

ALL THE YEAR ROUND.

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GREAT EXPECTATIONS.

BY CHARLES DICKENS.

CHAPTER IX.

WHEN I reached home, my sister was very curious to know all about Miss Havisham's, and asked a number of questions. And I soon found myself getting heavily bumped from behind in the nape of the neck and the small of the back, and having my face ignominiously shoved against the kitchen wall, because I did not answer those questions at sufficient length.

If a dread of not being understood be hidden in the breasts of other young people to anything like the extent to which it used to be hidden in mine—which I consider probable, as I have no particular reason to suspect myself of having been a monstrosity—it is the key to many reservations. I felt convinced that if I described Miss Havisham's as my eyes had seen it, I should not be understood. Not only that, but I felt convinced that Miss Havisham too would not be understood; and although she was perfectly incomprehensible to me, I entertained an impression that there would be something coarse and treacherous in my dragging her as she really was (to say nothing of Miss Estella) before the contemplation of Mrs. Joe. Consequently, I said as little as I could, and had my face shoved against the kitchen wall.

The worst of it was that that bullying old Pumblechook, preyed upon by a devouring curiosity to be informed of all I had seen and heard, came gaping over in his chaise-cart at tea time, to have the details divulged to him. And the mere sight of the torment, with his fishy eyes and mouth open, his sandy hair inquisitively on end and his waistcoat heaving with windy arithmetic, made me vicious in my reticence.

"Well, boy," Uncle Pumblechook began, as soon as he was seated in the chair of honour by the fire. "How did you get on up town?"

I answered "Pretty well, sir," and my sister shook her list at me.

"Pretty well?" Mr. Pumblechook repeated. "Pretty well is no answer. Tell us what you mean by pretty well, boy?"

Whitewash on the forehead hardens the brain into a state of obstinacy perhaps. Anyhow, with whitewash from the wall on my forehead, my obstinacy was adamantine. I reflected for

some time, and then answered as if I had discovered a new idea, "I mean pretty well."

My sister with an exclamation of impatience was going to fly at me—I had no shadow of defence, for Joe was busy in the forge—when Mr. Pumblechook interposed with "No! Don't lose your temper. Leave this lad to me, ma'am; leave this lad to me." Mr. Pumblechook then turned me towards him, as if he were going to cut my hair, and said:

"First (to get our thoughts in order): Forty-three pence?"

I calculated the consequences of replying "Four Hundred Pound," and, finding them against me, went as near the answer as I could—which was somewhere about eightpence off. Mr. Pumblechook then put me through my pence-table from "twelve pence make one shilling," up to "forty pence make three and four pence," and then triumphantly demanded, as if he had done for me, "Now! How much is forty-three pence?" To which I replied, after a long interval of reflection, "I don't know." And I was so aggravated that I almost doubt if I did know.

Mr. Pumblechook worked his head like a screw to screw it out of me, and said, "Is forty-three pence seven and sixpence three fardens, for instance?"

"Yes!" said I. And although my sister instantly boxed my ears, it was highly gratifying to me to see that the answer spoilt his joke, and brought him to a dead stop.

"Boy! What like is Miss Havisham?" Mr. Pumblechook began again when he had recovered; folding his arms tight on his chest and applying the screw.

"Very tall and dark," I told him.

"Is she, uncle?" asked my sister.

Mr. Pumblechook winked assent; from which I at once inferred that he had never seen Miss Havisham, for she was nothing of the kind.

"Good!" said Mr. Pumblechook, conceitedly. ("This is the way to have him! We are beginning to hold our own, I think, Mum?")

"I am sure, uncle," returned Mrs. Joe, "I wish you had him always: you know so well how to deal with him."

"Now, boy! What was she a doing of, when you went in to-day?" asked Mr. Pumblechook.

"She was sitting," I answered, "in a black velvet coach."

Mr. Pumblechook and Mrs. Joe stared at one

another—as they well might—and both repeated, “In a black velvet coach?”

