

THE THREAD OF LIFE

OR,
SUNSHINE AND SHADE.

CHAPTER XXV.—CLOUDS ON THE HORIZON.

The Massingers pitched their tent at Whitestrund again for August. Hugh did not seem to put off the evil day; but you sell your soul for gold, you must take the gold with all its encumbrances; and Winifred's will was a small encumbrance that Hugh had never for one moment reckoned upon in his ante-nuptial calculations of advantages and drawbacks. He took it for granted he was marrying a mere girl, whom he could mould and fashion to his own whim and fancy. That simple, childish, blushing little thing had a will of her own, however—say, more, plenty of it. When Hugh proposed with an insinuating smile that they should run down for the summer to Barmouth or Aberystwith—he loved North Wales—Winifred replied with quiet dignity: "Wales is stuffy. There's nothing so bracing as the east coast. After a London season, one needs bracing. I feel pulled down. We'll go and stop with mamma at Whitestrund." And she shut her little mouth upon it with a snap like a rat-trap. Against that solid rock of sheer resolution, Hugh shattered himself to no purpose in showery sprays of rhetoric and reasoning. Gibraltar is not more disdainful of the foam that dashes upon its eternal cliffs year after year than Winifred was to her husband's running fire of argument and expostulation. She never deigned to argue in return; she merely repeated with naked iteration ten thousand times over the categorical formula, "We'll go to Whitestrund."

And to Whitestrund they went in due time. The plastic male character can no more resist the ceaseless pressure of feminine persistence than clay can resist the hands of the potter, or wood the warping effect of heat and dryness. Hugh took his way to dull flat Suffolk when August came, and relinquished with a sigh his dreams of delicious picnics by the Dolgelly waterfalls, and his mental picture of those phenomenally big trout—three pounds apiece, fisherman's weight—that lurk uncaught in the deep green pools among the rocks and stickles of the plashing Wnion. The Bard had sold himself for prompt cash to the first bidder: he found when it was too late he had sold himself unknown into a mitigated form of marital slavery. The purchaser made her own terms: Hugh was compelled meekly to accept them.

Two strong wills were clashing together. In serious matters, neither would yield. Each must dint and batter the other. They did not occupy Elsie's room this time. Hugh had stipulated with all his might for that concession beforehand. He would never pass a night in that room again, he said; the paint or the woodwork or the chairs or something made him hopelessly sleepless. In these old houses, sanitary arrangements were always bad. Winifred darted a piercing look at him as he shuffled uneasily over that lame excuse. Already a vague idea was framing itself piecemeal in her woman's mind—a very natural idea, when she saw him so moody and preoccupied and sullen—that Hugh had been really in love with Elsie, and was in love with Elsie still, even now that Elsie was away in Australia—else why this unconquerable and absurd objection to Elsie's room? Did he think he had deceived and ill-treated Elsie? A woman's mind goes straight to the bull's-eye. No use pretending to mislead her with side-issues; she flings them aside with a contemptuous smile, and proceeds at once to worm her way to the kernel of the matter.

August wore away, and September came in; and Hugh continued to mope and to bore himself to his heart's content at that detestable Whitestrund. To distract his soul, he worked hard at his "Ode to Manetho" but even Manetho, audacious theme, gave him scanty consolation. Nay, his quaint "Ballade of Tee-Faw-Fum" that witty apologue, with its grimly humorous catalogue of all possible nightly fears, supplied him with food for one solitary morning's meditation. You can't cast out your blue-devils by poking fun at them; those curulean demons will not be laughed down or rudely exercised by such simple means. They recur in spite of you with profound regularity. The *fons et origo mali* was still present. That hateful poplar still fronted his eyes wherever he moved: that window with the wistaria still haunted his sight whenever he tried to lounge at his ease on the lawn or in the garden. The river, the sandhills, the meadows, the walks, all, all were poisoned to him: all spoke of Elsie. Was ever Nemesis more hideous or more complete? Was ever punishment more omnipresent? He had gained all he wished, and lost his own soul; at every turn of his own estate some horrible memento of his shame and his guilt rose up to confuse him. He wished he was dead every day he lived: dead, and asleep in his grave, beside Elsie.

