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THE WEEKLY MIRROR.

Vol. I.]

HALIFAX, FRIDAY, APRIL 10, 1835.

[No. 13.]

NATURAL HISTORY.

THE CAMEL.

The camel is a very large animal, and can carry very large burdens on his back, sometimes as much as a thousand or twelve hundred pounds. The people who live in the very hot countries, and are obliged to take long journeys over the burning and barren sandy deserts, would not know what to do without the camel. The camel moves slowly, but he can travel a very great distance with but little food or water; and this is of particular consequence in the journeys through the deserts, where there is very little food to be had, and where water is very scarce.— Providence has formed the camel in a manner exactly suited to the work which it has to perform. It has a tough spongy sort of foot which is never found to crack, and this is of vast importance in hot climates and long journeys: and it has, besides, a stomach so formed that it can contain a great quantity of water in reserve, by which it is enabled to moisten its food; if it had not this, it would perish, in a hot country where it could find no water to drink. The camel is of a mild and gentle disposition, and easily taught to do such services as are required of him.

It is a delightful study to think of the perfect and excellent manner in which the Almighty has formed every creature, according to its necessities and the place where it is to live. The contrivance of something within, which can retain a supply of water, would be of no use in a country like ours where water is every where to be had; but it is of very great use indeed in a burning climate where water is so very difficult to be found. This shews the great power and goodness of the all-wise Creator of all things.— And every animal that exists would prove the same thing if we examined it carefully; and this thought ought to raise our minds to devout admiration of all the works of our great Creator, and of pious gratitude for all his mercies.

COMMON THINGS.

No. 7.—METALS.

Upon what can we fix our eye, which does not contain a metal, or bear its mark? Even the precious metals, how common? though perhaps not quite so abundant in the hands of every one, as he would like. Over how many thousand feet of the surface of common things is gold spread?

The tin mines of Cornwall have made themselves known by their inexhaustible treasures, all over the world. And what is

there that does not contain iron? The rocks are coloured by it. Plants and animals contain it. It even constitutes a part of our blood, and of course circulates in all our veins—What instrument or article is there in civilized society, which does not bear the mark of iron?

Besides gold, silver, tin, and iron, we have copper, lead, zinc, antimony, zizimuth, coal, platinum, manganese, arsenic: all useful in the arts and comforts of civilization, and many other bodies which are called metals.

And what are metals? What distinguishes them from other bodies? One thing which distinguishes them from all other bodies, is their *weight*. The heaviest metal weighs 23 times as much as water; the lightest of the common metals weighs more than 6 times as much as water.

The metals also possess greater *strength* than any other substance; and iron is the strongest of the metals, and on that account is in common use where great strength is required.

The metals are *malleable*; they can be beaten into leaves. Gold which can be beaten into leaves 230 thousandth part of an inch in thickness, is most malleable; and silver, next. Copper, lead, tin, and iron, can also be beaten or rolled into leaves.

The metals are *ductile*; they can be drawn into wire. A single grain of gold has been drawn into a wire 500 feet long. Iron and silver are exceedingly ductile. Copper, lead, and zinc, can also be drawn into wire.

Metals are *fusible*; they can be melted by heat. Mercury is fusible at the common temperature, and at the coldest temperature of the atmosphere we experience in this country. Lead, gold, silver, and copper, are melted without difficulty, iron with some difficulty, and platinum with much.

The metals are *soluble*; many of the acids will dissolve some of them, and all can be dissolved by some one or two acids mixed. When once dissolved, they can be changed into various forms diffused through a great space, and spread over a great surface. A piece of copper, as large as a pin's head, dissolved in nitric sulphuric or acetic acid, may be so minutely divided, as to be diffused through a gallon of water, and by the aid of a little ammonia, give it a most beautiful and delicate blue. One ounce of gold, dissolved in nitro muriatic acid with the aid of ether, can be made to gild the whole surface of a wire which would reach round the earth.

The metals are *oxidized*. Some of them combine with oxygen readily; it is even difficult to prevent this combination. Manga-

nese is almost always found in the state of an oxid, and it is difficult to reduce it to a metallic state. Iron oxidizes in the common atmosphere, more rapidly if moistened with water, and still more so, if moistened with an acid. Lead and copper oxidize to a very slight extent in the atmosphere, and entirely by the aid of heat or some acid.

There is a beautiful *variety* in the properties, and consequently in the uses of the metals. The properties of iron, for example, admirably fit it for edge tools, besides many other uses to which it is applied. It is hard, strong, elastic, capable of being welded and tempered, and of receiving the power of magnetism.

When the properties of this metal, which is perhaps the only one essential to the arts of civilization, are known, a full explanation is given of the endless and innumerable uses made of it.

