Winchell is an able evolutionist of a certain school, and yet in the *Homiletic Review*, August, 1885, says: "What are natural things? Existences which have been brought into being by some superhuman power." All through his able writings Professor Winchell manifests his intelligent Christianity; but he is an evolutionist.

It may be added that Mivart, the celebrated English scientist, an earnest Roman Catholic, is a theistic evolutionist.

Even Professor Huxley ("Critiques and Addresses," p. 274) says:

The teleological and the mechanical views of nature are not, necessarily, mutually exclusive. On the contrary, the more purely a mechanist the speculator is, the more firmly does he assume a primordial molecular arrangement, of which all the phe-

nomena of the universe are the consequences ; and the more completely is he thereby at the mercy of the teleologist, who can always defy him to disprove that this primordial molecular arrangement was not intended to evolve the phenomena of the universe.

Dr. McCosh, the President of Princeton College, made the following assertions in an address before the General Conference of the Evangelical Alliance :

It is useless to tell the younger naturalists that there is no truth in the doctrine of development, for they know that there is truth which is not to be set aside by denunciation. Religious philosophers might be more profitably employed in showing them the religious aspects of the doctrine of development ; and some would be grateful to any who would help them to keep their old faith in God and the Bible with their new faith in science.

Again, in his book on "Development," Dr. McCosh says :

It is no use denying in our day the doctrine of evolution, in the name of religion or any good cause. It can now be shown that it rather favors religions by its furnishing proofs of design, and by the wonderful parallelism between Genesis and geology.

The following are the words of Professor George I. Chace, LL.D., an eminent Chris-

tian scientist, and for forty-three years a distinguished member of the faculty of the oldest Baptist university in America :

Are not the energies revealed in matter sufficiently enduring and sufficiently obedient to law ? Waiving for the present the great difficulties attending the development hypothesis, and passing over the very slender foundation upon which it rests, let us entertain it for a moment, and see what bearing it has upon our argument. Does it enable us to dispense with intelligence ? Does it do anything more than carry to a point farther back the directive power of mind ? Would the proper adjustment of the primordial atoms require no thought ? The placing of them in relations to one another, such that by their definitely regulated interaction, continued through the cosmic ages, they should in the end of time achieve the marvels of life and intelligence which we behold around us ? To start movements in the nebulous matter which should travel down the æons of eternity, until at length, suns and systems completed, they should appear on the earth in the production of eyes, and ears, and hearts, and hands, and brains, with all their wonderful endowments ; would this demand no effort of mind ? On the contrary, would it not suppose an intelligence which, flashing along the line of antecedent and consequent, should take in at a single glance all the possibilities offered by the original chaos of atoms ? Should the so-called development hypothesis ever

be established on the firm basis of observation and induction, which I deem highly improbable, it could lead us legitimately only to sublimer conceptions of the attributes of Deity. Instead of embarrassing theism, it would assist in removing difficulties attending it. It would explain, for instance, in a satisfactory manner, the origin of certain existing forms of life, which it is not easy to imagine God could take pleasure in directly creating. If the argument for the Divine existence derived from this wider and more profound view of nature be less convincing than the argument from special structures, it is because the mind, overwhelmed and paralyzed by the vastness of the premises, moves with enfeebled energy to the conclusion. A larger and stronger intelligence would arrive at the truth with as much certainty, and hold it with as firm a grasp. In the embryology of the universe, as in the embryology of every living inhabitant of our planet, God walks in ways which we do not understand, because in the one case we have not faculties large enough, and in the other minute enough, to trace his footsteps.

The late Robert Patterson ("Errors of Evolution," pp. 206-207) calls attention to the fact that

Mr. Spencer argues that there is a greater display of wisdom in evolution than in creation. At any rate, evolution can never establish Atheism.

Creation by law is as divine as creation by command. Mr. Spencer is not the only one, nor the first, to assert this doctrine. The theological view of evolution has been maintained in past ages by St. Augustine and St. Thomas Aquinas. St. Basil speaks of the continued operation of natural laws in the production of all organisms. St. Thomas says: "In the institution of nature we do not look for miracles, but what belongs to the nature of things, as St. Augustine says" (Sum. 1.-lxvii. 4 ad 3). And in a similar strain we find modern divines asserting that the proofs of the existence of the Supreme Intelligence would not be destroyed were evolution established as a fact. Dr. McCosh devotes the first chapter of his work, "Christianity and Positivism," to the illustration of the evidences of design given by the supposed evolution from the primeval fire-mist; and engages that, if the theory of evolution and spontaneous generation should be established while he is alive, to demonstrate that it necessitates God to originate and operate it. The Duke of Argyle sees nothing atheistic in creation by law. And leading evolutionists, like Mr. Huxley, affirm ("Critiques and Addresses," p. 272) that "Darwinism does not affect the doctrine of final causes." Mr. Wallace, one of the originators of Darwin's theory, says ("Natural Selections," p. 368), after showing that we have no direct knowledge of any force in the universe but our own will-power: "If, therefore, we have traced one force, however minute, to the origin in our own will, while we have

no knowledge of any other primary cause of force, it does not seem an improbable conclusion that all force may be WILL-FORCE; and thus that the whole universe is not merely dependent on, but actually *is* the will of higher intelligences, or of one Supreme Intelligence." And Professor Owen ("Anatomy of Vertebrates," Chapter XL.) sums up the argument for design in a sentence which defies refutation: "A purposive route of development and change, of correlation and interdependence manifesting, intelligent will, is as determinable in the succession of races as in the development and organization of the individual. Generations do not vary accidentally in any and every direction, but in pre-ordained, definite, and correlated courses."

We might multiply citations, but these are sufficient to refute the claims made by French and German writers that Darwinism destroys the proof from design of the Being and Government of God. Logically it cannot have any such effect.

Mr. Darwin concludes his book on the "Origin of Species" thus:

There is a grandeur in this view of life, with its several powers, having been originally *breathed by the Creator* into a few forms, or into one; and that, while this planet has been circling on, according to the fixed law of gravity, from so simple a beginning,



endless forms, most beautiful and most wonderful, have been, and are being evolved." On the preceding page he speaks of laws enforced by the Creator.

*The very moment evolution is proved, the theologians will be able to show that it stands in harmony with all theology worth preserving.* But they are not called to show harmony between what is *true* and what is merely *conjectural*.

Nor is it a question of sentiment. We may agree with Professor Rudolph Schmid, who, in his "Theories of Darwin and their Relations to Philosophy, Religion, and Morality," says that he

thinks it "*infinitely insignificant* whether the earthly matter out of which God formed man, who is dust of the earth, was an animal organism or not" (p. 315). "*The question . . . whether man's connection with the ground is brought about through the form of a preceding animal organism or not, is no longer of importance*" (p. 318). He thinks it just as *dignified* to have an animal ancestry as to have an ancestry of dirt; he sees no ground for the sentimental opposition to animal descent as to our bodies, because "*brutes*" are so ugly, wicked, hideous, etc., for "mankind has stains uglier than those which dis-

figure the wildest beast of prey, and also traits so noble that man need not be ashamed of them" (p. 319). He says, "It is certainly a right feeling to which Darwin, in his 'Descent of Man,' gives expression when he says: 'For my own part, I would as soon be descended from that heroic little monkey who braved his dreaded enemy in order to save the life of his keeper, or from that old baboon who, descending from the mountains, carried away in triumph his young comrade from a crowd of astonished dogs, as from a savage who delights to torture his enemies, offers up bloody sacrifices, practises infanticide without remorse, treats his wives like slaves, knows no decency, and is haunted by the grossest superstitions'" (p. 319).\*

#### IV.—READJUSTMENT OF TERMS.

WITH such a state of opinion does it not seem to be time to make a readjustment of the terms used, so to avoid confusion? The whole discussion would proceed in a more orderly and intelligible way, if we did not assign to one word two very distinct if not contradictory meanings. The word "evolution" is employed to mean sometimes theism and sometimes atheism.

---

\* Quoted by Rev. J. W. Finn, *Southern Presbyterian Review*, 1885, p. 522.

The saying that there may be a theory of so-called evolution compatible with a belief in a Creator, does not preclude the saying that there may be an anti-theistic theory of evolution. The fact is that where there has been opposition made to the theory on religious grounds, such opposition has always been excited by a very apparent zeal, upon the part of those opposed by religious people, to use whatever seemed in favor of evolution in order to oppose the theistic idea. There is a doctrine of evolution which is atheistic. That which requires the eternity of matter plainly is such. That which excludes the efficient superintendence of a personal Originator of force, plainly is such. Those who hold such a theory have to carry the burden of their opposition to the religious intuitions of mankind, as well as the burden of having to gather such proofs of their theory as will satisfy the scientific mind. And it is not to be forgotten that those religious intuitions of mankind are as much facts demanding attention of science as the processes of human thinking or animal respiration.

Very much confusion would be avoided, if, hereafter, all who speak and write on the subject would use the words "evolution" and "development" as indicating the same process in nature, while "evolution" should exclude God and make the process *in* nature to be *by* nature, and "development" should always imply the theistic idea, describing a process going on among *created* things under the superintendence of their Creator. This distinction would promote clarity of thought.

In any case the propounder of a hypothesis must substantiate it.

1. There may be no God and no evolution.
2. There may be a God and no evolution.
3. There may be an evolution and no God.
4. There may be a God and some sort of evolution.\*

It is plain that a man may hold any one of these four propositions. If the first, he calls upon theists to prove there is a God

---

\* In that case should it not be called "development" ?

and upon evolutionists to prove evolution. If the second, he demands of evolutionists the proof of evolution. If the third, he holds himself bound to establish evolution, and to call upon theists to prove the existence of God. If the fourth, he commits himself to prove the existence of a God and to show the truth of some kind of evolution-hypothesis. Observe that in every case the *onus probandi* falls on the evolutionists. No one is bound to show that the hypothesis is untrue. Its advocates must establish it. The question is simply this: Does evolution explain the universe in such a way as to be more consistent with most of the known facts, and is it freer from difficulties than any other theory? The doctrine of the law of gravitation was submitted to that test. It was found, and is still found, to have difficulties—as every proposition accepted as truth is known to have; but it has fewer difficulties than any other theory on the same plane, and it consists with more known facts. Therefore it is accepted. If evolution can thus make good its claim, it must be accepted.

It is in a high degree illegitimate, and therefore unscientific, to assume that a hypothesis has been established because no one has proved its falsity. That only is to be regarded as a scientific hypothesis to which we have been led by a study of the facts of the universe. We must not discover an hypothesis and invent our facts—a process rather fashionable in our day—but we must discover the facts, and then invent some hypothesis,\* in which they can stand and leave room for other facts. Then, whenever the facts become too great a multitude to stand in the circle of our hypothesis, we must increase the radius and so enlarge the space. Of two hypotheses, one of which embraces all the known facts of the universe *except one*, and the other embraces *all* the known facts, and then has room for the new comer, the first hypothesis must be abandoned and the second must become an accepted theory, or scientific doctrine.