As that dreaded anniversary, the seventeenth of September, slowly approached—the anniversary, as Hugh felt it, of Elsie's murder—his agitation and his gloom increased visibly. Winifred wondered silently to herself what on earth could ail him. During the last few weeks, he seemed to have become another man. An atmosphere of horror and doubt surrounded him. On the fifteenth, two days before the date of Elsie's disappearance, she went up hastily to their common room. The door was half locked, but not securely fastened: it yielded to a sudden jerk of her wrist, and she entered abruptly—to find Hugh, with a guilty red face pushing away a small bundle of letters and a trinket of some kind into a tiny cabinet which he always mysteriously carried about with him. She had hardly time to catch them distinctly, but the trinket looked like a watch or a locket. The letters, too, she managed to note, were tied together with an elastic band, and numbered in clear red ink on the envelopes. More than that she had no chance to see. But her feminine curiosity was strongly excited; the more so with Hugh banged down the lid on its spring-lock with guilty haste, and proceeded with hot and fiery fingers to turn the key upon the whole set in his own portmanteau.

"Hugh," she cried, standing still to gaze upon him, "What do you keep in that little cabinet?"

Hugh turned upon her as she had never before seen him turn. No longer clay in the hands of the potter, he stood stiff and hard like adamant then. "If I had meant you to know," he said coldly, "I would have told you long ago. I did not tell you

therefore I do not mean you to know. Ask me no questions. This incident is now closed. Say nothing more about it." And he turned on his heel, and left her astonished.

That was all. Winifred cried the night through, but Hugh remained still absolute adamant. Next morning, she altered her tactics completely, and drying her eyes once for all, said never another word on the subject. She even pretended to be cheerful and careless after a domestic scene, the luckless man whose destiny she holds in the hollow of her hand may well tremble, especially if there is something he wants to conceal from her. She means to egg it all out, and egged out it will all be, as certainly as the sun will rise to-morrow. It may take a long time, but it will come for all that. A woman on the track of a secret, pretending carelessness, is a dangerous animal. She will go far. *Hanc tu, Romane, caveto.*

On the seventeenth, Winifred formed a little plan of her own, which she ventilated with childish effusion at lunch-time. "Hugh, dear," she said in her most winning voice, "do you happen to remember—if you've time for such trifles—that to-morrow's a very special anniversary?"

Hugh's cheek blanched as if by magic. What devilry was this? What deliberate cruelty? For the moment his usual courage and presence of mind forsook him. Had Winifred, then, found out everything?—A special anniversary, indeed! As if he could forget it!—And that she, for whose sake—with the man of Whitestrund thrown in—he had done it all and made himself next door to a murderer—that she, of all people in the world, should cast it in his teeth, and make bitter game of him about Elsie's death!

"Well, Winifred," he answered in a strange low voice, looking hard at her eyes: "I suppose I'm not likely to forget it, am I?" Winifred noted the tone, silently. Aloud, she gave no token in any way of having observed his singular manner. "It's a year to-morrow since Hugh proposed to me, you know, mamma dear," she went on, in her quietest and most cutting voice, turning round to her mother, "and he does me the honour to say politely he isn't likely to forget the occasion.—For a whole year, he's actually remembered it. But it seems to make him terrible grumpy.—Never mind, Hugh; I'll let you off. I'm a sweet little angel, and I'm not going to be angry with my great bear: so there, Mr. Constellation, you see I've forgiven you.—Now, what I was going to say's just this. As to-morrow's a special anniversary in our lives I propose we should celebrate it with becoming dignity."

"Which means, I suppose, the ordinary British symbol of merry-making, a plum-pudding for dinner," Hugh interposed bitterly. He saw his mistake with perfect clearness now, but he hadn't the tact or the grace to conceal it, with a woman's cleverness under a show of good humour.

"A plum-pudding is banal," Winifred answered with a smile—"distinctly banal. I'm surprised a member of the Cheyne Row set should even dream of suggesting it. What would Mr. Hatherley say if he heard the Immortal One make such a proposition? He'd detect in it the strong savour of Philistia; he'd declare you'd joined the hosts of Goliath.—No. It isn't a plum-pudding. My idea's this. Why shouldn't we go for a family picnic, just our three selves, in honor of the occasion?"

"A picnic!" Hugh cried, aghast—"a picnic to-morrow!—On the seventeenth!"—Then recollecting himself once more, he added hastily: "In this unsettled weather! The sandhills are soaked. There isn't a place on the whole estate one could arrange to seat one's self down on comfortably."

"I hadn't thought of the sandhills," Winifred answered with quiet dignity. "I thought it'd be awfully nice if we all bespoke a dry seat in Mr. Relf's yard."

"Relf's yard!" Hugh cried aloud, with increasing excitement. "You don't mean to say that creature's here again!"

