A FRIEND OF THACKERAY AND DICKENS

Reminiscences of Marcus Stone, R. A., Painter of Romantic Pictures. :: :: ::

LONDON, April 21.—The very best contented man in London to-day is Marcus Stone, R. A., who is enjoying his first real holiday after forty-eight years of constant, all absorbing work. For the first time since his seventeenth birthday the artist is loafing, as he calls it.

He sketches pretty steadily five days out of six, but has not had a paint brush in his hand since last spring, and simply revels in that fact. He tells with almost boyish glee of ten mile strolls out of town of a morning, of long afternoons passed in reading best beloved books, but most of all he dilates upon the joy of dreamless nights, with no compositions to destroy his peace of mind.

For, strange as it may seem, this most successful of English painters, who has never had an unsold canvas in his studio, has suffered from insomnia all his life as a result of worry over work. From its inception each picture has cost him many hours of sleep and ceaseless anxiety until the very varnish was dry. It is not unnatural, therefore, that this long deferred playtime seems doubly delightful.

In view of Mr. Stone's appearance of superb rosy vigor, it is difficult to associate him with any form of mental vexation. At 65 he is a very paragon of matured beauty; tall, erect, with snow white hair and mustache; his eyes are of a deep, brilliant blue, and he has a skin fit to rival a girl's in tint and texture. Furthermore he is, according to his own pronouncement, that rarest object beneath the sun, an absolutely contented man, one without an ungratified wish.

When at 17 he lost his father—an A. R. A. before him—the young man assumed heavy financial obligations. That very year he painted his first ambitious work, and offered it for exhibition. It was accepted and simultaneously found a purchaser.

Within three years from that date the son was earning a larger income than the father ever achieved, and from that time on his career has been one of unqualified success. It did not take the art dealers long to discover that in this budding artist a gold mine was awaiting their operations.

They clamored to buy of him in advance, took pictures direct from his easel, and some of these same pictures have since netted their owners a yearly income of £1,000, in the form of engraved or photographed reproductions. Every corner of the civilized world is more or less familiar with Mr. Stone's romantic compositions.

In countless households "The Quarrel," "The Sailor's Sweetheart," "First Love," &c., are hanging and much beloved, for, no matter how indifferent a man or a woman may be to the joy of line and color, there is a sentiment in most of his paintings that makes the whole world quickly kin. Both young and all ages find something of either a cherished past or a coveted future in these graceful love stories, told in a setting of bowery trees and velvet lawns, where fountains, rustic seats, peacocks and guitars are used in picturesque fashion.

But there is nothing that bores Mr. Stone sooner than talking of himself or his work. Try you never so stoutly to hold to the subject, he eludes you, and slips off to his favorite topic, which is affectionate, delightful gossip of the famous friends of his earlier life, more particularly those two giants of his youth, Thackeray and Charles Dickens.

Frank Stone, the father, was a warm personal friend of both men before either one had begun to write fiction. When Marcus was a lad 10 or 12 years of age the father and the two novelists elected to take their families to Boulogne for the summer. It was there in the French seaport that the author of "Vanity Fair" caused his young friend to commit a small sin, but one that sat heavily upon the boy's conscience.

Frank Stone was always bitterly opposed to the practise of tipping the children of one's friends and had strictly forbidden his sons to accept such money. Now, Thackeray could no more resist scattering shillings and sugar plums among the small fry than he could help laughing at the weaknesses of their elders. The second day, therefore, after their arrival at Boulogne, meeting young Marcus on the quay, Thackeray fished out a glittering two franc piece and bestowed it with advice to hurry to the nearest pastry cook's and see what he could buy.

Poor little Marcus was rendered speechless by this largess. He dared not return the coin to the kindly giver towering so many feet above him, he trembled at the thought of telling his father and most of all feared to spend the money, burning a hole in his conscience and pocket. To this day he chuckles over the agony of mind that tip caused him and wonders if any other boy ever suffered in the same way.

It is in connection with this novelist that Mr. Stone proclaims his thankfulness for the blessings of modern hygiene. Though barely 52 when he died, Thackeray looked a full 75. He seemed to carry the weight of many years, was heavy and feeble in his movements, and while the mind remained keenly vivacious the body was aged and exhausted long before its time.

With Dickens it was much the same, and to prove the change a few decades have wrought he calls attention to the fact that while Mr. Pickwick was merely a round 45 he is pictured as a jolly old gentleman. The truth of it is middle age has been advanced at least a score of years, moderns retain their youth far longer than their forbears, and the credit for this happy condition is largely due, so Mr. Stone says, to our vastly superior knowledge of the art of living. A daily tub, attention to diet, moderation and variety in exercise and temperance at the table, together with present day luxury, help men and women to preserve their beauty and activity.