The great malleability of gold, and its resisting oxygen under all ordinary circumstances, are two properties wisely and beautifully united in that precious metal, and in some measure make amends for the small quantities in which it is found upon the earth, compared with lead, copper, and some other metals.

THE ARTS.

BREAD.

In a previous number it was remarked that the whole vegetable kingdom was composed of three simple elementary substances, viz. oxygen, hydrogen, and carbon. Of these three starch is composed. And starch constitutes a large part of most grains, and many roots. Into some of the grains, especially wheat, and in less quantities rye, another substance, entirely unlike starch enters. This is called gluten, which is also composed of oxygen, hydrogen and carbon.

The starch and gluten composing wheat can be easily separated either in the grain or flour. The starch is soluble in water and the gluten is not: consequently, if kernels of wheat be retained in the mouth for a short time, the starch will be dissolved and removed, leaving behind the gluten. Or, if a gill of wheat flour be put into a cup, and exposed to repeated washings, pouring off the water after it is applied, it will gradually dissolve, and carry off the starch from the flour, leaving the gluten by itself. The gluten is unlike starch in being insoluble in water, but it is tenacious and elastic, resembling India rubber.

To the gluten we are entirely indebted for light bread. The flour of Indian corn, rice, potatoes, and many other vegetables, though

they may be used for bread, can never be raised so as to make light bread. In the process of fermentation in bread carbonic acid is formed, which is retained only by the gluten, the starch permitting it to escape as fast as made.

The art of making bread, especially light bread, then, depends much upon diffusing the yeast through it equally, in other words, thoroughly kneading it. When that is done, the carbonic acid is generated in nearly equal quantities through the whole mass, the gluten retaining it so as to render the bread uniformly light.

When the yeast is diffused unequally through the mass, some portions of the dough are raised before others, leaving parts of it unraised, or heavy, while other parts are carried so far perhaps as to become sour.

The success of making bread, depends, perhaps, so much upon no one thing, as properly regulating the fermentation.

MISCELLANEOUS.

THE ORPHANS.

I was staying, about ten years since, at a delightful little watering place on the southern coast, which, like many other pretty objects, is now ruined by having had its beauty praised and decorated. Our party had wandered, one sunny afternoon to an inland village. There was amongst us all the joyousness of young hearts; and we laughed and sang, under an unclouded sky, 'as if the world would never grow old.' The evening surprised us at our merriment; and the night suddenly came on, cloudily, and foreboding a distant storm. We mistook our way,—and after an hour's wandering thro' narrow and dimly-lighted lanes, found ourselves on the shingly beach. The tide was beginning to flow; but a large breadth of shore encouraged us to proceed without apprehension, as we soon felt satisfied of the direction of our home. The ladies of our party, however, began to weary; and we were all well nigh exhausted, when we reached a little enclosure upon the margin of the sea, where the road passed round a single cottage. There was a strong light within. I advanced alone, whilst my friends rested upon the paling of the garden. I looked, unobserved through the rose-covered window. A delicate and graceful young woman was assiduously spinning; an infant lay cradled by her side: and an elderly man, in the garb of a fisherman, whose beautiful grey locks flowed over his sturdy shoulders, was gazing with a face of benevolent happiness upon the sleeping child. I paused one instant, to look upon this tranquil scene. Every thing spoke of content and innocence.—Cleanliness and comfort, almost approaching to taste, presided over the happy dwelling. I was just going to knock, when my attention was arrested by the young and

beautiful mother (for so I judged was the female before me) singing a ballad, with a sweet voice and a most touching expression. I well recollect the words, for she afterwards repeated the song at my request:—

SONG OF THE FISHER'S WIFE.

*Rest, rest, thou gentle sea,
Like a giant laid to sleep,
Rest, rest, when day shall flee,
And the stars their bright watch keep;
For his boat is on thy wave,
And he must toil and roam,
Till the flowing tide shall lave
Our dear and happy home.*

*Wake not, thou changeful sea.
Wake not in wrath and power;
Oh bear his bark to me,
Ere the darksome midnight lower;
For the heart will heave a sigh,
When the loved one's on the deep
But when angry storms are nigh,
What can Mary do,—but weep?*

The singing ceased; and I entered the cottage. There was neither the reality nor the affectation of alarm. The instinctive good sense of the woman saw, at once that I was there for an honest purpose; and the quiet composure of the old man showed that apprehension was a stranger to his bosom. In two minutes our little party were all seated by the side of the independent but courteous fisherman. His daughter, for so we soon learnt the young woman was, pressed upon us their plain and unpretending cheer. Our fatigue vanished before the smiling kindness of our welcome; while our spirits mounted as the jug of sound and mellow ale refreshed our thirsty lips. The husband of the young wife, the father of the cradled child, was, we found, absent at his nightly toil. The old man seldom partook of this labour. 'His Mary's husband,' he said, 'was an honest and generous fellow; an old fisherman who had, for five and forty years been roughing it, and, 'blow high, blow low,' never shrunk from his duty, had earned the privilege of spending his quiet evenings in his chimney corner; he took care of the boats and tackle, and George was a bold and lucky fellow, and did not want an old man's seamanship. It was a happy day when Mary married him, and God bless them and their dear child!' It was impossible for any feeling heart not to join in this prayer. We offered to pay for our refreshment, but this was steadily refused. The honest old man put us into the nearest path; and we closed a day of pleasure as such days ought to be closed,—happy in ourselves, and with a kindly feeling to our fellow beings.