“Yes,” said I. “And Miss Estella—that’s her niece, I think—handed her in cake and wine at the coach-window, on a gold plate. And we all had cake and wine on gold plates. And I got up behind the coach to eat mine, because she told me to.”

“Was anybody else there?” asked Mr. Pumblechook.

“Four dogs,” said I.

“Large or small?”

“Immense,” said I. “And they fought for veal cutlets out of a silver basket.”

Mr. Pumblechook and Mrs. Joe stared at one another again, in utter amazement. I was perfectly frantic—a reckless witness under the torture—and would have told them anything.

“Where *was* this coach, in the name of gracious?” asked my sister.

“In Miss Havisham’s room.” They stared again. “But there weren’t any horses to it.” I added this saving clause, in the moment of rejecting four richly caparisoned coursers which I had had wild thoughts of harnessing.

“Can this be possible, uncle?” asked Mrs. Joe. “What can the boy mean?”

“I’ll tell you, Mum,” said Mr. Pumblechook. “My opinion is, it’s a sedan-chair. She’s slighty, you know—very slighty—quite slighty enough to pass her days in a sedan-chair.”

“Did you ever see her in it, uncle?” asked Mrs. Joe.

“How could I?” he returned, forced to the admission, “when I never see her in my life? Never clapped eyes upon her!”

“Goodness, uncle! And yet you have spoken to her?”

“Why, don’t you know,” said Mr. Pumblechook, testily, “that when I have been there, I have been took up to the outside of her door, and the door has stood ajar, and she has spoke to me that way. Don’t say you don’t know *that*, Mum. Howsoever, the boy went there to play. What did you play at, boy?”

“We played with flags,” I said. (I beg to observe that I think of myself with amazement, when I recall the lies I told on this occasion.)

“Flags!” echoed my sister.

“Yes,” said I. “Estella waved a blue flag, and I waved a red one, and Miss Havisham waved one sprinkled all over with little gold stars, out at the coach-window. And then we all waved our swords and hurrahed.”

“Swords!” repeated my sister. “Where did you get swords from?”

“Out of a cupboard,” said I. “And I saw pistols in it—and jam—and pills. And there was no daylight in the room, but it was all lighted up with candles.”

“That’s true, Mum,” said Mr. Pumblechook, with a grave nod. “That’s the state of the case, for that much I’ve seen myself.” And then they both stared at me, and I with an obtrusive show of artlessness on my countenance, stared at them, and plaited the right leg of my trousers with my right hand.

If they had asked me any more questions I should undoubtedly have betrayed myself, for I was even then on the point of mentioning that there was a balloon in the yard, and should have hazarded the statement but for my invention being divided between that phenomenon and a bear in the brewery. They were so much occupied, however, in discussing the marvels I had already presented for their consideration, that I escaped. The subject still held them when Joe came in from his work to have a cup of tea. To whom my sister, more for the relief of her own mind than for the gratification of his, related my pretended experiences.

Now, when I saw Joe open his blue eyes and roll them all round the kitchen in helpless amazement, I was overtaken by penitence; but only as regarded him—not in the least as regarded the other two. Towards Joe, and Joe only, I considered myself a young monster, while they sat debating what results would come to me from Miss Havisham’s acquaintance and favour. They had no doubt that Miss Havisham would “do something” for me; their doubts related to the form that something would take. My sister stood out for “property.” Mr. Pumblechook was in favour of a handsome premium for binding me apprentice to some genteel trade—say, the corn and seed trade for instance. Joe fell into the deepest disgrace with both, for offering the bright suggestion that I might only be presented with one of the dogs who had fought for the veal-outlets. “If a fool’s head can’t express better opinions than that,” said my sister, “and you have got any work to do, you had better go and do it.” So he went.

After Mr. Pumblechook had driven off, and when my sister was washing up, I stole into the forge to Joe, and remained by him until he had done for the night. Then I said, “Before the fire goes quite out, Joe, I should like to tell you something.”

“Should you, Pip?” said Joe, drawing his shoeing-stool near the forge. “Then tell us. What is it, Pip?”

