

FROM REVELLIE TO PIPE DOWN.

The Daily Routine of Jack Tar's Life Aboard Ship—Caring for the Ship and for Himself.

The "Hobson" suspender and the "Dewey" brand of cigars are proofs of fame characteristically American. The other proof is the broad grin of interest found nowadays on every citizen when he spies the bluejacket and jaunty flat cap of a passing sailor. It is sad to confess, but it is true, that a few months ago the majority of us didn't care a snap whether our sailors lived on hardtack or waxed gummy on plates of truffles. We had no especial curiosity concerning them one way or the other. Now, behold! the gleam of a strip of tape or the swing

of the officer of the deck, who goes below for a light lunch, and then sees that the boatswain's mates and the captains of the different parts of the ship distribute their men to the best advantage. If it be wash day, the crew is allowed to attend to their laundry work before the scrubbing begins, for, be it understood, there are no "Hop Lees" or colored wash ladies in the navy's service. As the sailor's outfit consists of flannel or white duck trousers, flannel inside and outside shirts, and the ordinary cotton hose, the operation of washing does not call for much skill or preparation. For instance, if the ar-

sels of the Texas class they are arranged in lines on both sides of the deck according to their division. The officers in charge of each division see that their men are either present or accounted for, and report the same to the executive officer. The latter then reports to the commander of the ship and the men are dismissed. During week days the morning hours are generally devoted to drill. A settled schedule is made out, what the ship goes into commission, and this is strictly adhered to. Each ship has its general quarters, fire quarters, collision drill, abandon ship, arm and away boats, broadsword exercises, or something of similar character, and from 9:30 until noon the decks are alive with men under instruction.

Dinner is followed by a short rest, and at 1 o'clock "turn to" is sounded again. During the afternoon, five days of the week, the crew is kept at work attending to the multifarious duties of the ship. Saturday afternoon is considered a half-holiday, the smoking lamp is lighted, and if the ship is in port, the men are allowed to see what they can do for themselves according to their individual inclinations. With mess-gear in the early evening, the working day ends. Supper is followed by a period of relaxation until the mellow notes of the bugle sounds taps and the boatswain's mate's whistle echoes through the decks in the last call of the day—"pipe down."

There are other incidents which go to make up the naval day—incidents requiring a volume to describe, but the above offers a fair idea of the ordinary routine on board ship. At sea, when the ship's company is divided into watches, the monotony is greater than in port. It is during the latter time, with the feet and anchor of some friendly city, or when the ship is tied up to a dock in one of the home yards, that



EVERY DAY SCENES IN NAVY LIFE.

of a pair of blue-laced legs will send proprietors and clerks to shop doors with more quickness than would a riot or a circus procession. It is as it should be. The American tar is a hero and he deserves all the attention and lionizing it is possible for us to give him.

The story told of the Honorable "Dick" Thompson of Indiana, who, on being appointed secretary of the navy, paid his first visit to a vessel of any kind, and exclaimed as he glanced down the hatchway, "Great Hoop Poles! the darned thing is hollow!" would serve to express the general ignorance of naval matters found not only in the west, but the east as well. That ignorance, however, bids fair to become enlightened. The public demand is being complied with. Honest citizens who have boys with Dewey or Sampson or Schley are not satisfied with knowing that their sons spend the great majority of their time on board ship whether in port or at sea, but they would also like to learn why Will or Jack, or Fred does between the hour of his rising and of his going to bed.

It is not a very fascinating or widely hilarious life, that of the man at anchor on board a modern warship. There is a monotony and sameness of things, that eat into the heart at times, and it is only through the diversion caused by a wreck or a storm or a series of battles like that recently experienced, that lends a welcome air of diversion to the naval day. The landsman, with his 24 hours well punctuated with work and sleep and pleasures has been known to complain of the dull routine of his existence, but if he was compelled to put in these years crisscross on one of our deep-water naval vessels, he would return to his former scenes with relief.

To rise at 5:30 to the harsh notes of a bugle and drum in the order, except during a few winter months, when a half-hour's grace is permitted. The "music" as the marine drummers and buglers are called, are summoned ten minutes before time by the corporal of the guard. The two lads, rubbing the sleep from their eyes, take their stand near the forward hatch, and, at the word from the officer of the deck, break into the stillness of the early morning with an infernal snub tub technically known as "reveille." The hideous uproar speedily brings a chorus of grunts and yawns, not unmingled with something stronger, from the occupants of the hammock-crowded berth-deck, and presently the ladder leading above is thronged with half-dressed figures mounting upward in a ghostly procession. Each figure carries upon his shoulder his individual hammock, carefully lashed and fettered. This is deposited in the receptacles prepared for the purpose, and then he himself to his mess, where he finds steaming coffee sans milk and barely sweetened, but extremely welcome as an eye-opener.