---

\* After I had written the phrase "invent some hypothesis," I met it in Professor Huxley's *Origin of Species*, Lecture IV. "In order to explain or get at the cause of complex masses of phenomena we must *invent a hypothesis*, or make what seems a likely supposition respecting their cause."

## HYPOTHESIS

What is meant by 'Hypothesis'?

Dr. William Hamilton defines it as a provisional reference of phenomena to some supposed class or cause, until the mind becomes satisfied to make the reference permanent, or is able to refer the phenomena to some other class or cause.\*

John Stuart Mill thus defines it:

An hypothesis is any supposition which we make before we have actual evidence or on evidence apparently insufficient, in order to endeavor to deduce from it conclusions, in accordance with facts which are known to be real: under the idea that if the circumstances to which the hypothesis leads are known to exist, the hypothesis itself either must be, or at least is likely to be, true.†

Dr. Gregory says:

Hypothesis is often confounded with theory; but hypothesis properly means the supposition of a principle of whose existence there is no proof from experience, but which may be rendered more or less

\* Hamilton's *Metaphysics*, p. 117.

† *System of Logic*, 4th ed., bk. iii., c. iv.

probable by facts which are neither numerous enough nor adequate to infer its existence.\*

Have we any criteria of legitimate hypothesis? Almost all writers on the subject have furnished what they consider criteria, and we may therefore compile a code upon which there will be an approach to unanimity of acceptance.

Hamilton, quoted by Rev. J. W. Flinn (*Southern Presbyterian Review*, April, 1885), gives several criteria of a good hypothesis in the tenth lecture of his "Metaphysics," and in his discussion of the "Representative Theory of Perception" (Lecture XXVI.). They are in substance as follows: 1. The facts to be explained must really exist. Prove ghosts before explaining them. Establish *an sit* before *cur sit*. 2. The phenomena cannot be explained by any known cause or principle. 3. The hypothesis must involve no internal or external contradiction. It must be consistent with its parts, and not contradict other known truth. 4. It must explain the phenomena

---

\* Fleming's Vocabulary of Philosophy.



better than any known or supposed law or cause. 5. It must explain the phenomena simply and *fully*, independently of subsidiary hypotheses to help it out. 6. It must save the facts to be explained and not subvert, distort, or mutilate them. Professor Jevons,\* in giving the requisites of a good hypothesis, considers "*agreement with fact the sole and sufficient test of a true hypothesis.*"

Professor Huxley ("Origin of Species," Lecture VI.) says :

We must, in the first place, be prepared to prove that the supposed causes of the phenomena exist in nature ; that they are what the logicians call *vera causa*—true causes ; in the next place, we should be prepared to show that the assumed causes of the phenomena are competent to produce such phenomena as those which we wish to explain by them ; and in the last place, we ought to be able to show that no other known causes are competent to produce these phenomena. If we can succeed in satisfying these three conditions, we shall have demonstrated our hypothesis ; or rather, I ought to say, we shall have proved it as far as certainty is possible for us ; for, after all, there is no one of our

---

\* Jevons's Principles of Science, bk. iv., c. xxiii.

surest convictions which may not be upset, or at any rate modified, by a further accession of knowledge.

The criterion given by Boyle of a legitimate hypothesis is that it should not be inconsistent with any other truth or phenomena of nature.

Professor Clifford says :

In order to make out that your supposition is true, it is necessary to show, not merely that that particular supposition will explain the facts, *but also that no other will.\**

The question is whether there be any hypothesis of evolution which can satisfy these criteria.

Davy (said Sir Lyon Playfair in his late presidential address to the British Association for the Advancement of Science) described hypothesis as the mere scaffolding of science, useful to build up true knowledge, but capable of being put up or taken down at pleasure. Undoubtedly a theory is only temporary, and the reason is, as Bacon has said, that the man of science "loveth truth more than theory." The changing theories which the

---

\* Conditions of Mental Development, Humboldt, Lib. edition, p. 44.

world despises are the leaves of the tree of science drawing nutriment to the parent stems, and enabling it to put forth new branches and to produce fruit; and though the leaves fall and decay, the very products of decay nourish the roots of the tree, and reappear in the new leaves or theories which succeed. When the questioning of nature by intelligent experiment has raised a system of science, then those men who desire to apply it to industrial invention proceed by the same methods to make rapid progress in the arts.

But no hypothesis can claim the dignity of a theory, and be maintained as a scientific doctrine, so long as there are very many well ascertained facts which cannot be accounted for by the hypothesis. This is admitted. To this unquestioned canon let us bring the hypothesis of evolution.

#### VI.—TESTIMONY OF THE VEGETABLE WORLD.

ANY theory of evolution demands that there shall have been a gradual but steady development from rudest and simplest forms to most complete and complex forms, *as a rule*, and not as an exception. Is that a

fact as r  
not find  
beginnin  
and the  
the sp  
taught  
theory  
ancien  
So far  
that  
need  
the  
mat  
so  
un  
in  
S

fact as regards vegetables? If so, shall we not find that the nearer we approach the beginning, the ruder will the forms become, and the fewer the genera in proportion to the species? This is what Mr. Darwin taught. Are there facts to sustain this theory? If so they must be found in the ancient rocks. The appeal is to geology. So far is geology from sustaining this view that it antagonizes it. Mr. Darwin felt the need of bringing geology into court as the witness that must know more of this matter than any other, and his witness so contradicted his theory that he was under the painful necessity of discrediting his own witness. (See "Origin of Species," Chapter X.) Professor Huxley says in the "Encyclopædia Britannica," ninth edition :

The only perfectly safe foundation for the doctrines of evolution is in the historical, or rather archæological evidence, that particular organisms have arisen by the gradual modifications of their predecessors, which is furnished by fossil remains.

We have the statement by the eminent

the existence of the plant and animal forms, but as yet they have disclosed nothing whatever as to *how* these forms originated.

## VII.—TESTIMONY OF THE DAKOTA GROUP.

ON this subject there is a great volume in the library of the Rock Books of nature, from which much instruction may be gained. There is what is called the Dakota Group, a formation of sandstone, described by Lesquereux as consisting of "reddish and yellow sandstone, with variously-colored clays, seams of impure lignite, and remains of fossil plants, the whole group holding a position at the base of the cretaceous series of the Northwest." If it occupied only a square mile, this Dakota group would be well worth the study of naturalists, but it extends continuously from Texas to Greenland, and is from sixty to one hundred miles in breadth. Its fossil plants have been studied by American and European naturalists, including some who are acknowledged to be among the ablest naturalists in the

WOR  
PAS  
S  
wh  
ga  
pr

world. The number of plant impressions is vast. The Rev. Mr. Harsha\* says :

So far as is known, there is no place on the earth where such precise and varied testimony can be gathered as to the relation between the flora of the present and that of the past in this formation.

Professor Wilber says :

The leaves here preserved in stone are so perfect that the skilled botanist at once recognizes every species, and makes his classification as readily as if he were dealing in the daily contributions gathered by a class in botany from our common groves in the month of June (see Wilber's "Nebraska").

Now, what do scientific men find in this great formation? Four things, every one of which suggests a difficulty which must be removed before any known theory of evolution can be accepted *as proved*.

1. It is manifestly essential to the evolution theory that the older any formation is, the smaller must be the number of genera in proportion to species. It follows that "in

---

\* Rev. William J. Harsha, A.M., contributed a brief but unusually important paper on the Dakota Group to the Presbyterian Review, January, 1883, to which amplest acknowledgment of indebtedness is made.

the older we should find few and simple generic forms." "The few simple genera and many species should be prior to the many complex general and the comparatively meagre species." This is the theory of evolution. But nature flatly contradicts it, and over a continent, with capital letters a hundred miles high, writes, **UNTRUE!** According to the geologists the Dakota group is five million years old; and in this old cretaceous formation, therefore, if evolution were true, the forms should be disorderly, and the genera few and the species many; whereas, everything is complete, the genera well marked, and the proportion of the genera to the species is as 72 to 130—not quite two species to each genus. Does not this one fact seem fatal to the acceptance of the evolution theory as it now stands?

2. If evolution be true, the flora of any one formation will have a perceptible connection with the flora of the next and more ancient formation from which it was evolved. But here, over thousands of square miles, we find a flora absolutely perfect, existing

without any primordial germ or type out of which it could have been evolved. The characteristics of this flora is the dicotyledon leaf. It is not scarce, but appears in measureless abundance. Now, that perfect leaf has been supposed by evolutionist naturalists to have been evolved through ages from ruder types, and to have made its first appearance certainly not earlier than the middle cretaceous formation, if so early. But here we find it far back in the Dakota group, and as perfect as it can be. The same is true of the other types in this group: "they all come forth in perfection at their first appearance." It is not said that they were created. We are not to account for their appearance. But they are a gross impertinence to evolution. They came unevolved, and they came to stay; and they have stayed through these millenniums, and so long as they are there, if there were not another fact in nature antagonistic to the evolution theory, would not this be fatal?

3. The theory of evolution necessarily involves the agreement of any flora with the flora of any similar group. Similar groups



are those produced at the same period of development. The flora of one being subjected to the same conditions, must, in main characteristics, agree with the other, if evolution be true; but they do not. The disagreement of synchronous forms has been observed by geologists in various portions of the planet. It is not necessary here to say that the Dakota group gives a very remarkable emphasis to this fact, which has ample place for itself in nature; but has it any place in any known theory of evolution?

4. If evolution be true, the flora of to-day should be different from the flora of five million years ago, and be more complex. But the Dakota group shows us that the species of those far-off cycles and the species of to-day are identical. No noteworthy difference is discovered between the cedar, the poplar, the willow, the oak, the fig, the tulip, the spicewood, the sassafras, the walnut, the buckthorn, the sumac, the cinnamon, the apple, and the plum of to-day, and the same species of five million years ago. How much longer will evolutionists demand? Is not all the ingenuity shown in Mr. Darwin's "Ori-

gin of Species" wasted, and worthless to establish his theory until some one will dig up and throw out of the planet every part, and even vestige, of the whole Dakota group?