“Joe,” said I, taking hold of his rolled-up shirt sleeve, and twisting it between my finger and thumb, “you remember all that about Miss Havisham’s?”

“Remember?” said Joe. “I believe you! Wonderful!”

“It’s a terrible thing, Joe; it ain’t true.”

“What are you telling of, Pip?” cried Joe, falling back in the greatest amazement. “You don’t mean to say it’s —”

“Yes I do; it’s lies, Joe.”

“But not all of it? Why sure you don’t mean to say, Pip, that there was no black velvet co—ch?” For, I stood shaking my head. “But at least there was dogs, Pip. Come, Pip,” said Joe, persuasively, “if there warn’t no veal-outlets, at least there was dogs?”

“No, Joe.”

“A dog?” said Joe. “A puppy? Come?”

“No, Joe, there was nothing at all of the kind.”

As I fixed my eyes hopelessly on Joe, Joe

contemplated me in dismay. "Pip, old chap! this won't do, old fellow! I say! Where do you expect to go to?"

"It's terrible, Joe; an't it?"

"Terrible?" cried Joe. "Awful! What possessed you?"

"I don't know what possessed me, Joe," I replied, letting his shirt sleeve go, and sitting down in the ashes at his feet, hanging my head; "but I wish you hadn't taught me to call Knaves at cards, Jacks; and I wish my boots weren't so thick nor my hands so coarse."

And then I told Joe that I felt very miserable, and that I hadn't been able to explain myself to Mrs. Joe and Pumblechook, who were so rude to me, and that there had been a beautiful young lady at Miss Havisham's who was dreadfully proud, and that she had said I was common, and that I knew I was common, and that I wished I was not common, and that the lies had come of it somehow, though I didn't know how.

This was a case of metaphysics, at least as difficult for Joe to deal with, as for me. But Joe took the case altogether out of the region of metaphysics, and by that means vanquished it.

"There's one thing you may be sure of, Pip," said Joe, after some rumination, "namely, that lies is lies. However they come, they didn't ought to come, and they come from the father of lies, and work round to the same. Don't you tell no more of 'em, Pip. That ain't the way to get out of being common, old chap. And as to being common, I don't make it out at all clear. You are uncommon in some things. You're uncommon small. Likewise you're an uncommon scholar."

"No, I am ignorant and backward, Joe.

"Why, see what a letter you wrote last night. Wrote in print even! I've seen letters—Ah! and from gentlefolks!—that I'll swear weren't wrote in print," said Joe.

"I have learnt next to nothing, Joe. You think much of me. It's only that."

"Well, Pip," said Joe, "be it so or be it so'n't, you must be a common scholar afore you can be an uncommon one, I should hope! The king upon his throne, with his crown upon his ed, can't sit and write his acts of Parliament in print, without having begun, when he were a unpromoted Prince, with the alphabet—Ah!" added Joe, with a shake of the head that was full of meaning, "and begun at A too, and worked his way to Z. And I know what that is to do, though I can't say I've exactly done it."

There was some hope in this piece of wisdom, and it rather encouraged me.

"Whether common ones as to callings and earnings," pursued Joe, reflectively, "mightn't be the better of continuing for to keep company with common ones, instead of going out to play with uncommon ones—which reminds me to hope that there were a flag perhaps?"

"No, Joe."

"(I'm sorry there weren't a flag, Pip.) Whether that might be or mightn't be, is a thing as can't be looked into now, without putting your

sister on the Rampage; and that's a thing not to be thought of as being done intentional. Lookee here, Pip, at what is said to you by a true friend. Which this to you the true friend say. If you can't get to be uncommon through going straight, you'll never do it through going crooked. So don't tell no more on 'em, Pip, and live well and die happy."

"You are not angry with me, Joe?"

"No, old chap. But bearing in mind that them were which I meantersay of a stunning and outdacious sort—alluding to them which bordered on weal-cutlets and dog-fighting—a sincere well-wisher would advise, Pip, their being dropped into your meditations when you go up-stairs to bed. That's all, old chap, and don't never do it no more."