The spotlessly clean decks of naval vessels are proverbial. When the Princess of Wales was a girl, she paid a visit to an English man-of-war anchored at the North. As she stepped on the quarter deck she stooped over and easily rubbed the wood with her gloved hand, then with a smile she said indignantly, "Nurse was right after all. She told me our sailors keep the decks as clean as a dining table, and they do."

This cleanliness, which seemed novel even to royal eyes, in the result of a healthy process. Each figure carries upon his shoulder his individual hammock, carefully lashed and fettered. This is deposited in the receptacles prepared for the purpose, and then he himself to his mess, where he finds steaming coffee sans milk and barely sweetened, but extremely welcome as an eye-opener.

Jack selects a clear part of the deck, sprinkles a little water upon the spot, then spreads his shirt, previously soaked, upon the deck. Then with salt brayer soap and a scrubbing brush he sets to work. A subsequent rinsing completes the task, and the garment is fastened with bits of twine to the clothes line stretched from mast to mast.

It must not be understood that every Jackie is his own washerwoman in the navy. There are degrees of opulence here as well as ashore, and the aristocracy in the service is as completely defined as in New York's society. It is seldom that the ship's cook, who has the exclusive privilege to make and sell dried apple pies at 25 cents per pie, and the ship's barber, who pursues his tonsorial art at the rate of \$1 each quarter for every man on his books, scrub their own clothing. They are rich enough to hire a neely landsman or coal passer to do it for them. But the great majority of the men forward attend to their own laundrying, and they do it well, too.

Holy-stoning decks and scrubbing ladders and gratings with sand and canvas continues until 7:30 o'clock, when the call to "spread mess gear" is sounded by the boatswain's mate on watch. This is also the signal to clean up, and each Jackie grabs a deck bucket, gets his share of fresh water from the captain's his part of the ship and makes his toilet, which, if not elaborate, amply suffices for his needs. In the old navy this question of fresh water was a serious one. Ships of the Trenton and other wooden corvette class carried distillers of limited capacity, and water was so scarce at times that the call to "spread mess gear" is sounded by the boatswain's mate on watch. This is also the signal to clean up, and each Jackie grabs a deck bucket, gets his share of fresh water from the captain's his part of the ship and makes his toilet, which, if not elaborate, amply suffices for his needs.

At the stroke of eight bells (8 o'clock), the call to breakfast is given. Salty air and an open, free fire produce excellent appetites, and there is no dawdling in the race for the mess tables on the quarter deck. The scene is something similar to that described by Dickens in "Martin Chuzzlewit," when Martin had his first experience with an alleged American boarding house, and concluded from the terrific hubbub made by the boarders in their break for the dining room at the sound of the breakfast bell, that the house was on fire. The din of clattering pans and the chattering and laughing of the eaters on board ship during the same hour is something remarkable. Table manners are at a discount as a rule, but even that can be forgiven in men who fight as Yankee sailors fight, or shoot as they shoot.

Breakfast over, the men are given till 9 o'clock, then all hands are turned to, and the ship is cleaned up for quarters. This latter ceremony is conducted daily, rain or shine. On ships of the old navy, the men were mustered and inspected at their guns, but on ves-

els that Jack finds his hours filled with variety and pleasures sufficient to satisfy even his desires. It is then the liberty list—a potent term in the navy—is made out. To discover one's name on the liberty list means shore with its fascinating attractions, and if there is anything on this footstool the average sailor or landsman will "take the beach" with a few dollars in his pocket.

Liberty, on ordinary occasions, lasts until 5 o'clock the following morning. On and before that hour, or sometimes a little later, Jack is expelled according to the gang-plank or coming off in a shore boat, if the ship is riding at anchor in the bay, and it is patent to the experienced eye of the corporal on guard, or the officer of the deck, that he has been shipping a contraband cargo. He gains the deck and essays a military salute which generally ends in a stager and a reckless wave of the hand. As the corporal supports him, the officer of the deck and the executive officer "size him up," the latter finally ordering him forward. As Jack rolls down the gangway, greeting his mates with a husky cheer and a leering grin, the executive officer turns to his companion and says grimly:

"Enter him on the log as clean and sober. He's a bit over seas, but we can forgive a good deal in a man who can shoot a 12-inch gun straighter than a Yankee ball-pipe can throw to second. Jack is all right!"