#### VIII.—TESTIMONY OF ANIMALS.

LET us turn from plants to animals. After all that has been said about the origin of species, we know, as Dörner has pointed out, that the lower animals have shown no advance in instinct, in notions, in memory, or in physical structure in the last several thousands of years. This undisputed fact shows that if evolution was ever the law of the universe, so far as the lower animals are concerned, it has probably ceased to be. When did it cease? Why did it cease? The evolutionist must answer both questions. If there be no sign of the process now going on among the lower animals, to say that it will commence hereafter is only a prophecy, and it is only so much of a prophecy as a mere guess. Who has the authority to prophesy? If there be no proof that the process will ever begin, and there be not a solitary proof that it is now going on, there must be the most

conclusive proof that it operated in the production of the *differentia* of matter in the past. But where has that proof been produced? If there were enough indication of the passage from the homogeneous to the heterogeneous to produce the universe, would there not be indications which would enable us to approximate the period when the process ceased? But no evolutionist has been able to give us any information on this subject. On the contrary, Dr. Matheson, in his recent able book, has pointed out, and quotes in proof an address of Sir John Lubbock, that

since the opening of the human period we have no evidence whatever in the world of physical life of *any* operation of the evolution principle.\*

If testimony be sought from paleontology, it is not forthcoming, but all we can learn from fossils seems to be on the other side. Professor Virchow, the great German authority, stated in his presidential address :

But one thing I must say, that not a single fossil skull of an ape, or of an ape-man, has yet been

---

\* Can the Old Faith Live with the New? By G. Matheson, D.D. (p. 208).

found that could really have belonged to a human being. Every addition to the amount of objects which we have obtained as materials for discussions has removed us farther from the hypothesis propounded.

And again :

On the whole, we must really admit that there is a complete absence of any fossil type of a lower stage in the development of man. Nay, if we gather together the whole sum of the fossil men hitherto known, and put them on a parallel with those of the present time, we can decidedly pronounce that there are among living men a much greater number of individuals who show a relatively inferior type than there are among the fossils known up to the *present time*.

M. de Varigny, an evolutionist (in *Nature*, a scientific journal maintaining evolution), in reviewing "Les Enchainement du Monde Animal dans les Temps Géologique," written by M. Gaudry, Professor of Paleontology in the Museum of Natural History, Paris, also an evolutionist, uses the following language, which is important under the circumstances :

A great deal has been written on the transformism theory of Lamarck and Darwin, and it must be expected that much more will be written. One of

the principal objections made to it is that if man is really the descendant of the ape, and the ape that of other mammalia, if, generally, there exist links between all animals, living and extinct, so that all animals trace their origin to a common ancestor, how is it that no link really exists between man and ape, or between fish and frog, or between vertebrate and invertebrate? Embryological considerations, it is said, show a real connection between very different animals; a frog, for instance, is a fish for some time during its youth, and amphioxus looks very much like an ascidian.

But, notwithstanding numerous arguments to support Lamarck's theory, no transformist can show any species gradually losing its peculiar characters to acquire new ones belonging to another species, and thus transforming itself. However similar the dog may be to the wolf, no one has found any dead nor living animal or skeleton which might as well be ascribed to wolf as to dog, and therefore be considered as being the link between the two. One may say exactly as much concerning the extinct species; there is no gradual and imperceptible passage from one to another. Moreover, the first animals that lived on this earth are not by any means those that one may consider as inferior and degraded.

Mr. Darwin admits that the non-existence of the missing links would be fatal to his theory. If, then, Mr. Darwin admits, as he

does, that none have been found, where is the foundation of evolution? \*

The theory of evolution necessarily demands a very much smaller number of species in the earlier than in the later ages of the planet, since all animals, according to evolution, have been derived from a few, perhaps only two, original beings. But Agassiz ("Structure of Animal Life," p. 94) has shown that this is not the fact. By personal inspection he discovered that the whole Adriatic does not furnish at this day so many species of living fishes as there are of fossil fishes in a quarry near Verona; and the fossil fishes he found in the neighborhood of Riga, on the Baltic, are more numerous than the present living species of the Baltic and German Oceans. The same is true of shells. The authorized geological survey of the

---

\* As a scientific observer, an acute, laborious, profound student of nature, Darwin has no superior. The range of his researches, too, has been wonderful; he has travelled over the world to sift materials; he has recorded the results with a lucidity which leaves nothing to be desired; and yet one can, with perfect logical consistency, admit the whole of his observed facts, and reject the whole of his hypotheses.—*Rev. Dr. Porter, President of Queen's College, Belfast.*

State of New York disclosed "in *each* of the successive sets of beds within the area of the State as numerous a variety of shells as the *sum total* of all the species now living along the whole Atlantic coast of this continent." Here is a very serious difficulty, so serious that it must preclude the establishment of any theory which cannot stand without the thesis that the planet once had a smaller diversity of animals than now exists. But that proportion is essential in evolution.

Then we ought to have a regular and systematically arranged order between every kind of species. But Professor Alleyne-Nicholson, in his "Manual of Zoölogy," says this is not the case, and he adds:

For instance, vertebrates belong to a higher morphological type than mollusks, but the higher mollusks—*e.g.*, the cuttle-fish—are far more highly organized, as far as their type is concerned, than the lowest vertebrate. Therefore, it is obvious that a linear classification is impossible, for the higher members of each subkingdom are more highly organized than the lower forms of the next ascending subkingdom; at the same time, they are constructed upon a lower morphological type.

The animal kingdom is divided into Radiates, Mollusks, Articulates, and Vertebrates. If evolution be true, the Radiates must have preceded the next division by so long a time as was necessary to make so great a number of differentiations as would cause sufficient variations to produce Mollusks. The same would be true as between Mollusks and Articulates. The same would be true as between Articulates and Vertebrates. Are those facts in nature? No. Quite the opposite is the state of facts. *In the oldest of the primary rocks we find all the four divisions of the animal kingdom*; in the Taconic bed of Primary Rocks all the classes of the Radiates, all the classes of the Mollusks, all but one of the classes of the Articulates, and one of the classes of the Vertebrates. So geology seems to cut off the *terminus a quo* of all existing systems of evolution.

It is well to make the general notice that the basis of evolution is not laid upon what is scientifically known, but upon our ignorance. The theory is based mainly upon what we do *not* know. The man who wrote "The Origin of Species by Natural Selec-



-tion" acknowledges that "our ignorance of the laws of variation is profound!" [See "Descent of Man," i., pp. 144, 187, 197.] Everything in evolution depends upon "missing links." Now we are totally ignorant of the "links." We do *not* know that there are links; we *do know* that what is indispensable to evolution is "missing." The advocates of evolution are in the position of the pleader who begs the court and jury to give his client a verdict because the witnesses who *could* testify to what is indispensable to establish the client's innocence *cannot be found*.

Evolution accounts for neither gaps nor laps, but only for transitional types between preceding and succeeding species. But science has to do with *the facts* of nature, and the facts of nature show gaps and laps in abundance, but not the transitional types. Those who maintain the materialistic forms of evolution are untiring in asserting that "such and such things *must have been*," because they assume that there can be no other theory of the universe than that of materialistic evolution. They do not seem to see that that very process will shake the faith in

their hypothesis of thoughtful persons, especially those who have the scientific instinct. The process of reasoning in such minds will be this: The expounders of the theory solemnly and deliberately and repeatedly affirm that if evolution be true, such and such a thing *must be* in nature; but neither "such" nor "such" a thing has been shown to be in nature; therefore, the truth of evolution is not established.

A comparison of the following tables will show how far evolutionary theories and physical facts agree, both as to the original state of animal existence and its progressive appearance upon the planet. A study of it may help to crystallize in some minds the important distinction between the natural and the artificial.





## IX.—THE EXISTENCE OF INSTINCT.

THERE is a large department of animal actions having their origin in what we call instinct, and the existence of instinct creates a very great difficulty to the adoption of the theory of evolution.

Instinct has been defined as a special internal impulse, urging animals to the performance of certain actions which are useful to them or to their kind, but the use of which they do not themselves perceive, and their performance of which is a necessary consequence of their being placed in certain circumstances.\*

Instinctive actions are not due to mechanical or chemical causes, nor to the intelligence, experience, or will, as has been shown by M. Lemoine.† He points out that these actions, which take place with a general fixity and precision, are generally present in all the individuals of each species, and can be perfectly performed the very first time their actions are called for. Very plainly, therefore, instinct cannot in any sense be due to

---

\* Todd's Cyclopædia of Anatomy and Physiology, vol. iii., p. 3.

† L'Habitude et l'Instinct, Ballière, Paris, 1875.

habit, and instinctive action is not performed more easily the millionth time than it is the first.

There is no intelligence involved, for, in the first place, the use of an instinctive action is not perceived by him who performs it, nor does he choose the method of its performance; and there are some instances in which if the animal had choice he would certainly not perform that action to which he is impelled by instinct. A new-born babe exerts no intelligence in sucking and swallowing the first time those acts are performed; and, of course, it is not then assisted by habit. It is not denied that habits may be inherited; it is only affirmed that there are instinctive actions which cannot be habits. The theory of lapsed intelligence cannot account for the instinctive actions going on at present under our eyes, both in ourselves and in other animals. This theory assumes that wasps, bees, ants, and other animals once exercised a conscious, deliberate, discriminating faculty in their performance of the actions which we call instinct. It would be a violent supposition that a female instinc-

tively foresees what would be the first necessity of her new offspring when those necessities are so different from her own, or that she has carried a remembrance of what was her first necessity the instant she came into conscious existence.

In regard to "natural selection," all that Mr. Darwin has done has been to show change of instincts already acquired. This puts us only a step back; it does not account for the origin of instinct, where the whole weight of our argument lies.

Mr. Mivart,\* in speaking of the theory that some action was performed instantly, and this inherited, brings forward the following case :

There is the case of the wasp, sphex, which stings spiders, caterpillars, and grasshoppers exactly in the spot, or spots, where their ganglia lie, and so paralyzes them. Even the strongest advocate of the intelligence of insects would not affirm that the mother sphex has a knowledge of the comparative anatomy of the nervous system of these very diversely formed insects. According to the doctrine of natural selec-

---

\* In an article entitled *Organic Nature's Riddle*, *Fortnightly Review*, 1885.

tion, either an ancestral wasp must have accidentally stung them in the right place, and so our sphex of to-day is the naturally selected descendant of a line of insects which inherited this lucky tendency to sting different insects differently, but always in the exact situation of their nervous ganglia; or else the young of the ancestral sphex originally fed on dead food, but the offspring of some individuals, who happened to sting their prey so as to paralyze but not kill them, were better nourished, and so the habit grew. But the incredible supposition that the ancestor should accidentally have acquired the habit of stinging different insects differently, but always in the right spot, is not eliminated by the latter hypothesis.

Now, according to evolution, whatever exists must have sprung from something with which it is still connected, that is to say, evolution demands continuity of development. Here we have whole classes of actions performed by all kinds of animals to which they are impelled, by what we call instinct, and evolution has not been able to find a place for instinct.

#### X.—LANGUAGE.

THE races of inferior animals which existed six thousand years ago ought to have made



some appreciable approach by this time to what man was then, while man should have advanced. But the facts show that it is not so. Between a gorilla and Laura Bridgman, for instance, what a chasm! She is almost entirely cut off from the use of the five senses, and yet her intellect is comparatively highly developed; while the most lively of all the inferior animals can only be taught some tricks of imitation. The gorilla is said to possess vocal organs similar to the human. He has had them as long as man—longer, according to some evolutionists—and yet he cannot form a language, nor, so far as we know, even be taught a language, nor the notes of music.