Intimately as the artist knew Thackeray, Charles Dickens was nearer his own age and more his companion and friend. Mr. Stone it was who made the orginal illustrations for several of the great novels, among them "Our Mutual Friend," concerning which he tells amusing stories.

As is well known, the novel was issued in weekly numbers, and always with an illustrated wrapper or cover. It once chanced that after artist and author had met in consultation regarding the next instalment Dickens as a last word charged Stone to make the cover design picture the death of Eugene Wrayburn, declaring his intention of killing his hero next day.

Luckily these instructions fell on deaf ears, for after cudgeling his brain to try to remember what was wanted Mr. Stone in despair cooked up a negative sort of drawing and thereby saved the day. Of course, Eugene lived to marry the heroic Lizzie Hexam, and on that occasion a bad memory served its possessor a very good turn.

Mr. Stone also had a hand in the making of the immortal Mr. Venus. One night over a frugal dinner of chops and potatoes Dickens confessed to an urgent need for an eccentric character engaged in some unique business.

As it happened, Mr. Stone that very day had fallen in with an odd sort of specimen, a dealer in bones, who agreed to articulate a skeleton or manikin the artist needed. So weird were the surroundings and the bone merchant himself such a queer jack that Mr. Stone took Dickens to the shop next morning, and, very soon after, the whimpering, lovesick Mr. Venus came into being.

Another time during one of their long tramps about the country the two friends stumbled upon the scene of Pip's meeting with the convict, that masterly description of nature's desolation and human despair in the opening pages of "Great Expectations." There was the churchyard full of nettles, the frost blackened marsh, through which flowed a cold, sluggish river, the lowering sky, all waiting the master's hand against which to set a fearsome tale. No special comment was made upon it at the time, but the dreary picture had bitten deep, and soon a new book was begun with every detail of those forbidding surroundings sketched in.

Mr. Stone talks with almost passionate tenderness of his friend, saying again and again "Dickens was the good est man I ever knew." Then he adds:

"I could tell you a hundred stories of the loving kindness and abounding benevolence that so endeared him to us all. Every day of his life, almost every hour of the day, he was helping to bear his brother's burdens, and was never too busy or too tired to lend a helping hand."

Mr. Stone also loves to dwell upon the curious childlike quality of mind that remained with Dickens to the day of his death and whenever possible made him insist upon winding up every evening with a round game. Hoodman-blind, stage coach and hunt the slipper never seemed to lose their zest for that phenomenal worker, who always found rest and refreshment in a romp with old or young.

But then, according to Mr. Stone, it is given to very few men to extract the essence out of life as Dickens did. He lived twice as vividly as other people, experiencing not only the joys and sorrows of the real existence, but entering with intensity of feeling into the lives of his make-believe folk.

There were moments in writing of Smike, Little Nell, and Paul Dombey when the woes of his fiction children became overpowering, and the author's head went down on the table while he wept hot tears over these creatures of his imagination. But if he suffered over their ills he as heartily enjoyed their humor, and no one has laughed longer over the comicalities of Mr. Boffin, "Tugg's at Ramsgate" and Uncle Pumblechook, than their creator, Charles Dickens.

The store of anecdotes Mr. Stone has to tell of the great Victorians is practically endless. He knew them all, Carlyle, and Browning, Darwin and Huxley, men of art and men of science, and one of the most charming characteristics of his delightful reminiscences is that never a harsh word or sneer or criticism creeps in. They are of the past, and that the rearguard must always protect the van, those who have gone before, is an article of belief with this Victorian painter.

DOCTORING IN REMOTE REGIONS

Much has been written of late of Dr. Wilfrid Grenfell and his floating hospital and of the hardships of his life along the Labrador coast. But he is not alone in this work. Many doctors—medical missionaries for the most part—are working against every disadvantage in every part of the world.

Take, for instance, Dr. Hugh J. Lee, who has been known to go to visit an Alaskan Eskimo patient seated astride a molasses barrel drawn by a reindeer and with the probability of receiving his fee in the form of a young beast of the same species.

Or again, talk with Dr. W. S. Dodd of the American Methodist Dispensary at Caesarea, in Asiatic Turkey. His first dispensary was entered through a stable, in which the patients jostled with the cows. And the room above was so crazy that "to walk across it made my bookcase swing like a ship's mast." "The mud roof," the doctor goes on to say, "made a broom instead of a duster necessary to clean my desk every morning." And so numerous were patients that they brought their own beds and calmly commenced cooking over charcoal fires while waiting. It takes these people some time to believe in the American physician, for they have remedies of their own. For instance, to reduce a fracture they will cut open a black chicken "without blemish" and bind it on the swollen joint or broken bone. One cure effected by the physicians, however, works wonders. On one occasion an old Turk took Dr. Dodd three days on horseback through the mountains and pine forests to amputate his wife's foot.

