



## Free Speech.

BY CHARLES MACKAY.

ALL conviction should be valiant:  
Tell thy truth, if truth it be,  
Never seek to stem its current;  
Thoughts, like rivers, find the sea:  
It will fit the widening circle  
Of eternal verity.

Speak thy thought if thou believ'st it,  
Let it jostle whom it may,  
E'en although the foolish scorn it  
Or the obstinate gainsay;  
Every seed that grows tomorrow  
Lies beneath the clod today.

If our sires, the noble-hearted,  
Pioneers of things to come,  
Had like some been weak and timid,  
Traitors to themselves, and dumb,  
Where would be our present knowledge?  
Where the hoped millennium?

Where would be triumphant Science,  
Searching with her fearless eyes,  
Through the infinite creation  
For the soul that underlies—  
Soul of beauty, soul of goodness,  
Wisdom of the earth and skies?

Where would be all great inventions,  
Each from bygone fancies born,  
Issued first in doubt and darkness,  
Launched 'mid apathy and scorn?  
How would noontide ever light us  
But for dawning of the morn'?

Where would be our free opinion,  
Where the right to speak at all,  
If our sires, like some mistrustful,  
Had been deaf to duty's call,  
And concealed the thoughts within them,  
Lying down for fear to fall?

Though an honest thought, outspoken,  
Lead thee into chains or death,  
What is life compared with virtue?  
Shalt thou not survive thy breath?  
Hark! the future age invites thee!  
Listen! tremble, what it saith.

It demands thy thought in justice,  
Debt, not tribute of the free;  
Have not ages long departed  
Groaned, and toiled, and bled for thee?  
If the past has lent thee wisdom,  
Pay it to futurity.

## General Aspects of the Evolution-Hypothesis.

BY HERBERT SPENCER.

JUST as the supposition that races of organisms have been specially created, is discredited by its origin; so, conversely, the supposition that these races have been evolved, is credited by its origin. Instead of being a conception suggested and accepted when mankind were profoundly ignorant, it is a conception born in times of comparative enlightenment. Moreover, the belief that all organic forms have arisen in conformity with uniform laws, instead of through breaches of uniform laws, is a belief that has come into existence in the most-instructed class, living in these better-instructed times. Not among those who have paid no attention to the order of Nature, has this idea made its appearance; but among those whose pursuits have familiarized them with the order of Nature. Thus the derivation of this modern hypothesis is as favorable as that

of the ancient hypothesis is unfavorable.

A kindred antithesis exists between the two families of beliefs, to which the beliefs we are comparing severally belong. While the one family has been dying out, the other family has been multiplying. Just as fast as men have ceased to regard different classes of phenomena as caused by special personal agents, acting irregularly; so fast have they come to regard these different classes of phenomena as caused by a general agency acting uniformly—the two changes being correlative. And as, on the one hand, the hypothesis that each species resulted from a supernatural act, having lost nearly all its kindred hypotheses, may be expected soon to become extinct; so, on the other hand, the hypothesis that each species resulted from the action of natural causes, being one of an ever-increasing family of hypotheses, may be expected to survive and become established.

Still greater will the probability of its survival and establishment appear, when we observe that it is one of a particular genus of hypotheses that has been rapidly extending. The interpretation of phenomena as resulting from Evolution, has been independently showing itself in various fields of inquiry, quite remote from one another. The supposition that the solar system has been gradually evolved out of diffused matter, is a supposition wholly astronomical in its origin and application. Geologists, without being led thereto by astronomical considerations, have been step by step advancing towards the conviction that the earth has reached its present varied structure through a process of evolution. The inquiries of biologists have proved the falsity of the once general belief that the germ of each organism is a minute repetition of the mature organism, differing from it only in bulk; and they have shown, contrariwise, that every organism, arising out of apparently-uniform matter, advances to its ultimate multififormity through insensible changes. Among philosophical politicians there has been spreading the perception that the progress of society is an evolution: the truth that "constitutions are not made, but grow," is a part of the more general truth that societies are not made, but grow. It is now universally admitted by philologists that languages, instead of being artificially or supernaturally formed, have been developed.