Professor Max Müller, in a very interesting article on "Forgotten Bibles," in the *Nineteenth Century*, 1885, writing of this topic, says :

As language had been pointed out as a Rubicon which no beast had ever crossed, Darwin lent a willing ear to those who think that they can derive language, that is, real *logos*, from interjections and mimicry, by a process of spontaneous evolution, and produced himself some most persuasive arguments.

We know how able, how persuasive, a pleader Darwin could be. When he wished to show how man could have descended from an animal which was born hairy and remained so during life,\* he could not well maintain that an animal without hair was fitter to survive than an animal with hair. He therefore wished us to believe that our female semi-human pregenitors lost their hair by some accident, were, as Hermann said, "minus belluinæ facie et indole," and that in the process of sexual selection this partial or complete baldness was considered an attraction, and was thus perpetuated from mother to son. It was difficult, no doubt, to give up Milton's Eve for a semi-human progenitor, suffering, it may be, from leprosy or leucoderma, yet Darwin, like Gottfried Hermann, nearly persuaded us to do so. However, in defending so hopeless, or, at all events, so unfortified a position as the transition of the cries of animals into the language of man, even so great a general as Darwin undoubtedly was will occasionally encounter defeat, and I believe I may say without presumption, that, to speak of no other barrier between man and beast, the barrier of language remains as unshaken as ever, and renders every attempt at deriving man genealogically from any known or unknown ape, for the present, at least, impossible, or, at all events, unscientific.

---

\* Descent of Man, vol. ii., p. 377, where more details may be found as to the exact process of baldness or denudation in animals.

... of the human mind:  
... What is no man may  
... of attending to defining it, but a  
... that it is different from  
... It is more easy to tell what  
... of  
... or  
... or  
... of all these,  
... and quickens them,  
... Heredity can be employed by  
... evolution to account for physical and mental  
... traits. The run of proclivities, propensities,  
... tendencies, talents, may be accounted for

by heredity and traced down successive descendants of families. But where does genius come from? Sometimes—not often—it falls on the member of a family which has exhibited talent. Usually it comes on the man who has had no ancestor distinguished from the mass of men. He starts like a star out of a rayless sky. Genius comes parentless and goes childless. Genius is the Melchisedek of mind, “without father, without mother, without descent.” In an article by M. Caro, of the Institute of France, in the *Revue des Deux Mondes*, in which he exposes the fallacies of Galton’s “Heredity of Genius,” he says :

Those sovereign minds, precisely by what they possess that is incommunicable, rise high and alone above the floods of generations which precede and follow them. . . . Those exalted originals who tower above mankind have no fathers and no sons in the blood.

If evolution be true, genius would be the product of what went before and would carry the results of previous mental progress involved in itself to be evolved into other genius. But the fact is against the theory, and

no theory of evolution can be accepted as established until it put itself in harmony with the fact of the existence of genius.

## XII.—THE MORAL SENSE.

THE existence of the moral sense in man is as acknowledged a phenomenon as the existence of the vertebral column in his body. Humanity is universally conscious of a distinction between right and wrong. This moral sense creates the demand for an ethical system, which shall be suited to all times and places in which humanity can exist. For the origin of this moral sense evolution has no explanation, and it can find in nature no "data for ethics" against which the moral sense of mankind does not rebel. The attempt of Mr. Darwin to explain the former, and of Mr. Spencer to produce the latter, have been such philosophic failures as to be almost ludicrous. The platform of evolution is wholly mechanical, and, therefore, necessarily excludes the idea of morality. Nothing can be mechanical and moral at the same time. What is done mechanically is not a

deed for which the machine can be responsible. That which a man does voluntarily, that deed of his which was not produced through him by any antecedent, or external, or irresistible cause, that which has its causation wholly in his unforced volition, is that for which he can be held responsible. Now there is the possibility of the performance of such a voluntary action or there is not. If any of the existing theories of evolution be true, there is no such possibility, but every human being has the consciousness of such possibility, and so it has come to pass that every existing hypothesis of evolution, however it may have succeeded in making an image on the mirror of the intellect, has failed to make the moral sense of men perceive that it has existence as a moral reality. Even Mr. Darwin admits that "free-will is a mystery insoluble to the naturalist."

Moreover, there is in mankind a feeling that morality is both universal and immortal. It is not for one clime, or one planet, one generation, or one race, and it is not dependent on anything that can perish. It gathers its prodigious power from the belief in man

that it is not tribal nor ethnic, that it is not municipal nor national, that it is not ancient nor modern, that it has always been so and will always be so. The imperishability of heroic righteousness is the faith in which have been performed all those deeds which have made way for liberty and civilization, and have rendered the doers glorious in the sight of succeeding generations. But if evolution be true, there is no such thing. Whatever by ingenious arrangement can be made to take on the semblance of moral goodness is to perish. Evolution teaches, according to Mr. Leslie Stephen, that all progress is mechanical, that progress is a stage of evolution, that evolution means a continuous process of adjustment, that this signifies that the existing adjustment is imperfect, that the moment the adjustment becomes perfect man will have reached the highest arc of the curve, "after which he could only expect descent." Professor Goldwin Smith (*Contemporary Review*) called attention to the fact that the late Professor Clifford distinctly looked forward to a catastrophe in which man and all his works

will perish, and that Mr. Herbert Spencer believes the same. Now, if all a man's acts, which seem to him to have in them a moral quality, have no further reach nor longer endurance than those which are merely involuntary, like his heart-beats, or those which are manifestly morally colorless, as the length to which he lets his hair or nails grow, if all that we associate with goodness, self-sacrifice, heroism, has no greater heritage in the future than the most indifferent acts performable by an animal, all being alike the products of mere machine, then there can be no Basis of Morality, and, of course, no data for a Science of Ethics. The idea of an evolutionist talking of "Data of Ethics" involves a ridiculous absurdity.

Mr. Darwin admits that "free-will is a mystery insoluble to the naturalists," and Professor Tyndall says that the chasm between the brain action and consciousness is impassable, that

here is the rock on which materialism must split whenever it pretends to be a complete philosophy of the human mind.\*

---

\* See Munger's *Freedom of Faith*, pp. 226, 227.



## XIII.—ETERNITY OF MATTER.

DOES not a theory of evolution which places its account of the universe wholly in matter with its potencies necessarily involve the eternity of matter? \* In addition to all the burdens to be carried by every other theory of evolution, this theory assumes other loads. One is this: Eternity of matter is as difficult to conceive, as well as to prove, as is the eternity of mind. Mind is the product of matter. Matter is the product of mind. Here are two statements, both of which cannot be true. The question arises which theory will most easily account for the greater number of phenomena? If it cannot be assumed that by proving either we can displace the other, if both be equally beyond demonstration, we must take that which gives the easier explanation of the universe. The theory that Mind preceded Matter certainly does this.

But, for the argument's sake, suppose mat-

---

\* Tyndall says: "The law of conservation rigidly excludes both creation and annihilation" (*Annual of Scientific Discovery*, 1864, p. 79).

ter to be eternal ; then all its potencies and possibilities must be co-eternal, or must have entered into or been placed in matter at some definite period. Did they enter matter? If so, where were they before they so entered? And how did they get in? If they had no previous existence, then they were created. If they were created, that fact takes away all difficulty from the supposition that matter itself was created. If they were not created, they were co-eternal with matter.

The supposition that matter with force is eternal is an immense weight for any theory to carry ; for we must remember what " eternal " means—millenniums written in figures, each one of which multiplying all its predecessors by ten, and standing in a line billions of times longer than the greatest distance between the two most remote fixed stars, would be but as a grain of sand to the universe in any attempt to represent eternity. Now whatever force or forces is or are at present at work to differentiate existing matter, to promote development, to give even the suggestion of evolution, must

on this theory have been *eternally* at work. The homogeneous must have been *eternally* becoming the heterogeneous; the simple must have been *eternally* becoming the complex; the rude and inchoate must have *eternally* been becoming the complete and perfect. But this is inconceivable, because it necessarily involves the concept of a thing being synchronously one thing and another, simple and complex, *and* while being both at the same time, passing from one to the other; three states in which no one thing can possibly be conceived to be at any one moment.

But, suppose we are obstructed by the barriers of our intellectual limitations from going back measurelessly into the eternity past, the evolutionist can, in imagination, retreat many millions of years along the banks of the stream which has no source, and jump in somewhere with his theory. If the theory of evolution now considered be true, the law of nature demands that all things must be developing from the rude to the perfect, from the simple to the complex, from the lower to the higher, from the inorganic to the organic, from the lifeless to the living,

from the simplest living protozoic cells to Shakespeares and Newtons. Each variation may have required millions of years, and there may have been billions of these variations to bring the drop of protoplasm up to the poet or philosopher. But we can furnish a million times as much duration as may be required because we have eternity at our command in the argument. But, all at once, it occurs to us that the stages of progress on which we stand must have been reached eternal ages ago, and that through those eternal years the physical and intellectual universe should have ascended until the system had reached its consummate flowering, and every living thing become a man, and every man an angel, and angelic nature have developed through the eternities until there should have appeared an infinite God, and that divine product should have had eternal personal existence. The theory of evolution which, by the assumption of the eternity of matter, starts with excluding any God, necessitates the existence of an eternal God. Nay, more. If from the inorganic could be evolved the lowest form of organism in which life

could reside, and if from that lowest form *man* could be evolved, and not only a specimen man, but the numberless multitudes of men which we call mankind—why not from this great and innumerable human race have been evolved in the lapsing eternities an unlimited number of perfect beings—that is, of gods? If that form of the evolution theory which demands the eternity of matter be true, then polytheism must be true, and there must be an innumerable company of perfect gods still evolving into something better and higher than perfect godhood. An eternity-of-matter evolution that stops short of this absurdity commits logical suicide. If evolution has been eternally in progress it must eternally progress. An evolution which has beginning must have an end. An evolution which has an end must have a beginning. An evolution which has either beginning or end is no evolution; it is merely a *limited development* theory; and that is a totally different thing, and is not now under discussion.

#### XIV.—RELATION OF EVOLUTION TO SCIENCE.

EVOLUTIONISTS who are not atheists require time, if they do not demand eternity. Thus, Mr. Darwin's theory of "Natural Selection," according to his own statements, on a calculation made by so competent a person as Mr. St. George Mivart, required two thousand five hundred millions of years, since life began on the planet, for such accretion of infinitesimal variations in succeeding generations as would be necessary to bring the flora and fauna of the planet to their present state. But physical astronomy shows that the earth has not been able to sustain life more than probably ten millions of years.