During my short residence at the village I have described, I made several visits to the fisherman's cottage. It was always the same abode of health, and cheerfulness, and smiling industry. Once or twice I saw the husband of Mary. He was an extremely fine

young man, possessing all the frankness and decision that belong to a life of adventure, with a love of domestic occupations, and an unvarying gentleness that seemed to have grown in a higher station. But ease, and competency, and luxurious refinement, are not essential to humanize the heart. George had received a better education than a life of early toil usually allows. He had been captivated, when very young by the innocent graces of his Mary. He was now a father. All these circumstances had formed him for a tranquil course of duty and affection.—His snatches of leisure were passed in his little garden, or with his smiling infant.—His wife's whole being appeared wrapped up in his happiness. She loved him with a deep and confiding love; and if her hours of anxiety were not unfrequent, there were moments of ecstasy in their blameless existence, which made all peril and fear as a dim and forgotten dream.

Seven years had passed over me, with all its various changes. One of the light-hearted and innocent beings who rejoiced with me in the happiness of the fisherman's nest, as we were wont to call the smiling cottage, was no more. I had felt my own sorrows and anxieties—ah! who has not: and I was in many respects a saddened man. I was tempted once more to my favourite watering place. Its beauty was gone. I was impatient of its feverish noise and causeless hurry; and I was anxious to pass to quieter scenes. A recollection of deep pleasure was however associated with the neighborhood; and I seized the first opportunity to visit the hospitable cottage.

As I approached the green lane which led to the little cove, I felt a slight degree of that agitation which generally attends the renewal of a long suspended intercourse. I pictured Mary and several happy and healthy children;—her husband more grave and careful in his deportment, embrowned, if not wrinkled, by constant toil;—the old man perchance, gone to rest with the thousands of happy and useful beings that leave no trace of their path on earth. I came to the little garden: it was still neat; less decorated than formerly, but containing many a bed of useful plants, and several patches of pretty flowers. As I approached the house I paused with anxiety; but I heard the voices of childhood, and I was encouraged to proceed. A scene of natural beauty was before me. The sun was beginning to throw a deep and yellow lustre over the clouds and the sea; the old man sat upon a plot of raised turf at the well known cottage door; a net was hung up to dry upon the rock behind him; a dog reposed upon the same bank as his master; one beautiful child of about three years old was climbing up her grandfather's shoulders; another of seven or eight years, perhaps the very same girl I had seen in the cradle, was holding a light

to the good old man, who was prepared to enjoy his evening pipe. He had evidently been labouring in his business: his heavy boots were yet upon his legs; and he appeared fatigued though not yet exhausted. I saw neither the husband nor the wife.

It was not long before I introduced myself to the 'ancient' fisherman. He remembered me with some difficulty; but when I brought to his mind the simple incidents of our first meeting, and more especially his daughter's song while I listened at the open casement, he gave me his hand and burst into tears. I soon had reason to comprehend his sorrows and his blessings. Mary and her husband were dead! Their two orphan girls were dependent upon their grandsire's protection.

The 'Song of the Fisher's wife, was true in its forbodings to poor Mary: her brave husband perished in a night of storms.—Long did she bear up for the sake of her children. But the worm had eaten into her heart; and she lies in the quiet church yard, while he has an ocean grave!

POPULAR SUPERSTITIONS.

Continued.

2. We hear of many extraordinary appearances, which cannot be accounted for from any known laws of *matter*, but which may be easily explained from the known principles of the *mind*. The wonderful power which imagination has to transform ordinary things, and to call into existence, things which are not, is fully known. A man who is thoroughly frightened, can imagine almost anything. The whistling of the wind, sounds in his ears like the cry of dying men. As he walks along trembling in the dark, the friendly guide-post is a giant; the tree gently waving in the wind is a ghost; and every cow he chances to meet is some fearful apparition from the land of hob-goblins. Who is there that cannot testify from personal experience, of some such freaks of imagination. How often does one wake up in the night and find the clothes upon the chair, or some articles of furniture in the room, assuming a distinctly defined form, altogether different from that which it in reality possesses.