And the histories of religion, of philosophy, of science, of the fine arts, and the industrial arts, show that these have passed through stages as unobtrusive as those through which the mind of a child passes on its way to maturity. If, then, the recognition of evolution as the law of many diverse orders of phenomena, has been spreading, may we not say that there thence arises the probability that evolution will presently be recognized as the law of the phenomena we are considering? Each further advance of knowledge confirms the belief in the unity of nature; and the discovery that evolution has gone on, or is going on, in so many departments of nature, becomes a reason for believing that there is no department of nature in which it does not go on.

The hypothesis of Special Creation and Evolution are no less contrasted in respect of their legitimacy as hypotheses. While, as we have seen, the one belongs to that order of symbolic conceptions which are proved to be illusive by the impossibility of realizing them in thought; the other is one of those symbolic conceptions which are more or less completely realizable in thought. The production of all organic forms by the slow accumulation of modifications upon modifications and by the slow divergences resulting from the continual addition of differences to differences, is mentally representable in outline, if not in detail. Various orders of our experiences enable us to conceive the process.

But the experiences which most clearly illustrate to us the process of general evolution are our experiences of special evolution, repeated in every plant and animal. Each organism exhibits, within a short space of time, a series of changes which, when supposed to occupy a period infinitely great, and to go on in various ways, instead of one way, give us a tolerably clear conception of organic evolution in general. In an individual development we have compressed into a comparatively infinitesimal space a series of metamorphoses equally vast with those which the hypothesis of evolution assumes to have taken place during those immeasurable epochs that the earth's crust tells us of. A tree differs from a seed immeasurably in every respect—in bulk, in structure, in color, in form, in specific gravity, in chemical composition; differs so

greatly that no visible resemblance of any kind can be pointed out between them. Yet is the one changed in the course of a few years into the other: changed so gradually, that at no moment can it be said—Now the seed ceases to be, and the tree exists. What can be more widely contrasted than a newly-born child and the small, semi-transparent, gelatinous spherule constituting the human ovum? The infant is so complex in structure that a cyclopedia is needed to describe its constituent parts. The germinal vesicle is so simple that it may be defined in a line. Nevertheless, a few months suffice to develop the one out of the other; and that, too, by a series of modifications so small that were the embryo examined at successive minutes, even a microscope would with difficulty disclose any sensible changes. Aided by such facts, the conception of general evolution may be rendered as definite a conception as any of our complex conceptions can be rendered. If instead of the successive minutes of a child's fetal life, we take successive generations of creatures—if we regard the successive generations as differing from each other no more than the fetus did in successive minutes; our imaginations must indeed be feeble if we fail to realize in thought the evolution of the most complex organism out of the simplest. If a single cell, under appropriate conditions, becomes a man in the space of a few years, there can be no difficulty in understanding how, under appropriate conditions, a cell may, in the course of untold million years, give origin to the human race.

It is true that many minds are so unfurnished with those experiences of nature out of which this conception is built that they find difficulty in forming it. Habitually looking at things, rather in their statical than in their dynamical aspects, they never realize the fact that, by small increments of modification, any amount of modification may in time be generated. The surprise which they feel on finding one whom they last saw as a boy, grown into a man, becomes incredulity when the degree of change is greater. To such the hypothesis that by any series of changes a protozoon should ever give origin to a mammal, seems grotesque—as grotesque as did Galileo's assertion of the earth's movement seem to the Aristotleans, or as grotesque as the assertion of the earth's sphericity seems now to the New Zealanders. But those who accept a literally unthinkable proposition as quite satisfactory may not unnaturally be expected to make a converse mistake.—Synthetic Philosophy.