We give one view of this subject stated in the words of Sir William Thomson :

To get a superior limit to the possible deviation of something not very different from the present state of things on the earth, other sciences than geology must be appealed to ; and here, *because*, and *only because* our scientific men are usually mere specialists, the natural philosopher is required. What can a geologist, as such, tell about the nature, origin, and

duration of the sun's heat? Yet, suppose it could be shown that ten million years ago the sun was very much hotter than it now is, would not that fact have an important bearing on the length of time during which plants and animals have inhabited the earth? What can he tell us about the internal heat of the earth, and the rate at which it is at present being lost? Yet, if it could be shown, on strict physical principles, that ten millions of years ago the underground temperature was at least that of red heat at a depth of one thousand feet below the surface, would not that materially influence his speculations? He may tell the mathematician to "mind his own business," but the mathematician must reply, "My business is in this case to save you from ignorantly committing egregious blunders, which not only retard the progress of your own science, but tend to render all science a laughing-stock to the uninitiated."

After going over the evidence which overturns the popular geology, he sums up thus: "Now, here is direct opposition between physical astronomy and modern geology, as represented by a very large, very influential, and, I may add, in many respects philosophical and sound body of investigators, constituting, perhaps, a majority of British geologists. *It is quite certain that a mistake has been made, that British popular geology at the present time is in direct opposition to the principles of natural philosophy.*" \*

---

\* North British Review, No. C.

Professor Tait, of Edinburgh, speaking in regard to this point, says :

The subject [how long the earth has been habitable for plants and animals] has been taken up very carefully within the last few years by Sir William Thomson. . . . He divides his argument upon it into three heads. The first is an argument from the internal heat of the earth ; the second is from the tidal retardation of the earth's rotation ; and the third is from the sun's temperature. . . . Each of these arguments is quite independent of the other two, and is—for all tend to something about the same—to the effect that ten millions of years is about the utmost that can be allowed, from the physical point of view, for all the changes that have taken place on the earth's surface since vegetable life of the lowest form was capable of existing here. . . . I dare say many of you are acquainted with the speculations of Lyell and others, especially of Darwin, who tell us that even for a comparatively brief portion of recent geological history three hundred millions of years will not suffice ! . . . Physical considerations, from various independent points of view, render it utterly impossible that more than ten or fifteen millions of years can be granted.\*

Now these are the results in which Sir William Thomson and Professor Tait, two of the foremost modern mathematical physi-

---

\* Recent Advances in Physical Science, p. 165.



cists, concur. Dr. Croll questions the exact trustworthiness of some of Sir William's calculations, but he himself says :

The general conclusion to which we are therefore led from physical considerations regarding the age of the sun's heat is, that the entire geological history of our globe must be comprised within less than one hundred millions of years.\*

Darwin felt and acknowledged this "formidable objection," and apparently has no solution to offer except the supposition of "violent changes, causing a more rapid rate of development.† And this, in face of the fact that natural selection can admit of no "leaps" or "gaps." ‡

If continuous evolution is true, and matter contains, by reason of being matter, the "promise and potency" of man, then man must have had for an ancestor some being that stands between himself and the animal next most likely to have been his progenitor.

---

\* Climate and Time, p. 355.

† Origin of Species, p. 286, sixth edition.

‡ Natural selection can never take a great and sudden leap, but must advance by short and sure, though slow steps.—Darwin: Origin of Species, p. 156.

The ape has been accepted as representing that thing, but there then came the fatal necessity of finding an animal, or animals, supplying the indispensable "missing link" or links. This is very unscientific. Science depends upon the known, upon what has been found, not upon the unknown, upon that which has not been found, upon that which has no proof of being in existence except in the mind of the thinker, and probably would never have been there except that the thinker's hypothesis demanded it. To prove evolution it is assumed as a fact that certain things exist because evolution (the very thesis to be proved) demands their existence. And that is sometimes set forth as science! It is assumed that if a certain witness *be in existence*, and *he could be called into court*, he would testify to certain things, which must be true, on the advocate's theory of the innocence of the accused. Is it not plain that the prosecution has as much right to assume that the testimony of the supposititious witness would be on the other side?

We have been waiting so long for "the missing link" that some impatience should

be allowable. To keep us patient until the "missing link" can be found we have had our attention called to every new skull found in caves or other out-of-the-way places. That has been proclaimed as the missing link. But the fact is, the brain of the highest anthropoid ape proves to be only about one-third of the human brain mass. Here is the case as stated by Wallace :

The few remains yet known of prehistoric man do not indicate any material diminution in the size of the brain-case. A Swiss skull of the stone age, found in the lake dwelling of Meilen, corresponded exactly to that of a Swiss youth of the present day. The celebrated Neanderthal skull had a larger circumference than the average; and its capacity, indicating actual mass of brain, is estimated to have been not less than seventy-five cubic inches, or nearly the average of existing Australian crania. The Engis skull, perhaps the oldest known, and which, according to Sir John Lubbock, "there seems no doubt was really contemporary with the mammoth and the cave-bear," is yet, according to Professor Huxley, "a fair average skull, which might have belonged to a philosopher, or, might have contained the thoughtless brains of a savage." Of the cave-men of Les Eyzies, who were undoubtedly contemporary with the reindeer in the South of

France, Professor Paul Broca says : " The great capacity of the brain, the development of the frontal region, the fine elliptical form of the anterior part of the profile of the skull, are incontestable characteristics of superiority, such as we are accustomed to meet with in civilized races." \*

Professor Virchow says :

When we study the fossil man of the quaternary period, who must, of course, have stood comparatively near to our primitive ancestors in the order of descent, or rather ascent, we find always a *man*, just such men as are now. . . . The old troglodytes, pile-villagers, and bog-people prove to be quite a respectable society. They have heads so large that many a living person would only be too happy to possess such. . . . Nay, if we gather together the whole sum of the fossil men hitherto known, and put them parallel with those of the present time, we can decidedly pronounce that there are among living men a much larger number of individuals who show a relatively inferior type than there are among the fossils known up to this time. . . . Every addition to the amount of objects which we have attained as materials for discussion has removed us further from the hypothesis propounded. †

---

\* Wallace : Contributions to the Theory of Natural Selection, p. 336, *f*.

† The Freedom of Science in the Modern State, p. 63.

## XV.—THE ATOMIC THEORY.

THE atomic theory seems fatal to evolution. The atoms, or, if you choose, the molecules, of which all matter is composed, have never changed their properties. It is inconsistent with the concept of "atom" that it should ever have been larger or smaller. There are no "natural" causes for this state of things, but the state is manifest. If evolution were a universal law atoms would be subject to it; but atoms, by their essential constitution, cannot be subject to the law of evolution; the conclusion is manifest. Moreover, the exact equality of all molecules, and of each to all others, shows, as Sir John Herschel pointed out, "the essential character of a manufactured article," and therefore cannot have been evolved, and cannot be eternal.

The late gifted and lamented Professor Clifford said:

If there is any name among contemporary natural philosophers to whom is due the reverence of all true students of science, it is that of Professor Clark Maxwell.

From Professor Maxwell's very remarkable "Discourse on Molecules," delivered before the British Association, at Bradford, September, 1873, the following important extract is taken :

In the heavens we discover by their light, and by their light alone, stars so distant from each other that no material thing can ever have passed from one to another ; and yet this light, which is to us the sole evidence of the existence of these distant worlds, tells us also that each of them is built up of molecules of the same kinds as those which we find on earth. A molecule of hydrogen, for example, whether in Sirius or in Arcturus, executes its vibrations in precisely the same time.

Each molecule, therefore, throughout the universe bears impressed upon it the stamp of a metric system as distinctly as does the metre of the archives at Paris, or the double royal cubit of the temple of Karnac.

No theory of evolution can be formed to account for the similarity of molecules, for evolution necessarily implies continuous change, and the molecule is incapable of growth or decay, of generation or destruction.

None of the processes of Nature, since the time when Nature began, have produced the slightest difference in the properties of any molecule. We are, therefore, unable to ascribe either the existence

of the molecules or the identity of their properties to any of the causes which we call natural.

On the other hand, the exact equality of each molecule to all others of the same kind gives it, as Sir John Herschel has well said, the essential character of a manufactured article, and *precludes the idea of its being eternal and self-existent.*

### XVI.—SPONTANEOUS GENERATION.

IF the theory of evolution is to be accepted, it must take in the whole universe. A "Link" does not help us: we want links which all belong to the same chain, and enough to make a chain. Physical organisms must have arisen from the very lowest conceivable type into all the perfections known among them, and then they must have been able to take on life. Have they ever done so? This makes the hypothesis of spontaneous animal generation indispensable. *Evolution stands or falls with it.* Why should evolutionists be wasting their time in showing the differentiations among vegetables on the one hand, and animals on the other? Grant everything that has been claimed in those departments and a thousandfold as much, and

nothing would be gained for *evolution*, whatever light might be thrown upon *development*. If evolution be true our ancestors ought constantly through the ages to have been witnessing, not only uncountable numbers of cases in which vegetables and animals have been passing and have passed from one species to another, and it ought to be a phenomenon common to contemporaneous observation, but, in addition, spontaneous generation ought not to be now an uncommon phenomenon, and the records of the past should abound with cases. Paleontology should furnish facts fixed in the rocks to sustain this hypothesis. No man should be called upon to disprove it; its supporters must prove it by giving such multiplied cases of its occurrence as to show that it is the rule in the case, not the exception. Have they done so? On the contrary, *not a single instance has ever been exhibited*. If anything has been supposed to be a case of spontaneous generation in our day, it has been proved, on the examination of competent scientists, to be simply a case of life from previous life, and not at all the passage of the non-living



inorganic into the living organic existence. Pasteur and Lionel Beale, Virchow and Tyndall unite in testifying that there never has yet been discovered any proof of any case of spontaneous generation.

In making the experiments by which Bastian and Haeckel supposed they had shown spontaneous generation they employed great heats to destroy all existing forms of life from the space in which they claim that life afterward spontaneously appeared. They either did so destroy life or they did not. If they did not, then there was no spontaneous generation. If they did, then what afterward appeared could not have come in the way of evolution. Now, the original living thing was on the planet before its greatest heat period, or else appeared thereafter. If the former, and it passed through all the fierceness of that heat, then the experimenters mentioned above killed nothing by heat, and so their experiments proved nothing; if it was introduced after the greatest heat period, then life came *ab extra*, and not by evolution.

If a single instance could be found it

would be a greater miracle than would be exhibited by a living man's calling a dead man to life. In the latter case the corpse would have an organism not only adapted to life but also having already had the habits of life, and the vital force would be sent into it *ab extra*, from a life already in existence. But in the former case it would be a thing without life performing what could be done only by a thing with life that itself might become a living thing.

Herbert Spencer ("First Principles," p. 32) :

To conceive self-creation is to conceive potential existence passing into actual existence by some inherent necessity, which we cannot do. We cannot form any idea of a potential existence of the universe, as distinguished from its actual existence. . . . We have no state of consciousness answering to the words—an inherent necessity by which potential existence became actual existence. To render them into thought, existence, having for an indefinite period remained in one form, must be conceived as passing without any external or additional impulse into another form ; and this involves the idea of a change without a cause ; a thing of which no idea is possible.

Still, this would be no valid objection *if a case could be produced*. There is no gain in discussing the question whether or not A killed B until it be shown that B is at least dead.