"That creature, I'm in a position to state without reserve," Winifred answered chillily, "ran up the river to the *Fisherman's Rest* last night, as lively as ever. I saw the *Mud-Turtle* come in myself, before a chipping breeze! And Mrs. Stannaway told me this morning Mr. Relf was a-lying off the hard, just opposite Stannaway's. So I thought it'd be a capital plan, in memory of old times, if we got Mr. Relf to take us down in the yawl to Orfordness, and let us picnic on the nice dry ridge of big shingle just above the graveyard where they bury the wrecked sailors."

Hugh's whole soul was on fire within him; but his face was pale, and his hands deadly cold. Was this pure accident, mere coincidence, or was it designed and deliberate torture on Winifred's part, he wondered? To picnic in sight of Elsie's nameless grave, on the very anniversary of Elsie's death, with every concomitant of pretended rejoicing that could make that ghastly act more ghastly still than it would otherwise be in its own more naked brutality! It was too sickening to think upon. But did Winifred know? Could Winifred mean it as a punishment for his silence? Or had she merely blundered upon that horrible proposition as a sheer coincidence out of pure accident?

As a matter of fact, the last solution was the true and simple one. The sand hills, or Orfordness, were the two recognised alternative picnicking places where all Whitestrund invariably deserted itself. If you didn't go to the one, you went as a matter of course to the other. There was no third way open to the most deliberate and statesmanlike of mortals. The Meyseys has gone to Orfordness for years. Why not go there on the anniversary of Winnie's engagement? To Winifred, the proposal seemed simplicity itself; to Hugh, it seemed like a strangely perverse and cunning piece of sheer feminine cruelty.

"There's nothing to see at Orfordness," he said shortly—"nothing but a great bare bank of sand and shingle, and a couple of lighthouses, standing alone in a perfect desert of desolation.—Besides, the weather's just beastly.—Much better stop at home as usual by ourselves, and eat our dinner here in peace and quietness! This isn't the sort of season for picnicking."

"Oh! but Hugh," Mrs. Meysey put in, with her maternal authority, "you know we

always go to Orfordness. It's really quite a charming place in its way. The sands are so broad and hard and romantic. We sail down, and picnic at the lighthouse; and then we get a man to row us across the river at the back to Orford Castle—there's a splendid view from Orford Castle—and altogether it makes a delightful excursion, of its kind, for Suffolk. We ought to do something to commemorate the day.—If we weren't in such deep mourning still"—and Mrs. Meysey glanced down with a conventional sigh at her crape excruciations—"we'd ask a few friends in to dinner; but I'm afraid it's a little too soon for that. Still, at any rate, there could be no harm—not the slightest harm—in just running down to Orfordness for a family picnic. It's precisely the same as lunching at home here together."

"Do you remember, Hugh," Winifred went on, musingly, putting the screw on, "how we walked out that morning, a year ago, by the water-side: and how you picked a bit of forget-me-not and meadow-sweet from the bank and gave it me; and what pretty verses about undying love you repeated as you gave it?"—And in the evening, mamma, I had to go out to dinner, all alone with you and poor dear papa, to Snade vicarage! I recollect how angry and annoyed I was because I had to go out and leave Hugh that particular evening! and because I'd worn that same dinner dress at Snade vicarage three parties running!"

"Yes," Mrs. Meysey continued, with another deep drawn sigh; "and what a night that was to be sure! So full of surprises! It was the night, you know, when poor Elsie Chalonier ran away from you. You got engaged to Hugh in the morning, and in the evening Elsie disappeared as if by magic! Such a coincidence! Poor dear Elsie! Not a year ago! A year ago to-morrow!"

"No, mother dear. That was the eighteenth. I was engaged on the Wednesday, you recollect, and it was the Thursday when we found out Elsie had gone away from us."

"Thursday the eighteenth when we found it out, dear," Mrs. Meysey repeated in a decisive voice (the maternal mind is strong on dates); "but Wednesday the seventeenth, late in the evening, of course, when she went away from us.—Poor dear Elsie! I wonder what's become of her! It's curious she doesn't write to you often, Winifred."

Were they working upon his feelings, of *malice prepense*? Were they trying to make him blurt out the truth? he wondered. Hugh Massinger in his agony could stand it no longer. He rose from the table and went over to the window. There, the poplar stared him straight in the face. He turned around and looked hard at Winifred. Her expressionless blue eyes were placid as usual.

"Then, if it's fine," she said, in an insipid voice, "we'll ask Mr. Relf to give us a lift down to Orfordness to-morrow, in the *Mud-Turtle*."