The principal obstacle in the way of the physician is that of caste or religion. Dr. Harris, an American doctor stationed in Tripoli of Syria will not soon forget his first Mohammedan lady patient. Not on any account would she uncover her face before the Christian, and it took many minutes before the difficulty was obviated by getting the patient's tongue through a slit in her veil.

And then the patients! Dr. John Rooker, who is stationed in Jerusalem tells of an old Hebrew to whom he gave a box of pills which nearly brought about the patient's death, he having swallowed box and all. Mistakes of this kind are apt to drive natives back to their own remedies heroic though these may be. Dr. White of Yezd, Persia, tells of the treatment prescribed by a native practitioner for a youth suffering severe internal pain. The poor fellow was ordered to swallow a daily dose of shot in order to straighten out any tangles in his internal arrangements.

The American doctor in Central Africa must be a person not easy to astonish, says Dr. T. J. Tonkin of the Hausa Association, who accompanied the commercial expedition up the Niger River.

"I have seen my compound fairly alive with cooks and hens, bound and kicking on the ground before their squatting owners who had brought them as my fee. Others brought masses of cowrie shells, coils of brass wire, big and little ivory tusks, and even small leather bags full of very impure gold dust. Did I take the queer fees? Why, of course. They didn't amount to one-half what the native witch doctors would have charged in bananas, eggs, fowls and general merchandise."

The practise of medicine in the interior of China is attended by even greater difficulty. Diet stands in the way, for one thing.

"Think of delicate invalids," Dr. Johnson of western China once remarked, "swallowing huge quantities of green peanuts, decayed fish roes, raw turnips, pickled pig's stomach and Chinese pears, hard as rocks and nutritious as sawdust!"

This same physician, called upon to prescribe for the mother of a rich magistrate, was told that he would have to feel her pulse at the end of a silk cord, extending out from her bedroom!

One may realize how queer is the doctor's environment in these parts when one hears of patients coming to see him in curious wheelbarrows fitted with bamboo masts and sails. The roads in central China being so rough, one wheel is all that can be used. Hence the wheelbarrow. The wheel is in the middle and the passengers sit on each side, as in an Irish jaunting car. The tall bamboo mast of this most curious "land yacht" carries a square or diamond shaped sail when the wind is favorable.

There are many American hospitals in China, perfectly equipped as to staff and appliances, but perhaps the most interesting are those that ply on the great rivers and are dwelling house, church and hospital combined. There are several of these on the great Yangtse. These floating hospitals are towed up and down the river but this work is done at night in order that the doctor may have the daylight hours in ministering to his patients.

Some of the land hospitals are so far out of the track of travel that it takes twelve months to get goods from New York. A woman doctor, Miss Galloway of the Memorial Hospital, in eastern China, tells some interesting stories about the difficulties she has to contend with:

"If we want to get anything made here," she says, "I must send a man across the river to buy rough pine logs, whether we want a new operating table or even the simplest splint for reducing a fracture. He wants things explained to him, and then tries to have his own way.

"There are endless arguments over details and price. The same routine has to be gone through with the painter, and so on. Then, too, we have serious difficulty to get women with unbound feet for even elementary nursing, so that the doctor here must be nurse and architect, master builder, artisan and manager of workmen."

So enthusiastic are the American physicians and surgeons who give their lives to the savage races, that some of them are content to spend their best years in the most desolate regions of the earth. Dr. Annie Taylor made up her mind to enter Tibet from the Indian hill station of Darjeeling. She stayed two years learning the language and customs of Tibet in the La-Cohng Valley in Sikkim. Later on, Dr. Taylor journeyed almost to the very gate of Lhasa, but being turned back opened a little dispensary for the sick at the trading station of Yalong.

In Burmah and the Laos and Shan States the American physician is also found, and here the native materia medica is, if possible, still more weird. Dr. Morrow, who practises in the Karen country of Burmah, tells of the results to both adults and babies of the diet of putrid fish eaten with vast quantities of red peppers. The only known remedies among the people for the consequent disorders are parts of dried tigers' hearts, or scratching holes in the patient's back with the claws of wild beasts, in order that the evil spirit of the disease may find its way out.

