THE CHAMBERED NAUTILUS.

BY O. W. HOLMES.

THIS is the ship of pearl, which, poets feign,
Sails the unshadowed main,—
The venturous bark that flings
On the sweet summer wind its purpled wings,
In gulfs enchanted, where the Siren sings,
And coral reefs lie bare,
Where the cold seamaids rise to sun their streaming hair.

Its web of living gauze no more unfurl;
Wrecked is the ship of pearl!
And every chambered cell,
Where its dim dreaming life was won't to dwell,
As the frail tenant shaped his glowing shell,
Before thee lies revealed,
Its irised ceiling rent, its sunless crypt unsealed!

Year after year beheld the silent toil
That spread his lustrous coil;
Still as the spiral grew,
He left the past year's dwelling for the new,
Stole with soft steps its shining archway through,
Built up its idle door,
Stretched in his last-found home, and knew the old no more.

Thanks for the heavenly message brought by thee,
Child of the wandering sea,
Cast from her lap, forlorn!
From thy dead lips a clearer note is born
Than ever Triton blew from wreathed horn,
While on mine ear it rings,
Through the deep caves of thought I hear a voice that sings:—

Build thee more stately mansions, oh, my soul,
As the swift seasons roll!
Leave thy low-vaulted past!
Let each new temple, nobler than the last,
Shut thee from heaven with a dome more vast,
Till thou at length art free,
Leaving thine outgrown shell by life's unresting sea.

DISCOVERIES IN THE UPPER AIR.

BY the aid of the balloon, numerous voyages have been made into the upper regions of the atmosphere surrounding the earth, for the purpose of scientific discovery.

The first ascension with this object in view, was made by Gay Lussac and Biot, in 1804. They wished to gain accurate information respecting the density, temperature, moistness, and electricity of the atmosphere at different elevations from the earth. Lussac brought down flasks filled with air at a height of over 21,000 feet, and found by analysis that it was composed of the same proportions of oxygen and nitrogen as the air on the surface of the earth. He also noted that the higher he ascended the colder the atmosphere became; from being 82° Fahr. on the surface, it became 14° 9' at an altitude of 23,000 feet. The stratum of clouds through which they had passed, as they looked down upon it, resembled a wide plain covered with snow. Lussac also discovered that the air grew much thinner as he ascended, and at the greatest height he attained, the air was so thin as to make it very difficult to breathe; his pulse beat much faster; his throat became parched; the cold was so great as to benumb him; the air was dull and misty; a stratum of clouds still above him (four and a half miles high) prevented the sun's rays from reaching him.

In 1836, some English balloonists made a long journey through the air, and noticed the existence of different strata of rain clouds, one above the other, and separated by a clear space of a thousand feet or more.

The balloon ascensions of Mr. Glaisher have all been made for scientific purposes, and in 1862, with Mr. Coxwell, he ascended to the astonishing altitude of 35,000 to 37,000 feet, equal to seven miles, being the greatest height ever reached by man, and exceeding by far the top of the highest mountain on the globe.

In ascending the first 1,000 feet, he found the fall in temperature to average about one degree for each 200 feet; above 20,000 feet the fall in temperature was at the rate of one degree for each additional 1,000 feet ascended.

There is not uniformity, however, in the fall of temperature. In 1864, Mr. Glaisher, at an altitude of 1,300 feet, entered a belt of warmer air, which he found to be 3,000 feet thick, the air being in motion from the south-west, and this current was three or four degrees warmer than the atmosphere on the surface of the earth, whereas according to the usual rule, it should have been four or five degrees colder.

Another object in balloon ascensions has been to find out the air-currents in the upper regions with some degree of certainity. Job said of the wind and the rain thousands of years ago: "He looked to the ends of the earth * * * to make the weight for the winds; and he weigheth the waters by measure," (28: 24, 25); and science has not added much to our knowledge of these matters; indeed it may be that a careful study of the book of Job might guide science to richer results in the investigation of these elements.

A French aeronaut, M. Flammarion, after several experiments, concluded that the upper air-currents over France were circular. In 1867, he says he started in his balloon with a north wind, carrying him south-south-west, but later it moved due south-west; and a similiar result was noticed in every excursion. The result of observations under direction of the Smithsonian Institute at Washington, led the late Prof. Henry to conclude that the resultant of all winds here was from the west. Hence he suggested that if a balloon could be sustained long enough, say ten days or more, it might be safely wafted across the Atlantic. No one has yet attempted this perilous voyage, although some American balloonists, like Prof. Wise, have seriously thought of undertaking it.

No successful means of guiding a balloon have yet been invented. Once in the upper regions and the balloonist is wholly at the mercy of the air-currents; indeed, it is often impossible for him to tell whither he is going, or whether he is moving at all. He *may* be swept along at the speed of a hurricane, and suppose he is in almost a calm. The earth is not to be seen; the moving clouds deceive him, and unless he can see the sun, there is no object by which to mark his position in air.