"No!" Hugh thundered in an angry tone. "However you go, Relf shan't take you. I don't want to see any more of Relf. I dislike Relf; I object to Relf. He's a mean cur! I won't go anywhere with Relf in future."

"But, children, you should never let your angry passions rise. Winifred murmured provokingly.

Your little hands were never meant To tear each other's eyes.

If he doesn't want to go in Mr. Relf's boat, he shan't be made to, then, poor little fellow. He shall do exactly as he likes himself. He shall have another boat all of his own. I'll order one this evening for him at Martin's or at Stannaway's."

"If it's fine," Mrs. Meysey interposed parenthetically.

"If it's fine, of course," Winifred answered rising. "We don't want to picnic in a torrent of rain.—Whatever else we may be, we're rational animals.—But how do you know, Hugh, what Orfordness is like? You can't tell. You've never been there."

"I went there once last year," Hugh answered sulkily; "and I saw enough of the beastly hole then to know very well I don't desire its further acquaintance."

"But you never told me you'd been over there."

Hugh managed to summon up a sardonic smile. "I wasn't married to you then, Winnie," he answered, with a savage snarl, that showed his projecting canines with most unpleasant distinctness. "My goings-out and my comings in were not yet a matter of daily domestic inquisition. I hadn't to report myself every time I came or went, like a soldier in barracks to his commanding officer.—I went to Orfordness one day for a walk—by myself—unbidden—for my own amusement."

All that afternoon and late into the evening, Hugh watched the clouds and the barometer eagerly. His fate that day hung upon a spider's web. If it rained to-morrow all might yet be well; if not, he felt in his own soul they stood within measurable distance of a domestic cataclysm. He would not go to Orfordness with Winifred. That much was certain. He could not picnic, on the anniversary of Elsie's death, within sight of Elsie's nameless grave, in company with those two strange women—his wife and his mother-in-law. Ugh! how he hated the bare idea! If it came to the worst—if it was fine to-morrow—he must either break for ever with Winifred—for she would never give in—or else he must fling himself off the roots of the poplar, where Elsie had flung herself off that day twelve months ago, and drown as she had drowned among the angry breakers.

There would be a certain dramatic completeness and roundness about that particular fate which commended itself especially to Hugh Massinger's poetical nature. It would read so like a Greek tragedy—a tale of Ate and Hubris and Nemesis. Even from the point of view of the outer world, who knew out the hue, it would seem romantic enough to drown one's self, disconsolate, on the very anniversary of one's first engagement to the young wife one meant to leave an untimely widow. But to Hugh Massinger himself, who knew the whole kernel and core of the story, it would be infinitely more romantic and charming in its way to drown one's self off the self-same poplar on the self-same day that Elsie had drowned herself. No bard could wish for a gloomier or more appropriate death. Would it rain or shine? On that slender thread of doubt his whole future now hung and trembled.

The morning of the seventeenth dawned at last, and Hugh rose early, to draw aside the bedroom blinds for a moment. A respite! A respite! It was pouring a regular English downpour. There was no hope—or no danger, rather—of a picnic to-day. Thank Heaven for that. It put off his fate. It saved him the inconvenience and worry of having to drown himself this particular

morning. And yet the *denouement* would have been so strictly dramatic that he almost regretted a shower of rain should intervene to spoil it.

At ten o'clock he started out alone in the blinding downpour and took the train as far as Aldburgh. Thence he followed the shingle beach to Orfordness, plodding on, as he had done a year before, over the loose stones, but through drenching rain, instead of under hot and blazing sunlight. When he reached the lighthouse, he sat himself down in pilgrim guise beside Elsie's grave in the steady drip, and did penance once more by that unknown tomb in solemn silence. Not even the lighthouse man came out this time to gaze at him in wonder; it poured too hard and too persistently for that. He sat there alone for half an hour, by Elsie's watch; for he had wound it that morning with reverent hands, and brought it away with him for that very purpose. A little rusty, perhaps, from the sea, it would keep good time enough still for all he needed. At the end of the half-hour he rose once more, plodded back again over the shingle in his dripping clothes, and catching the last train home to Almundham, reached Whitestrund just in time to dress for dinner.

Winifred was waiting for him at the front door, white with emotion—not so much angry as slighted affection. "Where have you been?" she asked, in a cold voice, as he arrived at the porch, a dripping, dragged, wearied pedestrian, in a soaking suit of last year's tweeds.