If a man cannot be cured at all, his neighbors look on him as stricken of the gods and forthwith they, as public benefactors, tear down his house, destroy his banana and palm gardens and drive him from the village. Dr. Daniel McGilvray was posted at a place called Lakawn, 550 miles from Bangkok, in Siam, where the doctor's carriage is the howdah of an elephant, and he is carried to his patients through tiger haunted jungles.

Dr. McGilvray often tells how he took four bottles of quinine with him up into this wild region, but had to pay the people at first to take it in order to prove its efficacy in fever cases. One grateful chieftain paid him an acceptable, but scarcely portable, fee of fifty teak logs.

CENTRAL AFRICA'S NEED OF MORE SALT

The human race craves salt and so do many varieties of the brute creation. This need is abundantly supplied in most parts of the world, for few minerals are more widely and conveniently distributed.

Everybody living along the seashore or near saline marshes can make his own salt if necessary. Scores of African tribes utilize such resources, the crude and dirty product satisfying their wants. Many others rarely obtain salt, but they have a substitute for it.

There are two kinds of plants from which the substitute is manufactured. The plants are dried and then burned. The ashes are leached and the lye is evaporated, the residue being used as salt. It is a sorry substitute, but contains the essential principle and satisfies, in a way, the craving for salt.

In inner Africa, from near the west coast to the great lakes and from the Sahara to the Zambesi River of South Africa there are no salt mines or salt pans or other sources of the condiment; and here live about 125,000,000 people, more than half the population of the great continent. They offer the greatest unsupplied market for salt in the world. It is of them that Dr. C. Müller recently wrote that they would buy 1,000,000 tons a year if they could get it.

Europe is now supplying the tribes along the west coast of Africa with about 40,000 tons a year, most of it coming from the rock salt beds of the Norwich district in England, though a few thousand tons of German salt is imported. Unfortunately, none of this salt can be carried far inland.

It actually melts under the excessively moist and hot conditions of the tropical climate. It loses its savor and its virtue wholly disappears.

It may be kept fairly dry and unimpaired where it arrives in good condition; but it is the transportation on the backs of men, in the native canoes and by other rude means of carriage that causes it to deteriorate. The result is that the commerce in European salt does not extend inland more than about 100 miles.

All the salt that this vast inland region obtains comes from three centres of production, from the salt pans and other deposits in the Sahara. This salt is very impure and its color, red, black or gray, is derived from the foreign substances in it; but the process of preparation makes it possible to transport it great distances.

It is put up in bars three feet in length, about a foot wide and four or five inches thick. The bar weighs from fifty to sixty pounds. It is about as hard as any rock and when the salt is used it has to be broken and pounded to pieces. It stands the rough native transportation perfectly and suffers little or no deterioration though it is carried from 1,200 to 1,500 miles south of the Sahara.

This is the famous block salt of Africa. It is in limited supply considering the great demand, but it is one of the largest trade articles in inner Africa and is highly prized throughout the Sudan, in the Congo basin and southward to the Zambesi.

How our housekeepers would grumble if they had to pay for salt the price that these poor barbarous blacks are glad to have a chance to pay for it! When camels deliver it at Timbuktu, on the edge of the desert, it sells for 20 cents a kilogramme, or about two and a half pounds.

In the southern part of the Sudan it is worth 40 cents; down near the Congo River it is worth 80 cents, and further south the price is still higher. Transportation is costly, and every middleman, of course, must have his profit.

The great question is, How can the civilized nations enter the field and supply the enormous demand for the commodity they produce so cheaply. There is a chance for big profit in it and the fact is fully realized by the producers of Europe. They cannot improve the opportunity unless they find some means of making their salt as transportable as that of the Sahara.

The English have tried compressing salt for the African trade, but have not yet produced an article that will withstand the excessive moisture and heat. One French company, La Société Marseillaise du Sel Aggloméré, on the other hand, assert that they have solved the problem.

They are compressing salt into about two-thirds of its cubical contents as ordinarily put on the market and the resulting blocks have a glistening surface and are as hard as a stone. They are sending it out into the French colonies.

It remains to be seen whether it will withstand the moisture and rains of tropical Africa. If it meets the need it will be welcomed as a boon in Africa and will line the pockets of those who make and sell it.

A NEWSPAPER AMID ANTARCTIC ICE

Specimen pages of the newspaper that was printed on a typewriter every week for two winters while the Discovery was in the Antarctic have been sent to this country. It was not the first newspaper of its kind, but in quality it was the best of Polar publications.

This is largely due to the fact that it was beautifully illustrated with water colors and black and white sketches. There were artists in that crowd, and some of their best work was done for the newspaper.