IN THE SPANISH LINES.

Havana, May 14, 1898. Sentry, unbar the gate. The head-catch comes this way. Bearing their chests freight. Out to the birds of prey. No Spanish soldiers there. Slain by the foreigner's steel. But Cuban refugees. "Starvation laid them low; Their cries we would not heed, Spain's policy—yon know—'Extremities breed.' "The Yankee pigs in boat; Promised them aid and food; Their ships along our coast; Are dyed with Yankee blood. They fire not to the west On Cuba's fertile plain; We'll send their iron-clad fleet Where late we sent the fleet. "Three weeks their flag have waved Before Havana's gate; But not a ship nor a vessel saved Her swift and certain fate. At some occasional port They strike the Spanish rule— They fire upon some fort And kill a Cuban mule— But while they waste their shot In impotent defeat, These Cuban cannon rot— Every day they rot. What need have we of guns? Their antics make us laugh; Their mule they fly about; Whipped by the telegraph. From Maine's most northern shore To Florida and back, They see a Spanish ship In every fishing cove; And they're to Cape Verde fleet, Again they're steaming north Some ships to the west, And while they rush about, Much as they may croak, This concentrated rout, Are living on their hopes. Give us but ten days more, We'll sink 'em Cuba's fleet; The three thousand dead today Their 'burzard burial' woe. So make no more delay, Sentry, unbar the gate." —G. D. EMERY.

PHOTOGRAPHING SOUND.

Professor Webster's Remarkable Instruments Converts Sound Waves Into Curves of Light.

Prof. A. G. Webster of Clark university has just perfected a scientific instrument which is likely to add considerably to existing knowledge of the phenomenon of sound. At the recent meeting of the American Association for the Advancement of Science Prof. Webster advanced the question, "How loud is a sound?" When no one was able to answer, he brought into view an apparatus which served as an absolute standard of comparison. Hereafter it will be possible to say just how loud any sound may be by guess or by means of waves made by reflected light. Incidentally, Prof. Webster remarked that with this instrument it is possible to find out all about it; that a modified form of the instrument might be installed on ship-board to be used to denote the approach of other vessels.

Curiously enough, light is the agency that has been called in to increase our knowledge of sound. It is by means of photography that Prof. Webster measures all sorts of noises, from the roar of an explosion to sounds so low that the human ear finds it impossible to detect them, and which therefore pass under the name of silence. The device has proved that there is no such thing as silence in the ordinary acceptance of the term. What men call silence includes all noises below the limit at which the human ear will register sound, but silence is really full of sounds that pass unnoticed except by some delicate perception like that of Prof. Webster's apparatus. In other words, silence is comparative and not positive. There are probably few sounds that can escape this new invention, for its maker has proved that with it he can detect and photograph the noise made by a draught of air passing through a room.

The mechanism by which Prof. Webster's machine records sound ready for measurement is comparatively simple. It consists of a set of movable mirrors and prisms, which in conjunction with a diaphragm. One of the principles involved in this part of the process is hundreds of years old and was discovered by Sir Isaac Newton. To illustrate it, suppose that light is admitted through a pin-hole shutter into a very dark room. Introduce into the path of light any opaque body, as a knife-blade, for example, and observe the shadow which it casts on a white screen, we shall see that the edges of the shadow are fringed with colored light. The light, in passing by the edge or back of a razor or a block of marble or a bubble of air in glass, is in each case affected the same way. It is because light always is refracted, or more popularly speaking, refracted, when it passes by the edges of bodies. But it is rarely observed in ordinary circumstances, because when light comes from various directions the colors composing it overlap and are reduced to whiteness. Any transparent substance of excessive thinness reflects brilliant colors. Examples are seen in thin laminae of air occupying cracks in glass and ice and the interstices between plates of mica; also in thin films of oil on water and alcohol on glass, but most remarkably in soapy water blown into very thin bubbles.