When I got up to my little room and said my prayers, I did not forget Joe's recommendation, and yet my young mind was in that disturbed and unthankful state, that I thought long after I laid me down, how common Estella would consider Joe, a mere blacksmith: how thick his boots, and how coarse his hands. I thought how Joe and my sister were then sitting in the kitchen, and how I had come up to bed from the kitchen, and how Miss Havisham and Estella never sat in a kitchen, but were far above the level of such common doings. I fell asleep recalling what I "used to do" when I was at Miss Havisham's; as though I had been there weeks or months, instead of hours, and as though it were quite an old subject of remembrance, instead of one that had arisen only that day.

That was a memorable day to me, for it made great changes in me. But, it is the same with any life. Imagine one selected day struck out of it, and think how different its course would have been. Pause you who read this, and think for a moment of the long chain of iron or gold, of thorns or flowers, that would never have bound you, but for the formation of the first link on one memorable day.

CHAPTER X.

THE felicitous idea occurred to me a morning or two later when I woke, that the best step I could take towards making myself uncommon was to get out of Biddy everything she knew. In pursuance of this luminous conception I mentioned to Biddy when I went to Mr. Wopsle's great-aunt's at night, that I had a particular reason for wishing to get on in life, and that I should feel very much obliged to her if she would impart all her learning to me. Biddy, who was the most obliging of girls, immediately said she would, and indeed began to carry out her promise within five minutes.

The Educational scheme or Course established by Mr. Wopsle's great-aunt may be resolved into the following synopsis. The pupils ate apples and put straws up one another's backs, until Mr. Wopsle's great-aunt collected her energies, and made an indiscriminate totter at them with a birch-rod. After receiving the charge with every mark of derision, the pupils formed in

line and buzzingly passed a ragged book from hand to hand. The book had an alphabet in it, some figures and tables, and a little spelling—that is to say, it had had once. As soon as this volume began to circulate, Mr. Wopsle's great-aunt fell into a state of coma; arising either from sleep or a rheumatic paroxysm. The pupils then entered among themselves upon a competitive examination on the subject of Boots, with the view of ascertaining who could tread the hardest upon whose toes. This mental exercise lasted until Biddy made a rush at them and distributed three defaced Bibles (shaped as if they had been unskillfully cut off the clump-end of something), more illegibly printed at the best than any curiosities of literature I have since met with, speckled all over with ironmould, and having various specimens of the insect world smashed between their leaves. This part of the Course was usually lightened by several single combats between Biddy and refractory students. When the fights were over, Biddy gave out the number of a page, and then we all read aloud what we could—or what we couldn't—in a frightful chorus; Biddy leading with a high shrill monotonous voice, and none of us having the least notion of, or reverence for, what we were reading about. When this horrible din had lasted a certain time, it mechanically awoke Mr. Wopsle's great-aunt, who staggered at a boy fortuitously and pulled his ears. This was understood to terminate the Course for the evening, and we emerged into the air with shrieks of intellectual victory. It is fair to remark that there was no prohibition against any pupil's entertaining himself with a slate or even with the ink (when there was any), but that it was not easy to pursue that branch of study in the winter season, on account of the little general shop in which the classes were holden—and which was also Mr. Wopsle's great-aunt's sitting-room and bed-chamber—being but faintly illuminated through the agency of one low-spirited dip-candle and no snuffers.

It appeared to me that it would take time, to become uncommon under these circumstances: nevertheless, I resolved to try it, and that very evening Biddy entered on our special agreement, by imparting some information from her little catalogue of Prices, under the head of moist sugar, and lending me, to copy at home, a large old English D which she had imitated from the heading of some newspaper, and which I supposed, until she told me what it was, to be a design for a buckle.

Of course there was a public-house in the village, and of course Joe liked sometimes to smoke his pipe there. I had received strict orders from my sister to call for him at the Three Jolly Bargemen, that evening, on my way from school, and bring him home at my peril. To the Three Jolly Bargemen, therefore, I directed my steps.