Most of the color work illustrated natural history. The birds and beasts of that region gave numerous sittings and the pictures are rarely surpassed by any process.

Many black and white illustrations hit off the daily life in camp, showed the humorous aspect of things and caricatured everybody from Capt. Scott down. These pictures are sprinkled in among news items, stories, fun and solid scientific articles. It is a remarkable product in its way, and they are talking at the Royal Geographical Society in London of making facsimile reproductions in eight volumes to be sold at a pretty penny.

Then there were other methods also of driving dull care away during the tedious winter months. Once in a while things were livened up by a negro minstrel performance.

It would not do to rehearse for these performances on the ship, for everybody would know just what was going on. So the burnt cork artists always went for rehearsal to a hut that had been erected on the ice. The temperature in the hut was decidedly Arctic, and Lieut. Royds says it was no great pleasure playing the piano for the comic songs.

One day when the troupe went to the hut for rehearsal they found two members of the scientific staff taking pendulum observations. The gentlemen gave way to the minstrels and started for the ship, and a mention of what happened may give a faint idea of an Antarctic blizzard on a winter night.

The distance between the hut and the ship was 600 feet. The rehearsal was over in an hour, and the minstrels started for the ship. They had gone half the distance when they heard a faint cry through the howling blast. Everybody knew that some one was lost.

The party opened out and soon found the two men who had left the hut. They had been lost between the hut and the ship and for an hour had been tramping around in a little circle shouting at the top of their voices, but they couldn't outcry the blizzard.

The Secret of the Glacier

¶ Hope This Summer of Recovering the Body of Lord Francis Douglas, Who Lost His Life Forty Years Ago While Making the First Ascent of the Matterhorn

The brief announcement came from Switzerland the other day that in all probability the body of Lord Francis Douglas would be delivered up by the Zermatt glacier within a few months. Among the scores of tragedies enacted on and around the Matterhorn of recent years, that in which he figured, although discussed in many countries and tongues at the time, has been generally forgotten. It was forty years ago, on July 14, 1865, and the first time the Matterhorn was ever scaled.

Since then the glacier has withstood every effort to discover traces of the body. During the interval the glacier has been descending at the rate of about twelve inches a day until the portion of it where the body was buried is now in the valley where the huge area of ice is accessible to search. Judging by one or two precedents it is probable that the body when found will be in a perfect state of preservation.

In the Zermatt churchyard recently the writer saw the graves of three of the men who met their death with Lord Francis. Also in Zermatt there is a guide named Peter Taugwalder who, with his father and brother, was a member of the expedition. He is now past sixty, having been a mere lad at the time of the catastrophe on the Matterhorn.

This is the story substantially as he tells it:

Prior to what was known as the Whymper-Douglas expedition, no foot, except perhaps that of an eagle, had ever trodden the virgin peak. The best guide in the Alps had vainly essayed to conquer it. Switzerland was pitted against Italy in the rivalry to be first at the summit. Among others, Prof. Tyndall, whose summer playground was Switzerland, had more than once made the attempt, but, recoiling from the menace of the final precipice, had at last given it up.

"We started from Zermatt on July 13, on a perfectly cloudless morning," the veteran guide said. "We were eight in number—Lord Francis Douglas, Edward Whymper, who planned the expedition after having failed eight times to scale the peak; the Rev. Charles Hudson of Kent, England; Robert Hadow, a Cambridge collegian; Michael Croz, a guide; my father, brother and myself. I was with Herr Whymper.

"At the end of the first day we made camp about 11,000 feet above the sea level. The next morning we got an early start and continued upward, leaving my brother to return to Zermatt with such baggage as we did not feel like carrying to the top.

"Before noon we had turned the rib, which had intercepted our view from the camp, and found ourselves at the foot of a huge natural staircase. Some parts were more or less difficult, yet we were not once brought to a halt by any serious impediment, for when an obstruction was met in front it could always be turned to the right or to the left.

"For the greater part of this stage there was no reason for using the rope, and sometimes Hudson led, sometimes Herr Whymper. At 6:20 we were 12,800 feet toward the top and at 9:55, when we stopped for an hour, we had reached a height of 14,000 feet.

"We had arrived at the foot of that section which, seen from the Riffelberg, seems perpendicular or overhanging. We could no longer continue on the eastern side.

"For some distance we ascended by snow up the ridge, then turned to the right, or northern side, the other side being inaccessible. The work became extremely difficult and tiring at that stage.

"In some places there was little to hold to and that little was ice. We bore away nearly horizontally for about 400 feet, then ascended directly toward the summit for about sixty feet, then doubled back to the ridge which descends toward Zermatt.