"Didn't I say well I was bound to report myself to my commanding officer?" Hugh answered tauntingly. "All right, then; I preceded at once to report myself. I may as well tell you as leave you to worry. I've been to Orfordness—alone—tramped it."

"To Orfordness!" his wife echoed in profound astonishment. "You didn't want to go with us there if it was fine. Why, what on earth, Hugh, did you ever go there in this pelting rain?"

"Your mother recommended it," Hugh answered sullenly, "as a place of amusement. She said it was altogether a most delightful excursion. She praised the sands as firm and romantic. So I thought I'd try it on her recommendation. I found it damp, decidedly damp.—Send me my shoes, please!" And that was all the explanation he ever vouchsafed her.

(TO BE CONTINUED.)

An Adventure With a Panther.

A correspondent sends to an Indian paper an account of an adventure with a panther. It appears that the inhabitants of Faizpore, a village situated about a mile from the forest bungalow at Kalesar, had been much troubled by a large panther which periodically killed their cattle. Mr. E. A. Down, of the Forest Department, was asked by a villager to shoot the panther over a cow which had been killed. He went, but the animal got wind and would not approach the kill. He again tried next day. On approaching at half-past six o'clock in the evening he met the brute in the open. It made off, and the sportsman then took a position close to the kill, shortly after which some cattle came out of the forest, on the rear one of which the panther sprang and killed it. While he was busily engaged Mr. Down knocked it over, but it got away badly hit under cover. Some villagers and one of the forest guards then came up and made a cast round for the panther. This is what transpired: "One of the men suddenly pulled up short, pointing to the beast lying within a couple of yards of me. We all thought him dead. However, not being sure, I ordered the men back. Having got to a safe distance, as I thought, I threw a stone into the bush, when I was promptly charged. I received the brute at close quarters, hitting him in the chest; he reared up on his hind legs and knocked me down, seizing me in the right thigh, lacerating the big muscle and tearing it from the bone. I also received six claw wounds in the hands. The villagers had fortunately all cleared out; but the forest guard was less lucky, although he tried to get away. The panther dropped me and made for the retreating guard; he brushed past me; then I gave him the remaining barrel, catching him in the stomach and blowing a hole as big as my head on the opposite side. I had hoped to stop him with this; but he seized the guard who called to me for assistance. As soon as I could reload I went to the poor fellow, whom I found on the ground with the panther lying on him. It was just dusk, and I had to get within about ten paces before I could see well enough to make sure of my shot. I saw the panther turn in his direction, and I fully expected another charge; but he faked me and turned to make off, when I hit him in the shoulder and killed him. I picked up the poor guard, who was badly mauled. No bones were broken, so we managed to reach the village."

Yzaloo.

The volcano of Yzaloo, in San Salvador, is for many reasons the most wonderful mountain upon the globe. It rises several thousand feet high, almost directly from the sea, and is surmounted by an immense column of smoke broken by masses of flames, a thousand feet in height, and rising with such regularity that the mountain has been called "The light-house of San Salvador."

Rumbling and explosions are constantly going on within Yzaloo, and are audible at the distance of a hundred miles. Its discharges are very regular, but it is chiefly remarkable as being the only volcano which is known to have originated in America since its discovery by Columbus.

In 1769, the region now occupied by it was a level plain, forming the coffee and indigo plantation of Senor Don Balthazar Evaz. In December of that year, the gentleman was absent from home, and his servants became so alarmed by frequent earthquakes that they fled from the place. When they returned, a week or two later, it was to find that large craters had been opened in the ground, giving vent to smoke and flame.

On the twenty-third of February, 1770, a series of terrific explosions took place, the crust of the earth was lifted several hundred feet, while flames and lava issued from the rent in its surface. An hour later there was another convulsion, which hurled into the air rocks weighing thousands of tons, and elevated the earth about three thousand feet.

Discharges of lava and blistered stone continued for several days, and in less than two months, the level field had become a mountain of a very considerable height. Constant discharges from its crater have since raised it over four thousand feet above the sea.

NOTES BY THE WAY.

The Tariff bill prepared by the Republicans in the United States Senate abolishes the tax on tobacco. This will reduce the revenue about thirty millions. The tax on sugar has been cut down fifty per cent., which will decrease the revenue by twenty-five millions more. Ten millions additional are to be saved from the tax on alcohol used in the arts, and five millions from various articles placed on the free list.

Sunday is observed after the American plan in British Columbia, though Victoria, the capital, is in other respects exceedingly English. The excuse for the non-observance of the day of rest is the circumstance that there is no other occasion in the week for recreation. To meet this plea the Saturday half holiday is to be introduced. The newspapers advocate the reform, but they do not propose to drop their Sunday editions.