There was a bar at the Jolly Bargemen, with some alarmingly long chalk scores in it on the wall at the side of the door, which seemed to me

to be never paid off. They had been there ever since I could remember, and had grown more than I had. But there was a quantity of chalk about our country, and perhaps the people neglected no opportunity of turning it to account.

It being Saturday night, I found the landlord looking rather grimly at these records, but as my business was with Joe and not with him, I merely wished him good evening, and passed into the common room at the end of the passage, where there was a bright large kitchen fire, and where Joe was smoking his pipe in company with Mr. Wopsle and a stranger. Joe greeted me as usual with "Halloa, Pip, old chap!" and the moment he said that, the stranger turned his head and looked at me.

He was a secret-looking man whom I had never seen before. His head was all on one side, and one of his eyes was half shut up, as if he were taking aim at something with an invisible gun. He had a pipe in his mouth, and he took it out, and, after slowly blowing all his smoke away and looking hard at me all the time, nodded. So, I nodded, and then he nodded again, and made room on the settle beside him that I might sit down there.

But, as I was used to sit beside Joe whenever I entered that place of resort, I said "No, thank you, sir," and fell into the space Joe made for me on the opposite settle. The strange man, after glancing at Joe, and seeing that his attention was otherwise engaged, nodded to me again when I had taken my seat, and then rubbed his leg—in a very odd way, as it struck me.

"You was saying," said the strange man, turning to Joe, "that you was a blacksmith."

"Yes. I said it, you know," said Joe.

"What'll you drink, Mr. —? You didn't mention your name, by-the-by."

Joe mentioned it now, and the strange man called him by it. "What'll you drink, Mr. Gargery? At my expense? To top up with?"

"Well," said Joe, "to tell you the truth, I ain't much in the habit of drinking at anybody's expense but my own."

"Habit? No," returned the stranger, "but once and away, and on a Saturday night too. Come! Put a name to it, Mr. Gargery."

"I wouldn't wish to be stiff company," said Joe. "Rum."

"Rum," repeated the stranger. "And will the other gentleman originate a sentiment?"

"Rum," said Mr. Wopsle.

"Three Rums!" cried the stranger, calling to the landlord. "Glasses round!"

"This other gentleman," observed Joe, by way of introducing Mr. Wopsle, "is a gentleman that you would like to hear give it out. Our clerk at church."

"Aha!" said the stranger, quickly, and cocking his eye at me. "The lonely church, right out on the marshes, with the graves round it!"

"That's it," said Joe.

The stranger, with a comfortable kind of grunt over his pipe, put his legs up on the

settle that he had to himself. He wore a flapping broad-brimmed traveller's hat, and under it a handkerchief tied over his head in the manner of a cap: so that he showed no hair. As he looked at the fire, I thought I saw a cunning expression, followed by a half laugh, come into his face.

"I am not acquainted with this country, gentlemen, but it seems a solitary country towards the river."

"Most marshes is solitary," said Joe.

"No doubt, no doubt. Do you find any gipsies, now, or tramps, or vagrants of any sort out there?"

"No," said Joe; "none but a runaway convict now and then. And we don't find *them*, easy. Eh, Mr. Wopsle?"

Mr. Wopsle, with a majestic remembrance of old discomfiture, assented; but not warmly.

"Seems you have been out after such?" asked the stranger.

"Once," returned Joe. "Not that we wanted to take them, you understand; we went out as lookers-on; me, and Mr. Wopsle, and Pip. Didn't us, Pip?"

"Yes, Joe."

The stranger looked at me again—still cocking his eye, as if he were expressly taking aim at me with his invisible gun—and said, "He's a likely young parcel of bones that. What is it you call him?"

"Pip," said Joe.

"Christened Pip?"

"No, not christened Pip."

"Surname Pip?"

"No," said Joe, "it's a kind of a family name what he gave himself when a infant, and is called by."

"Son of yours?"

"Well," said Joe, meditatively—not, of course, that it could be in any wise necessary to consider about it, but because it was the way at the Jolly Bargemen to seem to consider deeply about everything that was discussed over pipes; "well—no. No, he ain't."