The same effect is produced if a lens of slight convexity is laid on a plane lens, and the two, after being placed together by a screw are viewed by reflected light. Rings of color may be seen ranged around the point of contact. The smallest rings are broadest and most brilliant and each one contains the color of the spectrum in their order. These are commonly called

Newton's rings, because Sir Isaac Newton first originated their phenomena. This principle of refraction then and a modification of the instrument used in producing Newton's rings are used in the new apparatus for measuring sound. Within a small square box, Professor Webster has placed several mirrors and prisms in a manner that Newton's rings will be projected against a moving sensitive photographic plate. On one side of the box is a globe-shaped resonator, inside of which is a sensitive diaphragm, made of a very thin glass plate. The slightest sound will cause this diaphragm to vibrate. On the inner side of the diaphragm is attached a very small circular mirror, weighing a fraction of a gramme. When a sound, however slight, enters the resonator or receiver of the instrument, the diaphragm, and consequently, the small mirror, vibrate backward and forward, and a small beam of light is sent careening about among the other mirrors and prisms, and is finally to resolve itself into a series of colored fringes. These fringes are projected through a series of slits in a screen, until, at the time the light reaches the photographic plate, it takes the form of a waving line. This waving line is projected on a screen by means of a lantern, and may be viewed, if desired, by a number of persons at once, as during the meeting of the American Association for the Advancement of Science. So, as Professor Webster explains, the hearing of a deaf man easily might distinguish the difference between the sounds, while a blind man could not.

Some really startling results were shown on the screen. Thus the vibrations produced by a tuning fork were shown in the form of very regular waves across the screen. Some vowel sounds projected into the receiver were depicted in a very irregular waving line, showing that it is impossible for any person to hold the voice evenly while pronouncing a letter or word. This is a point for singers and musicians generally to ponder over. A draught in the room produced an effect which resulted in a series of rather irregular curves having a downward trend. Silence manifested itself in a series of very regular fine waving lines. Ability to hear or see silence might occasion some surprise, but the record proved simply that there were sounds in the atmosphere which the human ear could not hear. Lord Rayleigh, after many experiments, determined that we are capable of hearing sounds of an intensity less than one-millionth of an atmosphere. Some idea of the capability of this new instrument may be gained from the fact that the little mirror mentioned above will move backward and forward over even so slight a distance as 1-100,000 of an inch. Professor Webster's new machine may prove of great scientific value. It has recorded a sound of one six-millionth of an atmosphere at a distance of twenty feet. At forty-five feet that same sound, then reduced to one twelve-millionth of an atmosphere, was recorded. On the other hand, the sound

of a whistling buoy seven and a quarter miles away was easily recorded. The pitch of this sound and the distance away was determined by the instrument. And this brings up the question of its utility on vessels. If the sounds made on a vessel could be recorded on other vessels carrying such an apparatus, the probability of a collision would be very much lessened, if the collision itself were not rendered absolutely impossible.

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THE TALK OF THE DAY.
"We are glad," says El Tiempo, of the City of Mexico, "that the arrogant Yankee is at last about to recede a lesson he so richly deserves. The hereditary enemy of Mexico is at last to be chastised, and the 'Gringo' will once more be taught his proper place. Mexico will be avenged for the humiliations forced upon it by the overbearing Yankees." El Tiempo must be a comic paper.

Jeweler's Weekly: Accounting for a Condition—Mrs. Hilliver—Husband, what makes you so sensitive?
Mr. Hilliver—Possibly love it's because you are so sensitive.

Captain L. Elmer Bernier of Quebec proposes a new north pole expedition, which is endorsed by the Royal Science Society of Canada. It will cost \$200,000, of which the government is expected to provide the larger part, and the captain and admirers are confidently looked to for the remainder. When he gets back it is expected that he will be able to report that in all probability the pole still maintains its customary geographical situation.

Boston Transcript: Grier—By the way, did you tell me that story about the end man and the small boy?
Frier—No, but several hundred other people have heard it.
Grier—Nonsense! Nobody ever heard it before yesterday.
Frier—That isn't worth hearing.

A Gustavus Adolphus memorial church is to be erected in Philadelphia and the Lutheran congregations of New York are requested to assist. The work of the church there will be a statue historiæ tablets and a window contributed by Sweden. What is known as the Old Swede's Church, on the banks of the Delaware, was founded by Gustavus Adolphus, and its maintenance was long assisted by Sweden. Its congregation is now affiliated with the Protestant Episcopal Diocese of Pennsylvania. The new church will be American Lutheran.

Chicago Record: "Tell me about your graduating photograph, Miss Jolly."
"Well all those homely girls standing up at the back are the smart ones; all those poor girls sitting down in front are the silly ones."