There will probably be admitted to be no more trustworthy testimony on questions of science than that of Professor Lionel S. Beale, F.R.S., and he says :

There are *no scientific facts* which can at all warrant the conclusion that non-living matter only, under any conceivable circumstances, can be converted into living matter, or at any previous time has, by any combination, or under any conditions that may have existed, given rise to the formation of anything which possesses, or has possessed, life.

Professor Huxley says :

Not only is the kind of evidence adduced in favor of abiogenesis [non-living producing living] logically insufficient to furnish proof of its occurrence, but it may be stated as a well-proved induction that the more careful the investigator, and the more complete his mastery over the endless practical difficulties which surround experimentation on this subject, the more certain are his experiments to give a negative result; while positive results are no less sure to crown the efforts of the clumsy and the careless.

And again,

The fact is, that at the present moment there is not a shadow of trustworthy direct evidence that abiogenesis does take place, or has taken place, within the period during which the existence of life on the globe is recorded.\*

Professor Tyndall says :

True men of science will frankly admit their inability to point to any satisfactory experimental proof that life can be developed, save from demonstrable antecedent life. †

In another place he says :

I here affirm, that no shred of trustworthy experimental testimony exists to prove that life in our day has ever appeared independently of antecedent life. ‡

And once more he declares

that every attempt made in our day to generate life independently of antecedent life has utterly broken down. §

After long and minute experimentation in reference to spontaneous generation, Pasteur gives this as his assured conclusion :

---

\* Encyclopædia Britannica ; article on Biology.

† Fragments of Science, vol. ii., p. 194, Belfast Address.

‡ Nineteenth Century, March, 1878, p. 507.

§ Fragments of Science, preface to the sixth edition, p. vi.

There is no case known at the present day in which we can affirm that microscopic creatures have come into existence without germs, without parents like themselves. Those who pretend that they do have been the dupes of illusions, of experiments badly performed, vitiated by mistakes which they have not been able to perceive, or which they have not known how to avoid.\*

Professor Virchow, of Berlin, says :

This *generatio æquivoca* [by which he means spontaneous generation], which has been so often contested and so often contradicted, is, nevertheless, always meeting us afresh. To be sure, we know not a single positive fact to prove that a *generatio æquivoca* has ever been made, that inorganic masses, such as the firm of Carbon & Co., have ever spontaneously developed themselves into organic masses. No one has ever seen a *generatio æquivoca* effected ; and whoever supposes that it has occurred is contradicted by the naturalist, and not merely by the theologian. . . . We must acknowledge that it has not yet been proved.†

Professor Elliott Coues ("Biogen," p. 39) says :

If life inhered in matter as the necessary result of any particular composition of matter, death would

---

\* Revue des Cours scientifiques, 23 Avril, 1864, p. 265 ; article Des Générations spontanées.

† The Freedom of Science in the Modern State, p. 36 (2d Ed.).

follow decomposition and be *otherwise impossible* : but, in fact, the reverse is the actual sequence of events.

That is to say, death ordinarily precedes decomposition, thus showing that life does not depend upon matter any more than the existence of matter depends upon the presence of life. But if life do not inhere in matter then the evolution theory cannot be maintained. There is a "break" and a "gap." Any one "break," anywhere, any one "gap," however small, is fatal to the evolution hypothesis.

The late Robert Patterson, in his very able book on the "Errors of Evolution," says :

There is no force in nature able to inspire life. On the contrary, all the forces of nature are antagonistic to life, and the struggle for existence, which Mr. Darwin so eloquently describes, is the struggle of life against the powers of nature. Every drop of water conveyed by a plant from the ground to the top of the leaf, every step or motion made by any animal, is a struggle against the force of gravitation. The laws of chemical affinity, appealed to as the great forces in evolving life, operate in exactly the contrary direction ; they cause death and decompo-

sition when life ceases its resistance. The gastric juice will eat its way through the stomach which secreted it, when that stomach has ceased from the struggle of life. The very familiar illustration of the difficulty of preserving dead vegetables and meats attests the destructive power of the forces of matter if not counteracted by some superior intelligence. Mr. Spencer pompously announces the heat of the sun as the sufficient force originating all life. But the sun might shine on his solutions of smelling salts to all eternity without producing the smallest fungus, unless the seeds were previously there. The forces of inorganic matter can destroy, but cannot possibly impart or originate, life."—*Errors of Evolution*, p. 193.

#### XVII.—IS EVOLUTION SCIENTIFIC?

THE most trustworthy science, then, shows us that the theory of evolution has to disprove what has been accepted as proved in other departments before it can make itself acceptable. In other words, a great objection to evolution is that it is unscientific, on the authority of some of the most trustworthy scientists.

Let us push aside any difficulty for want of time, and assume room in duration large

enough for anything : shall we then be rid of all difficulty? Let us see. Evolution is supposed to have aid from Mr. Darwin's theory of the origin of species. But it is not a theory ; it is merely an hypothesis. " Suppose things were thus, then species must have originated thus." With extraordinary industry and skill Mr. Darwin gathered and stated a vast number of what he believed to be facts ; and, if they all be admitted, they show that only by the constant superintendence of human intellect over the application of human industry is it possible to make great varieties of pigeons ; but (1), the very moment the human superintendence is withdrawn, the pigeons begin to go back to the original, natural type, domestication never having been able to produce forms of animals that are self-perpetuating ; and (2), no skill of domestication and differentiating ever has made any species pass into another species, for instance, any line of doves produce the first eagle.

If the changes in the universe are going forward on the plan of evolution, there must be an advance from the poorer to the better,



from the lower to the higher. But the facts are against this. The planet shows that multitudes of species have degenerated. Even man has degenerated. Is not the first of everything, as a rule, better than most that follows? The phrase "the survival of the fittest" has no scientific support. It is a grim satire on nature, unless evolution teach that the *worst is the fittest*. When the wheat and the tares are sown in the field, we know which chokes the other. Now, if there be no stays or stops, everything must reach the bottom to which it tends, and evolution provides for no such pause and upward turning caused by the incoming of some force from without. Indeed, whatever proof of improvement and upward movement can be produced is a proof which stands adverse to the evolution hypothesis, because it shows the incoming of something from outside of nature. Such a simple fact as that no grain which now forms food for men, such as corn or wheat, has ever been found in a wild state, but is all the product of cultivation, which means the coming in of a force *ab extra*; and that such grain would

)

disappear if the culture were withdrawn for a short time, stands against the hypothesis of evolution.

That we may see how unscientific that hypothesis is, consider that that only is science which is known and capable of proof. Guesses, prophecies, assumptions, count for nothing in this court.

Now go back to the definition given in the beginning of this treatise. Mr. Spencer starts out with the assumption of "a limited *mass of homogeneous matter.*" The grossness of this assumption will be apparent when you reflect that up to A.D. 1885 there has not been discovered *any homogeneous matter in the universe.*

If there be such a thing as homogeneous matter, must it not be *protoplasm*, which is assumed to be the material basis of life? Protoplasm has been carefully examined microscopically by our ablest scientific men, and this is the result. Professor Huxley says

that all the forms of protoplasm which have yet been examined contain the four elements—carbon, hydrogen, oxygen, and nitrogen—in very complex

union.\* In whatever form it appears, "whether fungus or oak, worm or man," its elements are the same; and when life in it becomes extinct it "is resolved into its mineral and lifeless constituents." † It is admitted, of course, that carbon, hydrogen, oxygen, and nitrogen are lifeless bodies, and that they all exist previous to their union; "but, when they are brought together," says Professor Huxley, "under certain conditions, they give rise to the still more complex body, protoplasm; and this protoplasm exhibits the phenomena of life." ‡

It is a mere dream. If you can find a substantial phoenix, or griffin, or chimera, you *may* find homogeneous matter. We are told that it is not on this planet, nor anywhere in the solar system, so far as man has been able to discover. Nay, while all along we have been supposing that there might be at least a hatful of it somewhere in the universe, the spectroscope has torn the bottom from Mr. Spencer's definition and spilled all the sense it seemed to have. He must first show, what no man yet has been able to do, that there either is, or has been, homogeneous matter, or surrender his definition of evolution. When the chief apostle of his

---

\* Lay Sermons, p. 130.

† Ibid., p. 131.

‡ Ibid., p. 135.

religion cannot define its fundamental doctrine we must decide that he at least cannot prove its truth.

When you examine Mr. Huxley's definition you must consign it to the same fate. He assumes what has not been proved, *the primitive nebulosity of the universe*. He assumes *what has not been proved*, that the molecules of that original nebulosity possessed forces. He further assumes *what has not been proved*, that there was mutual interaction between those forces. And he further assumes *what has not been proved*, that that interaction was according to definite laws.

The hypothesis of the "primitive nebulosity of the universe," as Professor Huxley calls it, rests upon the assumption of the gradual cooling of the sun and of all the planets.

The Nebular Hypothesis is briefly this : That the space now occupied by the solar system was originally filled by an evenly-diffused mass of nebulous matter, which received a rotary motion. Under the attraction of its parts condensation goes on, accelerating the rotation. Under mechanical laws rings are formed, becoming spheres, and thus the planets

and their satellites, moving in the same plane and at proportionate distances, come into being, the central mass, as it contracts, giving off light and heat, and remaining the controlling centre.—*Rev. Dr. Drury, Vedder Lectures, 1883.*

Plainly, to be sure of any increase or decrease of the temperature of a body we must know its *present* heat-state, and also its *former* heat-state. We do not know anything of the former. In terms of the thermometer it has been variously given from  $1,561^{\circ}$  to  $5,344,840^{\circ}$  Fahrenheit, the former by Pouillet, the latter by Secchi, two famous scientists. Consider the immense difference. It is as if two nautical observers should give the place of the ship, one at the South Pole, and the other at the equator. Who has ever shown us any method of arriving with accuracy at the heat of the sun? And yet we must know *that* or else we cannot say that the sun is cooling. Men adopt a theory which cannot stand without a certain assumption, and then they make that assumption, although there is not a particle of knowledge to sustain it: and they call that—*science!*

Here, then, we rest the case, without having exhausted the evidence. We do not deny the truth of the hypothesis of evolution and have not attempted to prove it false. But we insist that those who bring it forward are bound to prove it true, and they are very far from having done so. Nor do we deny the hypothesis that the moon is a green cheese, nor shall we try to prove it false, but when those who affirm that it is true bring no more proof for its truth than the materialistic scientists produce for evolution, we shall not admire our green-cheese friends when they sneer at men of brains who simply demand satisfactory, rational, scientific proof.

Whether the theory of evolution be true or false, it is apparent that at this stage of the discussion, after a century of hard work to sustain it, the only verdict that can be given, a verdict of the truth of which even evolutionists must feel sensible, is the Scotch verdict of *Not Proven*.