"Nevvy?" said the strange man.

"Well," said Joe, with the same appearance of profound cogitation, "he is not—no, not to deceive you he is *not*—my nevvie."

"What the Blue Blazes is he?" asked the stranger. Which appeared to me to be an inquiry of unnecessary strength.

Mr. Wopsle struck in upon that; as one who knew all about relationships, having professional occasion to bear in mind what female relations a man might not marry; and expounded the ties between me and Joe. Having his hand in, Mr. Wopsle finished off with a most terrifically snarling passage from Richard the Third, and seemed to think he had done quite enough to account for it when he added "—as the poet says."

And here I may remark that when Mr. Wopsle referred to me, he considered it a necessary part of such reference to rumples my hair and poke it into my eyes. I cannot conceive why everybody of his standing who visited

at our house should always have put me through the same inflammatory process under similar circumstances. Yet I do not call to mind that I was ever in my earlier youth the subject of remark in our social family circle, but some large-handed person took some such ophthalmic steps to patronise me.

All this while the strange man looked at not body but me, and looked at me as if he were determined to have a shot at me at last, and bring me down. But he said nothing after offering his Blue Blazes observation until the glasses of rum-and-water were brought; and then he made his shot, and a most extraordinary one it was.

It was not a verbal remark, but a proceeding in dumb-show, and was pointedly addressed to me. He stirred his rum-and-water pointedly at me, and he tasted his rum-and-water pointedly at me. And he stirred it and he tasted it: not with a spoon that was brought to him, but *with a file*.

He did this so that nobody but I saw the file; and when he had done it he wiped the file and put it in a breast-pocket. I knew it to be Joe's file, and I knew that he knew my convict the moment I saw the instrument. I sat gazing at him, spell-bound. But he now reclined on his settle, taking very little notice of me, and talking principally about turnips.

There was a delicious sense of cleaning-up and making a quiet pause before going on in life afresh, in our village on Saturday nights, which stimulated Joe to dare to stay out half an hour longer on Saturdays than at other times. The half-hour and the rum-and-water running out together, Joe got up to go, and took me by the hand.

"Stop half a moment, Mr. Gargery," said the strange man. "I think I've got a bright new shilling somewhere in my pocket, and if I have the boy shall have it."

He looked it out from a handful of small change, folded it in some crumpled paper, and gave it to me. "Yours!" said he. "Mind! Your own."

I thanked him, staring at him far beyond the bounds of good manners, and holding tight to Joe. He gave Joe good-night, and he gave Mr. Wopsle good-night (who went out with us), and he gave me only a look with his aiming eye—no, not a look, for he shut it up, but wonders may be done with an eye by hiding it.

On the way home, if I had been in a humour for talking, the talk must have been all on my side, for Mr. Wopsle parted from us at the door of the Jolly Bargemen, and Joe went all the way home with his mouth wide open, to rinse the rum out with as much air as possible. But I was in a manner stupified by this turning up of my old misdeed and old acquaintance, and could think of nothing else.

My sister was not in a very bad temper when we presented ourselves in the kitchen, and Joe was encouraged by that unusual circumstance to tell her about the bright shilling. "A bad un, I'll be bound," said Mrs. Joe, triumphantly,

"or he wouldn't have given it to the boy! Let's look at it."

I took it out of the paper, and it proved to be a good one. "But what's this?" said Mrs. Joe, throwing down the shilling and catching up the paper. "Two One-Pound notes?"

Nothing less than two fat sweltering one-pound notes that seemed to have been on terms of the warmest intimacy with all the cattle markets in the county. Joe caught up his hat again, and ran with them to the Jolly Bargemen to restore them to their owner. While he was gone, I sat down on my usual stool and looked vacantly at my sister: feeling pretty sure that the man would not be there.

Presently, Joe came back, saying that the man was gone, but that he, Joe, had left word at the Three Jolly Bargemen concerning the notes. Then my sister sealed them up in a piece of paper, and put them under some dried rose-leaves in an ornamental teapot on the top of a press in the state parlour. There, they remained, a nightmare to me, many and many a night and day.