"A long detour round an awkward corner brought us to snow once more. There the last doubt vanished. The Matterhorn was ours. Nothing but 200 feet of easy snow remained between us and the top.

"The higher we rose, the more intense became the excitement, for it must be remembered that no man or men had ever penetrated into those regions before. The slope eased off, so that presently we could be detached. Soon after noon we were on the very top!

"The view ranged over Switzerland and northern Italy as far as the Apennines. Most of the plain of Lombardy was buried in mist, and a very remarkable spectacle was produced by the pouring of white clouds from Italy over the mountain wall joining the base of the Matterhorn with the Theodulhorn.

"Thousands of feet beneath us the clouds rose from the Tournanche Valley, climbing the high wall and tumbling in a cataract down into Switzerland. Whirling and tossing, they swept a short distance across the Furggen and Theodul glaciers, and then vanished.

"Although that was nearly forty years ago, and the only time I ever stood on the Matterhorn peak, I can recall the magnificent view as if it were yesterday.

"Then we took the tent pole and manufactured a flag out of a blue blouse. It made a poor enough flag, and there was no breeze to make it flutter, yet, as we heard afterward, it was seen all around. They saw it at Zermatt, at the Riffel in the Tournanche Valley.

"We remained on the summit for an hour.

"For the descent it was decided that Croz should go first, Hadow second and Hudson third. Lord Francis was placed next, with my father following him. I came next and Herr Whymper brought up the rear.

"He was busy sketching the summit and, I remember, went back once to put a paper bearing our names in a bottle. Herr Whymper rejoined us just as we were commencing the descent of the difficult part.

"Great care was being taken, and only one man was moving at a time. When he was firmly planted the next advanced, and so on down the line.

"We had not, however, attached the additional rope to rocks, and nothing was said about it. For some distance Herr Whymper and I followed the others, detached from them, and should have continued so had not Lord Francis asked Herr Whymper to tie on to my father, as he feared, he said, that the latter would not be able to hold if a slip occurred.

"A few minutes later a keen eyed lad ran into the Monte Rosa Hotel at Zermatt declaring that he had seen an avalanche fall from the summit of the Matterhorn or Zermatt glacier. He was scolded for inventing idle tales; but he was right, nevertheless, for what he saw was this:

"Croz had discarded his ax and in order to give Hadow more security was taking hold of his legs and planting his feet, one after the other, in the proper niches. As far as I know, no one was actually descending. I cannot speak with certainty, because the two leaders were partly hidden by a ledge of rock, but it is my belief, from the movements of their shoulders, that Croz was in the act of turning round to descend a step or two himself, when Hadow slipped, fell against him and toppled him over.

"I heard one startled exclamation from Croz, then saw him and Hadow flying downward. In another moment Hudson was dragged from his steps, and Lord Francis immediately after him. Everything was done in a twinkling.

"As soon as we heard Croz cry out, Herr Whymper, my father and I braced ourselves as firmly as the rocks would permit. The rope was taut between us and the jerk came on all three at once. We held on, but the rope broke midway between my father and Lord Francis.

"For a few seconds we saw the four men sliding downward on their backs—downward as though they were on the roof of a gigantic cathedral such as the one in Cologne. They were spreading out their hands in a desperate effort to clutch something and save themselves. But nothing they grasped held.

"They passed from sight uninjured, disappeared one by one and fell from precipice to precipice to the Zermatt glacier below, a distance of about 4,000 feet.

"During the two hours that immediately followed we thought every moment would be our last. I have never quite recovered from my fright during those moments.

"But after a time we were able to do what should have been done in the beginning—fix ropes to firm rocks. We cut the ropes from time to time as we painfully and slowly descended. Several times my father turned to us with ashen face and declared that he could go no further.

"By nightfall we had arrived at the snow upon the giant ridge descending toward Zermatt, and all peril was ended for us. We frequently looked, but in vain, for traces of our companions. Several times we bent over the ledge and hallooed to them, but no sound returned.

"Hoping against hope that they might have been saved by some miracle, we proceeded to Zermatt, and the next morning found three of the bodies on the lower side of the glacier."

If the remains of Lord Francis Douglas are found it will be a case of history repeating itself. In 1820 the ascent of Mont Blanc was attempted by a Russian and two Englishmen, with seven guides. They were approaching the summit when an avalanche swept several of the party down a sharp slope of two hundred feet and tossed five of them, all guides, into one of the glacier crevasses.

One of the five was saved by a long barometer strapped to his back in such a way as to bridge the crevasse and hold him suspended until assistance arrived. The alpenstock of another saved its owner in the same way. Three men were lost in the depths of the great glacier.