A correspondent of the Washington Star tells this story: "A young man who teaches in a mission Sunday school, tells me of a Dewey experience he had with a young man who was entirely ignorant. She put him through a half an hour or more of instruction in the rudimentary principles of arithmetic. He was in information on that point, and to test him was reviewing her work with him. 'Now, ever tell me, what is the square root of the world and all that is in it?' 'God did,' replied the boy, with commendable promptness. 'God is the square root of the world?' she asked again. The boy hesitated a moment. 'I don't believe he could be the square root of the world, because his teacher said patriotism is the mother of all virtues. It wasn't her time to say anything. I was so stupid that I let it go for ever, and she had enough to let it go at that.'"

"Two impulses—"I dunno," said Mr. Halcock, "I dunno, mother, whether we're to be patriotic or not, send them children to school, and let them get an 'send 'em to pore Mr. Lester, now he's lost all his money."—Indianapolis Journal.

The Grand Rapids Press relates this incident about a man and a woman who are in a large building of that city. Each office has a telephone, but as it happens, one is an instrument of the Bell Telephone Company, the other a Bell instrument. One day the man had occasion to use the Citizen's phone, and she replied in the affirmative. "Have you a Citizen's phone," she asked, and she replied in the affirmative. "I'm a citizen, may I use it?"

"What, of course, he might use it. An hour later she beheld the accounts with him. "Have you a Bell telephone?" she asked, on stepping into his office. He did try to deny it. "Well, I'm a belle, may I use it?"

"A Freak—"We desire," says the editor of "The Jaxville Gazette," "to call attention to the fact that we, our wife and eldest boy, have edited, headlined and got out this paper all through these stirring times—without once ceasing the Squatters' Don't. We think our record is unparalleled."—Cincinnati Enquirer.

"This is how Captain Philo Trevor recounts a paper in the Nineteenth Century on 'The Catholicism of the British Army.' 'What your religious persuasion?' said the sergeant to the recruit. 'My what?' 'Your what?' 'Why, what I said in your 28th officer of 'Sunbys'—'Sabbath mostly.' 'Eee, stow that up. Come, now, Ch'ch, Chapel, or 'oly Roman.' And after the colonel's question, the recruit replied: 'I ain't bowise pertickler. Put me down 'Ch'ch of England, sergeant. I'll go with the best.'"

A Ruse That Failed.—Mr. Clondest—Yes, chile, I saw a brooch that was pretty, but it contained an opal, and opals are no good.—Jeweler's Weekly.

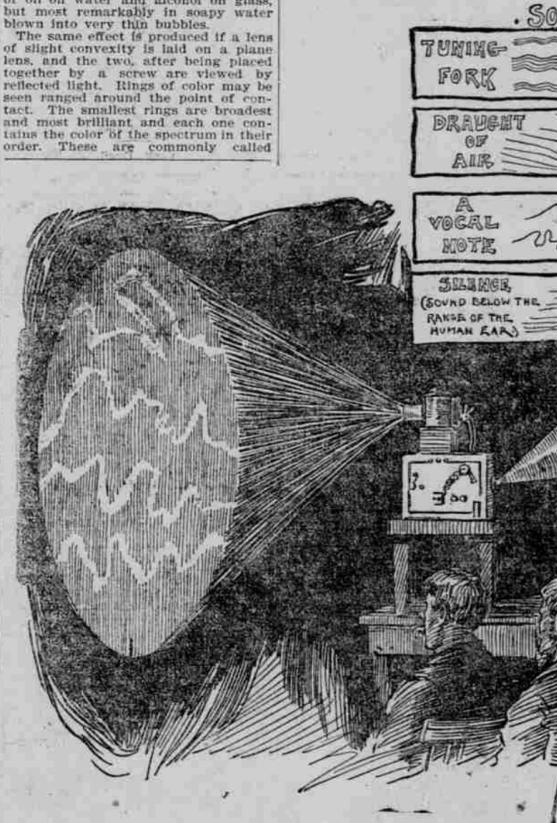
A correspondent of the London Spectator calls attention to the fact that out of a random list of 8 officers in the American army and navy there are three German names, one Italian, one French and one Dutch. All the rest are unquestionably British.

"Mr. Adomus," said Mr. Spotsnash, reverently to the bookkeeper. "I have spoken to you before of your careless manner of smoking in the office. You threw a lighted match in the waste basket a little while ago, and it set a lot of papers on fire. Such work as that might start a blaze some day."

"I was heedless," replied the bookkeeper. "I will see that the office boy keeps the waste basket emptied hereafter."—Chicago Tribune.