British Columbia is not entirely oblivious to the big business it can do in supplying fruit to the districts lying east of it. The Victoria "Colonist's" advices from Chilliwack, which is situated in a very fertile agricultural part of the province, say that "a thousand boxes of plums have been already shipped East this season, and last year apples were shipped to Japan. Peaches and pears, and fruit of all kinds are raised in great abundance, and prove a source of more than ordinary profit to many."

A Kingston clergyman explained on Sunday to his congregation that in Winnipeg whenever a one cent piece is found on the collection plate it is assumed that a person from Ontario has been to church. This is libellous, because everybody knows that Ontario people place five cents pieces on the plate, largely because there is no smaller silver coin. But, joking aside, it is remarkable what a large assortment of small change finds its way into the church treasury. The phenomenon should perhaps be attributed to the strong desire to imitate the example of the widow who gave her mite.

There appears very good reason to believe that the late Professor Proctor fell a victim to the unmanly fright of the New York Board of Health. The doctors who performed the autopsy state that they are unable to find any traces of yellow fever. As the Professor was removed by force from his hotel to an hospital in the dead of night during a violent storm, and while he was in a state of collapse, the inference is that he was killed by official ignorance and incapacity. The yellow fever scare seems to have terrified many people out of their senses. In all such cases the inherent selfishness of human nature comes to the surface, and every consideration is sacrificed to that of self-preservation.

The publication of the late Emperor Frederick's diary will confirm the general belief in his generosity, magnanimity and sagacity, the latter quality being especially evidenced by his intention to liberalise German institutions and by his opposition in 1870 to the scheme for partitioning France and placing the Belgian King on her throne. The revelation that this project was entertained, and may be revived by another German conquest, will of course nerve France to prepare most thoroughly for the coming war, to fight it out even more desperately than in 1870, and to impose harsh terms on Germany in case of the not wholly improbable French success. For these reasons, and because the diary exposes Prince Bismarck as the prime mover in the anti-Papal crusade, the publication of the diary may well give serious annoyance to the Iron Chancellor and his young master.

The Eiffel Tower.

The highest structure in the world is now being built at Paris. The Washington Monument is 555 feet high, and has no rival at present, but the Parisians are priding themselves on the fact that by the 1st of January next they will have standing on the Champ de Mars a tower 1,000 feet high, built entirely of iron girders and pillars, in the simple construction of four great shafts consisting of four columns each, starting from the four corners of the base, and merging into the single great shaft which forms the main part of the tower. The whole tower when completed will weigh about 7,500 tons, or 15,000,000 pounds. The cost will be about \$1,000,000, of which the French government pays about \$300,000.

Naturally enough, M. Eiffel, the eminent French engineer who is building the tower, is proud of his tall enterprise. He says:

Consider its importance from a meteorological point of view. It is not every day that meteorologists can get up a thousand feet above the soil. This tower will enable them to study the decrease of temperature at different heights, to observe the variations of the winds, find out the quantity of rain that falls at different heights, and the density of the clouds. Indeed, in all that relates to temperature, hygrometry, air currents, and the composition of the air, the tower will afford opportunities for study and research many of which have hitherto been impossible. It will be equally useful to astronomers. Here experiments with the spectroscopic can be carried on with great facility; the laws of refraction and the physical aspect of the moon, planets and nebulae studied in most favorable conditions. Then there is its utility from a military point of view. In the event of another siege of Paris, see how important this tower would be. Communications could be kept up by means of optic telegraphy for a great distance around Paris; for from the summit you have a magnificent panorama extending from 120 to 130 kilometres. Paris by night, decorated and illuminated as it will be during the exhibition, is a sight which before was only within the reach of aeronauts. In fact, the tower will be the chief attraction of the exhibition. In our construction of the tower we have calculated on the force of the wind. We have calculated that the tower will normally withstand a wind pressure of 300 kilogrammes per square metre, which amounts to a total pressure of 2,250,000 kilogrammes. We have made this calculation on the most favorable hypothesis possible. We have reckoned the trellis work as full walls and made other allowances. And, as the strongest tempests known in Paris have never been beyond a pressure of 150 kilos per square metre, the tower is perfectly secure. Should a wind bearing a force of 300 kilos arise little would be left standing in Paris except the tower.

The tower will be fitted up on the inside of the shafts with elevators. There will be six or more connecting the first two galleries with the ground, and probably two which will go to the top.