## PART II.

---

### I.—BUDDHA, JESUS, AND EVOLUTION.

BECAUSE I did not desire to discuss any topic that bore even the semblance of close alliance with the religious sentiment I did not take up the existence of Jesus in human history, a fact that must be just as much considered in forming a cosmic theory as any other fact. If it had been introduced it would have followed the section on "Genius."

While the greatest geniuses are rare, so that one might say that there have been not more than a score who have so touched the highest water-mark of power as to leave there the traces which all succeeding generations should read as theirs—there *have* been those twenty, and evolution has no

place for their existence. Genius has never been evolved.

But beyond the highest of these there is a phenomenon in humanity which any theory of the universe must account for before it can be accepted. It is the appearance, in the human race, of Jesus of Nazareth, a person who was not a genius. Now, this is not a question of theology or religion, in this discussion. From His name let all such thoughts be separated. But a cosmic theory must have room for every phenomenal thing and person, and science must provide a place for Jesus as for Laura Bridgeman. Just as He holds His position and posture in history as a man, He must be accounted for as much as Napoleon, or Luther, in regard to whom, as in regard to Him, there is a great diversity of opinion.

How did He come? If the theory of evolution be true, our humanity must have been differentiating itself, so as at last it naturally produced Him such as He was. This brings a number of questions which must be satisfactorily answered before evolution can be accepted.



1. Why was not Jesus naturally produced earlier? If it be answered that humanity had not previously reached the proper stage of development, then it must be explained how that was the fitting time which marked the most degraded and rotten stage of humanity, when man had been for ages, according to fact and contrary to evolution, growing morally worse until he had reached a point at which he was so bad that he had never been so bad before, and never has been since. And it must be explained how, when there was not a single great man known upon the planet, and after there had been such men as Cæsar and Alexander, Socrates and Plato, there appeared as the product of humanity the person acknowledged by many millions of men to have been, taken all in all, the greatest man that ever lived. Where were the preparatory "studies" for this great production? What ancestry had He? Who among them exhibited "the promise and potency" for the production of Him?

2. Why has not a second Jesus been produced? Humanity has not lost any capacity of evolving. It has had eighteen more cen-

turies, in which it has grown much better than it was at the coming of Jesus, by causes which were manifestly set in operation by Him, the withdrawal of which, so far as we can scientifically calculate, would drop the world back to the low level at which His advent found it. Have not men a right to demand that humanity shall exhibit to-day a man as superior to Jesus as Jesus was to the noblest specimen of manhood extant eighteen centuries before His time? Where is there a man who can be compared to Him without a shock not only to the moral sense but the scientific intelligence of mankind?

But these two questions must be satisfactorily answered before evolution can account for the existence of the most phenomenal specimen of humanity. And the most phenomenal man comes as much into the argument as any other phenomenal animal.

If, however, because of religious prejudice, or for any other reason, good or bad, it be denied that Jesus was an incomparable man, then it may be demanded to have named the man who may be compared to Him. Is Buddha named? Then he was inferior to

Jesus, or His equal, or His superior. If His inferior, or equal, the citation of His name is impertinent to the argument. Granting there was such a personage as Buddha, and that he had a defined history like Jesus of Nazareth, or Cæsar of Rome, if it can be shown that Buddha or Sakyamuni was superior to Jesus, the argument is greatly strengthened. His history ante-dates that of Jesus by several centuries, and yet Jesus, it is claimed, is the inferior. Moreover, there are two men, having no connection on the line of heredity, who rule more millions of men this day than any other two men that have ever lived ; and, according to the assumption, the later is the inferior of the earlier ; and during the twenty-three centuries which have elapsed since the first appeared, there has been no one who has approximated his altitude among all the sons of men. A theory which can take no account of such phenomena in human history as Buddha and Jesus may be true, but it cannot be accepted as proved. That is the case with evolution.

## II.—NATURAL SELECTION.

“NATURAL Selection!” How often we find these two words spelled with capital initials, as if they constituted a proper name, a significant proper name. Now, *who* is this Natural Selection? *Who?* You cannot ask *what*. It is not a thing. It is a person, if the name be significant. There is never selection without mind, and mind cannot be conceived apart from personality. For instance, if one should say “the creation of man began the moment when psychical variations became of so much more use to our ancestors than physical variations that *they* were seized and enhanced by natural selection to the comparative neglect of the latter,” we should feel that he was talking nonsense, if he did not mean that our ancestors had exerted their intellect in making the comparison necessary for choice, and after that had exerted their will in seizing and holding those traits. If he meant that in matter the power-to-choose resides, we should regard him as confounding mind and matter in such a way

as to render his utterances unworthy of attention, that his statement was a guess, without a single solitary fact in nature to sustain it, and much that looks quite in the opposite direction. "Natural Selection" is a phrase made of two words, which, in the senses ordinarily assigned them, are mutually exclusive. And yet in this enlightened age there are people who worship what Mr. John Fiske calls

a blind process known as Natural Selection, the deity that slumbers not nor sleeps ("Destiny of Man," p. 23).

### III.—A WEAK POINT.

A WEAK point in the Darwin theory of the evolution of higher forms of life from lower ones, by natural selection and the survival of the fittest, was brought to the notice of the editor of the *Christian Intelligencer*, by an intelligent gentleman. He said that according to the Darwinian doctrine Man is the highest product of evolution, and, therefore, ought to exhibit natural selection in its highest and best exercise, and in him the survival of the fittest should have its supreme

illustration. On the contrary, we find, as a rule, that men and women mate unwisely, select unhealthy, physically inferior, partners, and by their selections keep alive and transmit to descendants physical infirmities and diseases. Tall men marry short women, men of vigorous health marry women who are weaklings, intellectual men select unintellectual wives, and so on. Nothing is more common. Yet in the persons of those who are the very culmination of evolution there should be found the perfection of natural selection. How exceedingly rare such a selection is among men. And as to the survival of the fittest, it may be urged that the very opposite has been embodied in the proverb found among all nations, that whom the gods love die young. Constantly, worthless, useless people live long. Of the majority of old men and women, known to be composed of very worthy people, it may be said they are not especially more fit to survive than were those of their generation who died in youth or middle age. What, then, is a theory good for which does not find in the creatures who are its climax an eminent

illustration of its correctness, or the highest and most convincing proof of its accuracy? According to Darwinism, Man ought to exhibit natural selection and the survival of the fittest in their perfection. Everybody knows he does not.

#### IV.—IMPORTANT UTTERANCES.

ARGYLL.—The Duke of Argyll, in "Primeval Man," p. 75, quotes the following opinion of Darwinism, held by Professor John Phillips (in "Life—the Origin and Succession"):

Everywhere we are required by the hypothesis to look somewhere else; which may fairly be interpreted to signify that the hypothesis everywhere fails in the first and most important step. How is it conceivable that the second stage should be everywhere preserved, but the first nowhere?

SIR WILLIAM DAWSON, F.R.S., F.G.S., the Principal of McGill University, Montreal, speaks, in the seventh edition (1882) of the "Story of the Earth and Man," of the evolutionist doctrine as

the strangest doctrine of humanity, and supported by vague analogies and figures of speech which in-

dicates that the accumulated facts of our age have gone altogether beyond its capacity for generalization.

REV. DR. DRURY :

Evolution, regarded as descriptive of a process in nature, has much, we thus see, to commend it, but it ought to be distinctly remembered and emphasized that it is as yet a mere theory, and must not be regarded as having more than an hypothetical value. In whatever form it be held, whether that behind which infidels and agnostics hide and defend their unwillingness to believe, or that which many Christians hold in conjunction with their faith in God and the Bible, it must not be lost sight of, that it is yet unproven, and may not properly be used for any other purpose, or in any other way, than is legitimate for an *hypothesis*.—Drury's "*Truths and Untruths of Evolution*," p. 21.

DR. ELAM.—In a series of articles on Evolution, in the *Contemporary Review*, vol. xxix., the Doctor says :

On a general survey of the theory of Darwin, nothing strikes us more forcibly than the total absence of direct evidence of any one of the steps. There is an abundance of semi-acute reasoning upon what might have occurred under conditions which seem never to have been fulfilled.



**BISHOP ELLICOTT.**—This learned man, who is the editor of "The Handy Commentary," expresses himself in plain terms on the present status of the doctrine of evolution. In his introduction to the Book of Genesis, he says :

Evolution is very far from having attained to the rank of scientific verity; it is at most an interesting and ingenious theory. Unfortunately for its temperate discussion evolution is now enwrapped by many of its partisans in the ugly pellicle of materialism, and for this there is in the Bible no place. While, therefore, I am content to leave all the processes of creation to those who make the material universe the object of their intelligent study, I object to their crossing beyond their proper limits, which they do in arguing that our enlarged knowledge of matter and its laws militates with a belief in a governing and law-giving mind; for material science can penetrate no further than to the phenomena of nature. It is the noble teaching of the Book of Genesis that creation was the work of an All-wise and Almighty intelligence, and that the Infinite Mind even called matter into being, and gave it those laws which scientific men study so wisely. I am content to believe everything which they prove in their own domain; but when they make assumptions in regions where they are but trespassers, it is mere waste of time to dispute with them. I cannot

say this without at the same time acknowledging the immense obligation under which theologians lie to the masters of the sciences of astronomy and geology ; for they have enlarged our ideas, brushed away many a crude popular fallacy, and enabled us to understand more and more of the perfect ways of God.

GUYOT :

Any length of time that Darwin might desire for his transformations would never suffice to make of the monkey a civilizable man.—“*Creation*,” p. 126.

HÆCKEL.—Dr. Hæckel, the greatest living exponent of evolution, said to a company of naturalists, in 1877, that

the two principles of inheritance and adaptation explain the development of the manifold existing organisms, from a single organic cell ; dispensing forever with the need of a Creator, and moreover, a creature composed of only one of these omnipotent cells is shown by certain zöological inquiries to be possessed of motion, sensibility, perception, and will.—*Quoted by Professor J. B. Ewing, in the “Tokio Course of Lectures,”* p. 101.

HUXLEY :

It is not absolutely proven that a group of animals having all the characters exhibited by species

in nature has ever been originated by selection, whether artificial or natural.—“*Lay Sermons*,” p. 226.

ST. GEORGE MIVART.—This able scientist says, in regard to Darwin’s doctrine of Natural Selection :

I cannot hesitate to call it a *puerile Hypothesis*.

THEODORE T. MUNGER, D.D.—This popular writer speaks of evolution as.

a finite system, a merely phenomenal section of the universe and of time, with no *whence*, nor *whither*, nor *why*, a system which simply supplies man with a certain kind of knowledge, but solves no problem that weighs on his heart, answers no question that he much cares to ask, and throws not one glimmer of additional light on his origin, his nature, or his destiny.—“*Freedom of Faith*,” p. 26.

