

TORCH OF REASON.



VOL. 2.

SILVERTON, OREGON, THURSDAY, NOVEMBER 24, 1898.

NO. 46.

FREEDOM.

Revised for the Torch of Reason.

GIVE us the freedom of the skies,
The latitude of freedom's range,
Hope's rainbow hues that circling
rise,

Relief from dead creeds, and the change
And splendid growth that comes with
time!

Oh, give us these, break bolt and bar!
And we may know a fame sublime
And spotless as a shining star.

Give us the liberty from creeds
That blind the mind's divine desires,
Making us serfs to selfish deeds,
Destroying all the fervent fires
Of hope and love that burn within—
Give us such liberty and we
Shall walk no more the paths of sin,
But as great gods forever be.

Emancipate us from a land
Where vassals bow to God and Greed,
Constrain us with no tyrant's hand,
But let us rise and quickly speed
To realms where Freedom with her key
Unlocks the doors of Thought and
Truth—

Per chance with such great liberty
We may find the fount of youth.

And finding it man's mind might blend
With other spirits in our land,
And on to Time's eternal end
Shall forward travel hand in hand,
And heart with heart, new truths to
claim,

New glories find, new thoughts to see,
And with fair Freedom's deathless flame
Know more and more of liberty.

Oh, give us freedom as we go
Onward into the Silent Land;
With liberty we feel and know,
With freedom we may understand;
And when time shall destroy the chain
That binds us to the years that be,
May mind, and heart, and hands, and
brain
Know Death's eternal liberty.

The Natural Origin of Life.

BY HUDSON TUTTLE.

TRUE, science has been so little understood, and nature so wrongly interpreted, that its facts could not previously be successfully arrayed against the prejudices of the biased mind. But every day has brought new light, and forced the conviction that the last battle must soon be fought on strictly scientific grounds. Theology has been constantly frightened by the revelations of nature. When Galileo contradicted its assertion that the world was flat and the center of the system, its throne seemed ready to crumble, and each new development of mind has battered it with unparried blows.

Slowly the light has dawned, and men of unfettered minds now feel that the true philosopher must not be guided in his interpretations of nature by any theory or bias of others. But as a little child, free from prejudice, he must walk out into the field of causation and observe and theorize for himself. What has been said, what written, before his day, should appeal to his judgment; if true, it should be received; if not, be cast away as

worthless trash, no matter if it bear the signet of a god. We well know that in nature there are no interpolations nor misinterpretations. It comes to us fresh and new, unsoiled by the hands of selfishness or deception. If we read aright from its pages, and it clearly contradicts any pretended revelation, we are assured that such revelation is an imposture, no matter if descended from immemorial time and half the world bow to its dictation.

Nature interpreted by reason is the ultimate test of all truth; correct observation the avenue to the mysteries of causation. Such is the philosophical code.

Now the philosopher has stepped upon this planet, everything nursed and petted in the past as truth is severely scrutinized. He has the mental crucible which digests solar systems, and extracts the pure metal from the dross. He calls unprejudiced observation to his aid, and by it unlocks the gates of mystery. First he observes the regularity of phenomena, which tells him there is no chance; that like causes produce like effects, yesterday, today, and forever. All idea of chance is utterly excluded. There is an observed order never disturbed; organic and inorganic matter is ruled by an undeviating method. That method he terms law, because it is similar in its tendency to artificial enactments. Still no force or power is expressed; the modus operandi is concealed; he is baffled in this direction by the portentous sentence, "Thus far and no farther."

Turning, he inquires, What is matter? Was it ever created, or is it eternal? What is its constitution? After surveying the entire field, he reasons thus: Matter is eternal, as far as a finite mind can conceive. This is an axiom lying at the very foundation of nature. It is to him self-evident. In opposition to this view, the theologian brings the creative fiat of God! But what does he assume? The self-existence of God! How can he answer the pertinent question, Whence came the Omnipotent Being who could create the Universe from nothing? The mystery said to involve the Godhead has little weight against the demonstrations of science. To the calm mind it is vastly more rational and probable that the universe, with all its suns and worlds teeming with living beings, is the result of blind, fortuitous chance than the creation of a being capable of creating it by an effort of his will; for it is axi-

omatic that it is easier to create the lesser than the greater.

Motion innate in matter possesses the simplicity which nature demands, and we can trace its operation down from the great suns wafted on its wings, to the crystallization of a solid from a solution, and the infinite movements of the living organization. Motion is ever the same, directed in different channels and fulfilling different missions, nevertheless the same, whether aggregating the particles of salt in a cubic crystal, or binding with iron bands world to world, and sun to sun, in the grand network of solar and stellar systems.

Life is born of motion. It is first traceable in the mutual attraction between atoms in solution arranging them in definite forms; in affinity, the attraction and repulsion of particles. It perhaps may appear startling that the forces which create the crystal are living forces; but the data are many which support such a conclusion. In the lower order of animals, where life nearest approaches the mineral, the form and skeleton of the animal conform to the laws of crystalline growth, as the plates of the sea-urchin, the rays of the asteria, and the calcareous framework of the coral, and even in the higher mammalia, the bones always are crystalline, being formed of elongated crystals which grow in their cartilaginous beds precisely as they would in a solution. The petrification of wood differs not materially from the growth of bone.

The mysterious process of absorption in the plant or animal does not differ in the least from absorption in the mineral. The same force which takes up a fluid through walls of animal membrane causes chalk and other porous minerals to absorb a fluid, or a capillary tube to lift it higher than its level.

The process of secretion, though intricate in character, can be imitated with mineral walls instead of living tissue. These facts may be regarded as faint proofs, but it can not be denied that they furnish the clew—the footprints to the law binding the organic to the inorganic. Life of necessity depends on the mineral. It is breathed forth and sustained by it.

Admit that God, by a special act of creation, formed man out of the dust; then it must be received as a correct deduction that matter has the capability of becoming a living being. Then it must possess an in-

herent principle of life, the development of which is seen in every living organism. Creation is constantly going on around us, and we see comparatively inert matter awake from sleep to whirl in the restless activity of sentient organisms. But there is no necessity of calling to our aid an external force. We see that it possesses the living forces. When placed in the proper circumstances, its before dormant powers awake under the new order, and the so-called inert matter becomes living matter. Life is not necessarily sentient. The lowest animal can not be distinguished from the lowest plant, and the lowest plant grows as a crystal enlarges in solution, by the elongation of a central axis. But this plant lives, and its life is the same as that of the ox, the deer, or of man. The plant is simply an animal without a nervous system, and consequently devoid of feeling. All the functions of the animal, except that of the nervous system, are strictly vegetative; secretion and excretion, absorption and assimilation, are identical. Some philosophers claim that an impassable chasm exists between the organic and inorganic worlds; but where is it to be found? If life in its general aspect is but the mutual interchange of relations, then matter itself must be admitted as living. Has it not motion in the terrific winds, which lash the heaving billows of the ocean, and in wild magnificence walk onward amid ruin and desolation? Has it not its sympathies and antipathies in the relations existing between the different elements of the chemist? Has it not its attractions in the world atoms it sends on their mighty orbits? With what anxiety we watch the agitated needle as it trembles beneath the concussions of the northern lights! And how astonished are we at the play of the contending electric and magnetic forces between bodies differently charged! Assuredly if this is not life, it has all the appearances of being. Life is individualization, and when the crystal forms from solution after a definite model, is it not an attempt at individualization? Is it not the first step towards an organized being?

If there is not life in matter, from whence is it derived? How is the inorganic matter rendered capable of supporting the living being? These are questions which must be met if the popular idea is sustained. But they can not be

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