Dr. Forbes, the English geologist, made several excursions to the Mont Blanc region and minutely studied the movements of glaciers about that time. During one visit he completed his estimates of the velocities of several Swiss glaciers, and expressed the belief that the glacier which had swallowed the three men would deliver its dead at the foot of the mountain within thirty-five or possibly forty years.

His prediction came close to the truth. Forty-one years after the catastrophe the remains were cast forth at the foot of the glacier.

LATEST NEWS ABOUT THE EARTH'S CENTER BY PROF. SEE

In the *Astronomische Nachrichten* for February Prof. T. J. J. See, United States Navy, has published a paper on the pressures and densities within the earth, the sun and the planets. Incidentally he proves that the planet Venus is more rigid than a corresponding globe of glass, the earth having been shown by Lord Kelvin and Prof. G. H. Darwin many years ago to be about as rigid as a steel sphere of the same dimensions.

He shows that the pressure at the center of the earth is 3,137,727 atmospheres, equivalent to the weight of a vertical column of quicksilver 1,480 miles high if all parts of it were under uniform force of gravity.

Imagine a column of mercury erected vertically as long as from Boston to New Orleans and you have a conception of the pressure at the center of the earth. The pressure is so enormous that the matter in the middle of the globe is compressed till it has a density 11.2 times that of water, or equal to that of lead.

Prof. See concludes that the cause of this great density is the pressure, and that the matter in the center of the earth is not iron or other dense metals, but like ordinary lava, simply so compressed that it is as dense as lead. He shows that the pressure is adequate to make all matter behave as fluid, and concludes that the interior of a body such as the earth is gaseous.

"The matter in the interior of the earth probably is sufficiently heated to vaporize with terrific explosive force if the pressure could only be removed," he says. "To all appearances, therefore, our earth is still effectively a gaseous sphere, except that the increase of density under tremendous pressure has rendered it highly rigid like a ball of steel."

Prof. See cites the experiment of the Florentine academicians in forcing water through the walls of a closed hollow sphere of solid gold in the year 1661. He also mentions the experiments often witnessed by officers of the navy and others in deep sea measurements, where water is forced into a closed glass ball with walls nearly an inch thick by the pressure of the deep sea. But the deepest ocean does not offer a pressure greater than a thousand atmospheres, while the greatest pressure yet produced in laboratory experiment does not exceed 4,000 atmospheres.

If matter is shown to be leaky and porous under such pressure, and known to behave as fluid, Prof. See concludes that under the immense pressure existing in the earth and other planets it must behave as a fluid, even when otherwise as hard as steel. He says:

"If in addition to perfect interpenetrability of matter under planetary pressure we imagine an enormously high temperature which would instantly vaporize the most refractory elements, we may conceive that most of the matter in the interior of the earth and similar planets has the property of a rigid fluid, a gas rendered more rigid than steel by its confinement, but capable of expansion with a violence surpassing the eruption of Krakatoa if the pressure could only be removed."

He shows that the density and pressure within Venus are such as to make that planet have a slightly smaller rigidity then the earth, and as Kelvin and Darwin have proved the earth to be as hard as a ball of steel, Prof. See concludes that Venus is at least as rigid as a corresponding globe of glass, a theorem more or less applicable to other planets. He shows that all the larger bodies have nuclei of great rigidity, vastly surpassing that of any other known substance.

The globe of Venus is as hard as a ball of clear glass 7,500 miles in diameter.

The pressures in the centers of the planets found by Prof. See are as follows:

	Atmospheres.
Mercury	65,720
Venus	2,329,833
Earth	3,135,727
Mars	285,957
Jupiter	39,988,290
Saturn	7,609,865
Uranus	9,881,392
Neptune	12,466,740
The Sun	4,530,637,000

These pressures are all computed by Laplace's law of density. Prof. See shows that if the sun be gaseous with a density at its center about thirty-two times that of water, the pressure there will become about 212 billion atmospheres, which would equal the pressure of a column of quicksilver reaching from the earth to the sun.

Such amazing forces surpass the utmost flight of the imagination. Dr. See's conclusion that all matter is perfectly porous and as penetrable as a sponge under these immense pressures remind one of the famous theorems of Archimedes and Newton, which they overturn.

Newton established the theory of the impenetrability of matter when he published the "Principia" in 1687. In the judgment of some scientists Prof. See has now definitely and finally overthrown Newton's theory for most of the matter of the universe by showing that it is under such immense pressure as to be reduced to a gas, which would expand as flaming vapor if the pressure was removed.

Prof. See is now on duty at the navy yard, Mare Island, Cal., and has made his discoveries there in what appears to be a continuation of his former researches when at the United States Naval Observatory at Washington.