"Smoke Silver Moon, the leading 5c cigar. For sale everywhere.

SOUND RECORDS.



SOUND APPARATUS AND SOME OF THE RECORDS IT MAKES.

CONDENSED INFORMATION.

Vienna has a cabman who has been fined 20 times for trying to bring bicycles to grief.

In building a waterworks plant and a power house, Cincinnati will employ only unskilled labor.

About 20,000 English ships entered the 19 free harbors of China in 1896. They carried only English goods.

Since the legislative foundation of arbitration courts, there have been no strikes or lockouts in New Zealand.

The Halian government is very considerate of the comfort of soldiers. Every picket is supplied with a chair.

The present population of Bordeaux, France, is 255,000, of whom 15,894 are in receipt of assistance from charitable societies.

London and Liverpool are both at the level of the sea. Glasgow is 30 feet above it. Manchester is 50 feet, and Birmingham 50 feet.

King Alfonso XIII is still bracketed as lord of Gibraltar, the country never having officially admitted that the stronghold has gone out of its possession.

Among the many mysteries of bird migration is the fact that over-sea journeys are generally conducted in the darkness, and invariably against a head wind.

Of 1,500 housewives in Almelo, Holland, who were consulted as regards the desirability of abolishing night work for bakers, all but ten favored the measure.

M. Zola's "Paris," and "Monks and Their Decline," by the Rev. Dr. Zuercher of Buffalo have been placed in the index of prohibited books by the Vatican.

In Sweden yarn is not allowed to be sold if it contains 0.009 per cent of arsenic. A carpet has been condemned by the inspectors because it contained

one one-thousandth part of a grain of arsenic in 15 square inches, that is, one grain in a piece of carpet ten feet square.

There are in France 15,237 charitable organizations. It is proposed to collect statistics relating to them and print them in a volume in time for the exhibition of 1900.

The facilities for inland transportation are so limited in Brazil that the inhabitants of the ports find it cheaper to import grain from North America than from their own farms.

A few weeks ago Stockholm harbored no fewer than 535 naturalists—310 from Sweden, 141 from Denmark and 59 from Norway. They were attending the 15th congress of Scandinavian naturalists.

An Alpine life-saving society has been formed in the Tyrol, at Innsbruck. Its object is to have stations at various resorts for rendering prompt assistance, with competent guides, in case of accidents.

Household servant girls throughout Montana receive in the humblest of families about 35 a week, besides board, and the "washing" that entails that the servant herself, must always be sent out to the laundries.

A new society of "Bird Restorers" has been organized in Boston, for the purpose of restoring native song birds in their former haunts, protecting and encouraging them in the breeding season, and planting colonies wherever practicable.

A Persian never takes a dose of physic until he has previously obtained a favorable answer from heaven in the shape of an omen. Should he happen to sneeze when he has the potion at his lips he throws the medicine away.

The magnitude of the Escorial, the great Spanish palace, may be inferred from the fact that it would take four days to go through all the rooms and

apartments, the length of the way being reckoned at 23 Spanish leagues, which is about 120 English miles.

More than 50 years ago a coal mine at Daily, Scotland, caught fire. All the attempts made to put it out have failed, but it is out now, apparently from lack of fuel.

A new device for adding the finishing touches to a russet shoe polish consists of a bone taken from the lower leg of a deer, which is rubbed and polished until it is as smooth as glass. When rubbed on the shoe it gives it a brilliant and enduring luster.

The small town of Verda, in the Kingdom of Dahomey, is celebrated for its temple of serpents, a long building in which the priests keep upward of 1,000 serpents of all sizes, which they feed with birds and frogs, brought to them as offerings by the natives.

In his recent work, "Pioneering in Formosa," W. A. Pickering relates that he received the most hospitable treatment from the natives, though he found that they are cannibals to the extent of an occasional treat of their enemies' brains beaten up in a villainous kind of whisky.

Lava streams that have flowed out of Vesuvius during the last three years have deposited 195,000,000 cubic meters of lava on the sides of the mountain. A cone of lava 330 feet high has been formed, out of which fresh streams are flowing. The valleys on either side of the observatory peak have been completely filled up.

Professor Martin, the Swedish savant, has discovered in the Kremlin at Moscow a large portion of the Swedish war booty captured by Gustavus Adolphus. It appears that the majority of the silver vessels and ornaments kept in the treasury at the Kremlin are pieces of metal of different times by various kings of Sweden to the czars of Russia.