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By Marie C. Swabey, Ph.D.
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in New York University

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Spectroheliogram of the sun showing calcium flocculi

Frontispiece to The Open Court.
THE EPIC OF THE SUN

BY J. V. NASH

Through silent fields of cosmic space
The flaming sun in youthful splendor rolled
Alone, no planets round it circling,
While other suns on far horizons went their distant ways.
Thus countless aeons passed, unconscious all.
At last another solar presence,
From out the depths of this our lens-shaped galaxy,
Rolled slowly onward toward the precincts of our sun.
On came, through thousand centuries, this second sun,
Not near approaching, but swinging by the solar orb
Still many million miles away.
And as it passed, great tidal waves began to surge
Upon the agitated face of this our mother sun.

Higher and higher heaved the flaming waves,
Until two mammoth arms of fiery solar stuff,
Spiral shaped, with knotlike nuclei, on either side
Leaped out into surrounding space.
Out, out, they rushed, in answer to the call
Of that far-distant passing star.
But then our sun, like yearning parent,
Restrained the fleeing children of its breast.
The other sun, now drifting far away, released its pull;
The knotlike nuclei of planetesimals, gathering into planets,
Responded to the call of their maternal sun.
But Nature's laws of motion and dynamics
Decreed that they should ne'er return

For reading the manuscript of these verses and offering valuable criticisms and suggestions, the writer is indebted to Dr. F. R. Moulton, eminent astronomer and co-discoverer of the Planetesimal hypothesis.
Into the cosmic womb from whence they sprang,
But that they should, for million aeons,
Each in its separate orbit circle round the sun.

Thus was born our planetary family.
Children nine there are: Mercury, Venus, Earth, and Mars,
A waste of space, thick strewn with planetoids,
Then giant Jupiter, then Saturn, Uranus, and Neptune,
Circling in the distant voids.
And e'en beyond dim Neptune's orbit,
Long hidden in the outer deeps, the planet Pluto,
Now newly seen and named by man.
Round some, attendant moons in orbits wheel:
One round Earth and two round Mars,
Nine each round Jupiter and Saturn,
Four round Uranus and one round Neptune.
Saturn, too, a mysterious ring of dust encircles
Above the equatorial belt.

And in and out among the planets wander comets—
Strange, erratic, cosmic wayfarers;
Yet each in separate orbit held.
A fiery head, with fanlike, gaseous, glowing tail,
Each circles round the blazing sun,
Then dashes back toward depths of space abysmal,
Its tail reversed and slowly disappearing.
The passage of a comet's orbit oft consumes
Of years some hundreds and e'en thousands.
Whence come these comets?
They, too, are children of our sun,
Born of its internal fires.
Without the aid of any distant passing star.
Great storms that rage upon the solar disk
Throw flaming gaseous matter out into the void.
This, cooling, condenses into swarming grains
Of elemental stuff, called chondrulites,
Which wander off to distant bounds of space,
Where radiation from the stars and solar pull
Thrust them backward toward the sun in ceaseless cycles.
From chondrulitic wastage come the meteors
Or "falling stars," which flame across the sky,
And meteorites, those bits of cosmic substance,
Which now and then descend upon the earth.

Meanwhile, what of this our earthly sphere?
Age after age it moved along its orbit,
Ingathering scattered stuff strewn in its path:
Thus slowly grew by planetesimals' infall
Until it reached its present size,
At least two billion years ago.
Oxygen and hydrogen, occluded in its rocky core,
Escaping and uniting in proportion one to two,
Formed oceans vast of water, while above
The lithosphere and hydrosphere a blanket soft
Of air—an atmosphere—was slowly formed.

Behold at last the earth a fit abode for life,
Sustained by light and heat from parent sun.
In shallow pools where land meets sea,
And tides wash in and out,
Came gentle stirrings of a vital force.
The plants were first, in simple forms, then animals.
So now began the slow and painful march,
From low amoeba through the fish and reptile,
And the long ascent of mammals,
To Pithecanthropus, Sinanthropus, Neanderthaler,
Men of Heidelberg and Piltdown,
And well-shaped folk of Cro-Magnon,
When Europe's mighty ice-sheet melted and retreated.

Through war and travail, drought and famine,
Disease, and superstition's grisly clutch,
Onward struggled mankind, falling but to rise again—
To rise above that Nature red in tooth and claw
Out of which it came to conscious life:
Its choicest spirits in the van, with eyes intent
On far-off goals, and the sunrise of a newer day,
When man will be in truth the lord of earth,
Incarnate spirit, ruled by law of love,
The secret aim of Evolution's pulsing urge,
From clash of passing suns to man's millennium.