THE WIND SWEPT PESCADORES, WHERE RUSSIA'S AND JAPAN'S FLEETS MAY BATTLE

The Pescadores Islands, or Peng-Hu, as the Chinese call them, which figure in the despatches concerning the movements of the Russian and Japanese fleets, constitute an archipelago about thirty miles long and twelve miles wide, and are situated ten miles west of the Formosan coast. Their area is about eighty square miles.

The group is composed of twelve good sized islands and a multitude of islets, reefs, bars and shoals. The largest is Ponghou, the second Pehoe, the third Fisher, the fourth Pachau, and the fifth Junk Island.

The larger islands are slightly elevated above the sea, the maximum elevation being less than 300 feet. The remainder are less than fifty feet above the water.

They lie in the path of travel, and from the earliest times have been the scene of shipwreck and disaster. It was here in October, 1892, that the big P. & O. steamship Bokhara was disabled, driven on the shoals and pounded to pieces in the surf, with a loss of more than 200 souls.

The season most dangerous to navigation is that of the winter monsoon, when the cold, strong, northeast winds create swift currents and heavy seas that drive a vessel toward the islands and shoals. In summer they lie in the track of the typhoons which come north and northwestward from the Philippines, and which generally follow the Formosa channel to 26 degrees north latitude.

The islands are of tertiary coral formation, with many evidences of glacial action. A curious feature about them is the presence on the beaches of boulders of carboniferous shale and limestone.

The few geologists who have studied the archipelago believe the boulders to have originated in the coal measures of Formosa and to have been transported by glaciers to their present position. According to the natives, there were many boulders of coal long ago, but these were gathered and used as fuel by their ancestors.

The climate is cool, although the archipelago is divided by the Tropic of Cancer. On account of the winds, the temperature seems lower than it really is.

Perhaps no breezier spot can be found upon the earth. Here, if anywhere, is situated the veritable cavern of Eolus. So strong and unceasing are the blasts that it is difficult to raise crops, and nearly impossible to grow trees. The few children of the forest that exist are under the lee of the hills and even then are gnarled and dwarfed.

These conditions are reflected in the local architecture. The houses are low, squat and heavily built. The roofs are of massive red clay tiles set in chenam, or native cement, and reenforced with heavy bricks a foot square and three inches thick. The poorest hovels have their roofs weighted down with shards and flat stones.

The inhabitants are poor but thrifty. They are very successful fishermen, and by dint of unceasing energy raise about enough food from the soil to supply their daily wants. The deficiency is made good by importations from Formosa and the mainland, which are repaid with dried fish and odd plaster work made from plaster obtained by burning gypsum and lime.

The archipelago is full of channels, harbors and roadsteads, but so dangerous of access that none but experienced pilots dare use them. They are patronized chiefly by the small steamers which ply between Hongkong and Amoy on the mainland, and Taiwanfoo and Takow in south Formosa.

The islands have played an important part in the history of the Far East. From the earliest years of Chinese history until the introduction of steam gunboats by Great Britain in the nineteenth century they were a favorite haunt of Chinese and Malay pirates who preyed upon the rich commerce of the Formosa channel.

They were originally settled by Malay freebooters, who were in turn subjugated by Hakka adventurers, Chinese pirates and, last of all, Chinese revolutionary leaders. The Dutch East India Company conquered them in 1604 and held them for twenty years, when it ceded them to the Viceroy of Fokien.

In 1654 they were seized by the famous pirate king Koxinga and held by him and his son until 1683, when they were again ceded to China. They were taken temporarily by the French in the Tonkin War of 1883 and used as a naval rendezvous and sanitarium for a year. The only relic of this occupation is a handsome stone monument erected to the memory of the French soldiers and sailors who died in the hospital there.

In March, 1895, the Pescadores were captured by a Japanese naval expedition, and in the following June were formally ceded by China to Japan. Since that time the new owners have made a thorough chart of the archipelago, have improved Makong harbor and Panghou channel, and have built fortifications upon Fisher, Pehoe and Pachau islands. Since the war opened with Russia, they have increased their fortifications, established arsenals, pontoons and machine shops, so that the place has become a naval stronghold of high rank.

The wise rule of the Japanese has greatly improved the industrial condition of the Pescadores. Trade has more than trebled in the last ten years and population has greatly increased. A large traffic has been developed with the mainland, which during the past year has been promoted by a number of small steamers.

It is now possible to provision or coal a man-of-war at the Pescadores in a few hours.

The latest development at Makong is a distilling and refrigerating plant which can treat fifty tons of water a day.