I had sadly broken sleep when I got to bed, through thinking of the strange man taking aim at me with his invisible gun, and of the guiltily coarse and common thing it was, to be on secret terms of conspiracy with convicts—a feature in my low career that I had previously forgotten. I was haunted by the file too. A dread possessed me that when I least expected it, the file would reappear. I coaxed myself to sleep by thinking of Miss Havisham's, next Wednesday; and in my sleep I saw the file coming at me out of a door without seeing who held it, and I screamed myself awake.

WONDERS OF THE SEA.

"THEY that go down to the sea in ships and occupy their business in great waters," says the Psalmist, "these men see the works of the Lord and his wonders in the deep."

Three-fifths of the earth are covered deeply with water, the depths varying from a few fathoms to six or seven miles, or even more. According to some recent calculations made by observing the rate of motion of the tide-wave (which varies with the depth), the average is about fifteen thousand feet in the Atlantic, and twenty thousand feet in the Pacific. This vast body of water is almost everywhere, and in all circumstances, similar in the nature of its contents. It possesses, also, a less variable temperature than the air or earth; for the natural heat of the sea rarely or never exceeds 87° Fahrenheit in the hottest part of the tropics, and it is not often below the freezing point even in very high latitudes. Its colour, ascertained in some marine caves, where all the light that enters has passed through water and is reflected from a white bottom, is of the purest azure blue, proving that it transmits light, thus coloured, absorbing an excess of the other tints. When clear and exposed to strong light, it is transparent to a marvellous extent. At twenty-five fathoms (one hundred and fifty

feet) corals can frequently be seen at the bottom very distinctly, and the form of objects of various kinds has been recognised at more than double that depth in the West Indian seas. Submarine landscapes are thus not unknown, and have been described with glowing enthusiasm by various travellers.

When the great ocean is disturbed it forms surface waves, which are sometimes of great magnitude. In a gale, such waves have been more than once measured, and it is found that their extreme height from the top to the deepest depression of large storm waves, has been nearly fifty feet; their length being from four to six hundred yards, and their rate of motion through the water about half a mile a minute. Such waves, breaking over an obstacle of any kind, or mingling strangely with the clouded atmosphere raging above, are the wildest, grandest, and most terrible phenomena of nature. When they approach land, they break up into much smaller bodies of water, but these are often lifted by shoals and obstructed by rocks till they are thrown up in masses of many tons to a height of more than a hundred feet. The tidal wave is another phenomenon of water motion of a somewhat different kind, producing an alternate rise and fall of the water over all parts of the ocean every twelve hours.

In addition to the true waves there are also many definite streams or currents of water conveying large portions of the sea from one latitude to another, modifying the temperature of the adjacent land, and producing a mixture of the waters at the surface or at some depth which cannot but be extremely conducive to the general benefit of all living beings. Storm tides, or those waves which occasionally rush without any pause along narrow and confined seas or up funnel-shaped inlets, have occasionally proved disastrous to a fearful extent. Thus it is recorded that upwards of one hundred thousand persons perished in the year 1232, and again in 1242, in this way, numerous complete villages and towns being washed away by a wave advancing from the North Sea over the low lands of Holland. Between Nova Scotia and New Brunswick the ordinary spring tide often rises to a height of a hundred feet, sweeping away the cattle feeding on the shore.

Fearful storms and hurricanes, recently called cyclones, torment the waters of the ocean, lashing them into foam, and tearing over the surface in wild spiral curves which nothing can resist. The events of the last eighteen months have, unfortunately, rendered these storms but too familiar on all our shores; but they have also induced observations and investigations as to their proximate causes and prognostications, which bid fair to enable us some day to evade their worst consequences.

Vast blocks of ice, deeply buried in the water, float for thousands of miles through the ocean, after being detached, loaded with mud and stones, from Arctic and Antarctic land. Rocks from Greenland are thus brought into the middle of the Atlantic, and these become mixed with