Many attempts have been made to bring the balloon under the control and guidance of man. Mr. Glaisher declares, after a long experience, that he can see no probability of any method of steering a balloon ever being invented. Other distinguished aeronauts, especially among the French, believe it probable and possible, and some have vigorously worked and studied to discover some practical method of steering a machine in mid air. M. de Lorne has made the nearest approach to this end, and though unsuccessful, his experiments indicate that it is far more probable than some results would have seemed, which are now familiar to us through remarkable inventions of man.

SYMPATHY FOR THE DRUNKARD.

I TELL you there is not a village or town in this country that sustains and supports the liquor traffic but is bound in honour to furnish places of refuge for every poor victim of the drink. My sympathies go out to these men. I do not believe in coddling them or making pets of them, but I believe in helping them to help themselves, and in removing, as we can, temptation out of their way. One thing more. When the poor wrecks come to me by the score I sometimes thank God I had no son. One Scotchman said, "I am a lost laddie." And so many of them are lost! I sometimes thank God I have no son to be lost; but if I had, I would rather take him to the vilest and dirtiest grogshop that could be found, and keep him there for half an hour, than to take him into the most respectable social drinking circle in Saratoga. If I took my boy fresh from his pure home, fresh from his mother's knee, fresh from Sunday-school exercises, into such a den as that it would frighten him. He hears strange sounds; he does not like the odor of the place; he puts his hands to his ears, "Take me out of this, papa. What are these men doing? I don't like it. Oh, take me away!" But in the social circle, where the mother smilingly offers the wine to her guests, and the minister under whose preaching the boy has sat gives assent to it by a smile, there he will take his first glass. So if we wish to prevent this evil, we must assail the drinking customs of society that are made fashionable and respectable. The moderate drinker tells us we are very hard on him. I do not pretend to say that the moderate drinker intends to do this mischief. A lady said to me, "My son, eighteen years of age, came from his chamber one New Year's morning, and said, 'Happy New Year, mamma.' While seated at his breakfast he said, 'Now, mamma, I am going out for the first time in my life to make New Year's calls, and I mean to make a business of it; good morning;' and he kissed her on both cheeks. She said she stood in the bay-window, and watched him till he turned the corner, and then drew a long sigh of satisfaction. My boy, sweet, pure, clean, lovely! I was proud of him. I thought of him all day. At night came a ring at the bell—a strange sort of ring—and instead of permitting the servant to go, she went herself, and there she beheld two young men holding up her drunken son. She said, 'Bring him in.' They laid him on the carpet. 'And then,' she said, 'I sat down and lifted his head in my lap. I tried to comb his hair; it was all matted and damp; his lips, that were so pure and sweet, were cracked and dry, and his breath, that was like the newly-gathered violets, was a horrible stench. My boy! The eyes half-closed, just showing the white, the horrible breath pouring forth its effluvia. My boy! His face seemed to be so changed. It was so smooth when he went out, but now it looks coarse.' 'Mr. Gough,' she said, 'If that had been the work of my boy's enemy it would have been a comfort to look upon him and feel that it was the work of my boy's bitterest foe; but if that is the work of my boy's friends, God have mercy on me! for I have but little hope for the future.' And she said that it was not the last time by many that he came *home to her drunk*. Who *gave* him his first glass?"—*John B. Gough.*

COMETS AND THE EARTH.

PROF. Simeon Newcombe, *LL.D.*, in his "Popular Astronomy," thus speaks of the probable effect of a comet's striking the earth:

The question is frequently asked, "What would be the effect if a comet should strike the earth?" This would depend on what sort of a comet it was, and what part of the comet came in contact with our planet. The latter might pass through the tail of the largest comet without the slightest effect being produced, the tail being so thin and airy that a million miles' thickness of it looks like gauze in the sunlight. It is not at all unlikely that such a thing may have happened without ever being noticed. A passage through a telescope comet would be accompanied by a brilliant meteoric shower, probably a far more brilliant one than has ever been recorded. No more serious danger would be encountered than that arising from a probable fall of meteorites. But a collision between the nucleus of a large comet and the earth might be a serious matter. If, as Prof. Pierce supposes, the nucleus is a solid body of metallic density, many miles in diameter, the effect where the comet struck would be terrible beyond conception. At the first contact in the upper regions of the atmosphere, the whole heavens would be illuminated with a resplendence beyond that of a thousand suns, the sky radiating a light which would blind every eye that beheld it, and a heat which would melt the hardest rocks. A few seconds of this while the huge body was passing through the atmosphere, and a collision at the earth's surface would in an instant reduce everything there existing to fiery vapour, and bury it miles deep in the earth. Happily, the chances of such a calamity are so minute that they need not cause the slightest uneasiness. There is hardly a possible form of death which is not a thousand times more probable than this. So small is the earth in comparison with the celestial spaces that, if one should shut his eyes and fire a gun at random in the air, the chance of bringing down a bird would be better than that of a comet of any kind striking the earth.

There are silent people who are more interesting than the best talkers.