PROFESSOR PIPER :

The French Academy, it seems, refused to acknowledge Darwin as a scientific man at all, declining to admit him a member of that body, on the ground that his so called science was no science, and that it was made up for the most part of mere assumptions ; and Dawson says in his book entitled “*The Earth and Man*,” p. 330, “Let anyone take up either of Darwin’s great books, or Spencer’s ‘*Biology*,’ and merely ask himself, as he reads each para-

graph, 'What is assumed here, and what is proved?' and he will find the whole fabric melt away like a vision." Further he says: "The theory of the struggle for existence and survival of the fittest, as applied to man, though the most popular phrase of evolutionism at present, is nothing less than the basest and most horrible of superstitions. It makes man not merely carnal but devilish. It takes his lowest appetites and propensities, and makes them his God and creator."—*Mind and Nature*, June, 1885.

In his "Natural History of Man," (p. 70)  
QUATREFAGES:

While recognizing the convenience of Darwin's theory in the interpretation of a great number of facts, he is obliged to reject it because it is irreconcilable with other facts, but chiefly because in discord with physiological laws, such as the sterility of hybrids.

SIR WYVILLE THOMPSON.—In "Challenger Reports," Vol. I., this scientist declares that recent investigations of the abyssal fauna of the ocean by the ship Challenger refuse to give the least support to Darwinism.

TYNDALL.—Professor Tyndall says:

Those who hold the doctrine of evolution are by no means ignorant of the uncertainty of their data,

and they only yield to it a provisional assent.—“*Scientific Use of the Imagination*,” p. 469.

VAN BENEDIN.—Professor Van Benedin, of the University of Louvain, quoting Oswald Heer in “*Le Mond Primitif*,” says :

The more we advance in the study of Nature the more profound is our conviction that belief in an Almighty Creator, . . . can alone resolve the enigmas of nature, as well as those of human life.

VIRCHOW :

As a matter of fact, we must positively recognize that there exists as yet a sharp line of demarcation between man and the ape. We cannot teach, we cannot pronounce it to be a conquest of science, that man descends from the ape or from any other animal.—*Quoted by Joseph Cook, in Monday Lecture of April 15, 1878.*

VON BISCHOFF.—This scientist is a specialist in comparative anatomy. He tells us that as he pursues his investigations in the comparison of man and the so-called anthropoid apes

the differences between men and apes become great and fundamental.

WINCHELL. — Professor Winchell says (“*The Doctrine of Evolution*,” p. 54):

The great stubborn fact which every form of the theory [natural selection] encounters at the very outset is that, notwithstanding variations, we are ignorant of a single instance of the derivation of one good species from another. The world has been ransacked for an example, and occasionally it has seemed for a time as if an instance had been found of the origination of a genuine species by so-called natural agencies ; but we only give utterance to the admissions of all the recent advocates of derivative theories when we announce that the long-sought *Experimentum crucis* has not been discovered.

V.—A VOICE FROM THE BRITISH MUSEUM.

PROFESSOR GEORGE E. POST, M.D., of the Syrian Mission, is a gentleman of superior scientific attainments. He visited the British Museum, met Mr. Etheridge, who is in charge of a department, and is acknowledged to be one of the foremost of British experts in his specialty. This gentleman gave his opinion on evolution. The following letter sent to the *Evangelist* by a former colleague of Dr. Post describes the interview :

LONDON, August 2, 1885.

Yesterday I was in the Natural History Department of the British Museum. I had business touch-

ing some fossils which I found in the Lattakia Miocene and Pliocene clay-beds, and about which I wrote an article that appeared in *Nature* last year. Mr. Etheridge, F.R.S., kindly examined and named them. I was anxious to hear what a first-rate working scientist, with perhaps the largest opportunity for induction in the world, would say on Darwinian Evolution. So, after he had shown me all the wonders of the establishment, I asked him whether, after all, this was not the working out of mind and Providence. He turned to me with a clear, honest look into my eyes, and replied: "*In all this great Museum there is not a particle of evidence of transmutation of species. Nine-tenths of the talk of evolutionists is sheer nonsense, not founded on observation, and wholly unsupported by fact. Men adopt a theory and then strain their facts to support it. I read all their books, but they made no impression on my belief in the stability of species. Moreover, the talk of the great antiquity of man is of the same value. There is no such thing as a fossil man. Men are ready to regard you as a fool if you do not go with them in all their vagaries. But this Museum is full of proofs of the UTTER FALSITY OF THEIR VIEWS.*"

# INDEFATIGABILITY

marks the women of our households when they undertake to make their homes bright and cheery. Nothing deters them. Their weary work may be as long as the word which begins this paragraph, but they prove their regard for decent homes by their indefatigability. What a pity that any of them should add to their toil by neglecting to use Sapollo. It reduces the labor of cleaning and scouring at least one-half. 10c. a cake. Sold by all grocers.



## GOOD NEWS TO LADIES.

Greatest inducements ever offered. Now's your time to get up orders for our celebrated Teas and Coffees, and secure a beautiful Gold Band or Moss Rose China Tea Set, or Handsome Decorated

Gold Band Moss Rose Dinner Set, or Gold Band Moss

Decorated Toilet Set. For full particulars address

THE GREAT AMERICAN TEA CO.,  
P. O. Box 288, 31 and 33 Vesey St., New York.



## 30 Cards

For 50c. club we send FREE a Ring or nice Pencil, or fine Handkerchief, or Autograph.

The New GOLD FRINGE Florals, most lovely you ever saw, name on, 10c; 12 Golden Hidden Name, 10c.; 25 plain gilt edge, 10c.; 10 grand, Silk Covered cards, 40c. Send 4c. for agent's terms and sample case. HOLLEY CARD FACTORY, Meriden, Conn.

# LOVELL'S LIBRARY.

## AHEAD OF ALL COMPETITORS.

The improvements being constantly made in "Lovell's Library," have placed it in the Front Rank of cheap publications in this country. The publishers propose to still further improve the series by having

**Better Paper, Better Printing, Larger Type,**  
and more attractive cover than any series in the market.

JOHN W. LOVELL CO., Publishers, 14 & 16 Vesey Street, New York.

# JAMES PYLE'S

## THE BEST WASHING COMPOUND EVER INVENTED.



# PEARLINE

No Lady, Married or Single, Rich or Poor, Housekeeper or Boarding, will be without it after testing its utility.

Sold by all first-class Grocers, but beware of worthless imitations.



By thine own soul's law, learn to live ;  
And if men thwart thee, take no heed,  
And if men hate thee, have no care—  
Sing thou thy song, and do thy deed ;  
Hope thou thy hope, and pray thy prayer,  
And claim no crown they will not give.

JOHN G. WHITTIER.

JUST PUBLISHED.

# INTEGRAL CO-OPERATION

By ALBERT K. OWEN.

A book (300 pages, 12mo) containing three plans illustrating sections and buildings suggested for "Pacific Colony Site," and two maps showing Topolobampo Bay, Sinaloa, Mexico, including "Mochis Ranch," the valley of the Rio Fuerte and its vicinage.

Price, 30 cents. Sent, postage free, by JOHN W. LOVELL Co., Nos. 14 and 16 Vesey Street, New York City.

Also, a Weekly Paper,

## "THE CREDIT FONCIER OF SINALOA."

Edited by MARIE and EDWARD HOWLAND,

HAMMONTON, NEW JERSEY.

*Annual Subscription, \$1; six months, 50c.; three months, 35c.*

This paper (16-page pamphlet) is devoted exclusively to the propaganda for the practical application of integral-co-operation.

While being an uncompromising exponent of *Socialism*, the CREDIT FONCIER urges constructive measures and counsels against destructive methods. Its Colonists are to be known as "*constructionists*" and "*individualists*" in contradistinction to a branch of socialists who favor *destruction* and *communism*.

THE CREDIT FONCIER presents a matured plan, with details, for farm, city, factory, and clearing house; and invites the farmer, manufacturer, artisan, engineer, architect, contractor, and accountant to unite and organize to build for themselves homes, in keeping with solidity, art, and sanitation.

It asks for evolution and not for revolution; for inter-dependence and not for independence; for co-operation and not for competition; for equity and not for equality; for duty and not for liberty; for employment and not for charity; for eclecticism and not for dogma; for one law and not for class legislation; for corporate management and not for political control; for State responsibility for every person, at all times and in every place, and not for municipal irresponsibility for any person, at any time or in any place; and it demands that the common interests of the citizen—the atmosphere, land, water, light, power, exchange, transportation, construction, sanitation, education, entertainment, insurance, production, distribution, etc., etc.—"be pooled," and that the private life of the citizen be held sacred.

*Tid-Bits or bonnebouches chosen from the wisest and wit-  
test words that find their way into print about all  
the topics that make the world interesting.*

—•••—  
**THE CHEAPEST WEEKLY PUBLISHED.**  
—•—

# TID = BITS

ILLUSTRATED.

Offering, at the extremely low price of

—===== **THREE CENTS** =====

SIXTEEN PAGES filled with the sifted goodness and richness of  
the current periodicals and newspapers.

*It Never Prints a Dull Line!*

SIXTEEN PAGES filled with original matter written for  
TID-BITS by the best writers. TID-BITS touches the life of our  
times on every side, and is an "abstract and brief chronicle"  
of current thought—grave and gay.

**HUMOROUS ILLUSTRATIONS.**—TID-BITS' car-  
toons are the work of the cleverest caricaturists. They are  
graphic and pointed.

**PRIZES.**—A prize of \$10 is offered weekly for the best  
story—not necessarily original—submitted to the editor,  
and prizes for answers to questions of various sorts are also  
offered from time to time.

If there is anything new worth knowing you will find it in  
TID-BITS.

If there is anything new worth laughing at you will find  
it in TID-BITS.

So much intelligence, liveliness, and humor cannot be  
had for 3 cents in any other form.

A sample copy will be sent free of postage to anyone  
addressing the publisher, *one dollar a year.*

**JOHN W. LOVELL**

**New York.**

THE CELEBRATED

**SOHMER**

Grand, Square and Upright



**PIANOFORTES**

**ARE PREFERRED BY THE LEADING ARTISTS.**

The demands now made by an educated musical public are so exacting that very few Pianoforte Manufacturers can produce Instruments that will stand the test which merit requires. SOHMER & CO., as Manufacturers, rank amongst these chosen few, who are acknowledged to be makers of standard instruments. In these days, when Manufacturers urge the low price of their wares rather than their superior quality as an inducement to purchase, it may not be amiss to suggest that, in a Piano, quality and price are too inseparably joined to expect the one without the other.

Every Piano ought to be judged as to the quality of its tone, its touch, and its workmanship; if any one of these is wanting in excellence, however good the others may be, the instrument will be imperfect. It is the combination of these qualities in the highest degree that constitutes the perfect Piano, and it is this combination that has given the "SOHMER" its honorable position with the trade and the public.

Received First Prize Centennial Exhibition, Philadelphia, 1876.

Received First Prize at Exhibition, Montreal, Canada, 1881 and 1882.

**SOHMER & CO.,** Manufacturers,

149-155 E. 14th St., New York.