There is in imagination, a potency far exceeding the fabled power of Aladdin's lamp. How often does one sit in wintry evening musings, and trace in the glowing embers, the features of an absent friend. Imagination with its magic wand, will there build the city with its countless spires—or marshal contending armies—or drive the tempest shattered ship upon the ocean. The following story related by Scott, affords a good illustration of this principle.

'Not long after the death of a late illustrious poet, who had filled while living, a great station in the eye of the public, a literary friend, to whom the deceased had

been well known, was engaged during the darkening twilight of an autumn evening, in perusing one of the publications, which professed to detail the habits and opinions of the distinguished individual, who was now no more. As the reader had enjoyed the intimacy of the deceased to a considerable degree, he was deeply interested in the publication, which contained some particulars relating to himself and other friends. A visitor was sitting in the apartment, who was also engaged in reading. Their sitting room opened into an entrance hall rather fantastically fitted up with articles of armor, skins of wild animals and the like. It was when laying down his book and passing into this hall, through which the moon was beginning to shine, that the individual of whom I speak, saw right before him, in a standing posture, the exact representation of his departed friend, whose recollection had been so strongly brought to his imagination. He stopped for a single moment, so as to notice the wonderful accuracy with which fancy had impressed upon the bodily eye, the peculiarities of dress, and position of the illustrious poet. Sensible, however, of the delusion, he felt no sentiment, save that of wonder, at the extraordinary accuracy of the resemblance, and stepped onward towards the figure, which resolved itself as he approached into the various materials of which it was composed. These were merely a screen occupied by great coats, shawls, plaids, and such other articles as are usually found in a country entrance hall. The spectator returned to the spot from which he had seen the illusion, and endeavoured with all his power, to recall the image which had been so singularly vivid.—But this was beyond his power. And the person who had witnessed the apparition, or more properly, whose excited state had been the means of raising it, had only to return into the apartment, and tell his young friend, under what a striking hallucination, he had for a moment labored.'

A lady was once passing through a wood, in the darkening twilight of a stormy evening, to visit a friend, who was watching over a dying child. The clouds were thick—the rain beginning to fall—darkness was increasing—the wind was moaning mournfully through the trees. The lady's heart almost failed her as she saw that she had a mile to walk through the woods, in the gathering gloom. But the reflection of the situation of her friend forbade her turning back. Excited and trembling, she called to her aid a nervous resolution, and pressed onward. She had not proceeded far, when she beheld in the path before her the movement of some very indistinct object. It appeared to keep a little distance in advance of her, and as she made efforts to get nearer, to see what it was, it seemed proportionably to recede. The lady began to feel ra-

ther unpleasantly. There was some pale white object, certainly discernable before her, and it appeared mysteriously to float along, at a regular distance, without any effort at motion. Notwithstanding the lady's good sense and unusual resolution, a cold chill began to come over her. She made every effort to resist her fears, and soon succeeded in drawing nearer the mysterious object, when she was appalled at beholding the features of her friend's child—cold in death—wrapped in its shroud. She gazed earnestly, and there it remained distinct and clear before her eyes. She considered it a monition, that her friend's child was dead, and that she must hasten on to her aid. But there was the apparition directly in her path. She must pass it. Taking up a little stick she forced herself along to the object, and behold some little animal scampered away. It was this that her excited imagination had transformed into the corpse of an infant, in its winding sheet. The vision before her eyes was undoubtedly as clear, as the reality could have been.—Such is the power of imagination. If this lady, when she saw the corpse, had turned in terror, and fled home, what reasoning could ever have satisfied her, that she had not seen something supernatural! When it is known that the imagination has such a power as this, can we longer wonder at any accounts which are of unearthly appearances?

To be Continued.

WEEKLY MIRROR.

FRIDAY, APRIL 10, 1835.

The March Packet arrived on Tuesday last, bringing London papers to the 9th ult. Parliament was opened by His Majesty on the 19th Feb.—The House of Commons proceeded to the election of a Speaker.—Sir C. Sutton, and Mr. Ambercromby were proposed—at half-past six the House divided, when the numbers were for Mr. A. 316—for Sir C. Sutton 306.

VIENNA, March 3.—'The Charge d'Affaires of France to the Minister for Foreign Affairs.

'The Emperor of Austria died this morning at one o'clock.'

The French Ministry is broken up. The Duke of Treviso has resigned, and the King has sent for Marshal Soult, who is at the foot of the Pyrenees. Till his return to Paris nothing will be settled definitely. All the other Ministers only hold office provisionally, and it is supposed that certainly neither M. Thiers nor M. Guizot, to whom Marshal Soult has a decided aversion, will form part of the new Administration.

Correction.—In the piece headed 'Popular Superstitions,' in our last number, line 16th for *acquainted*, read *unacquainted*.

POETRY.

M A N.

Like as the damask rose you see,
 Or like the blossom on a tree,
 Or like the dainty flower in May,
 Or like the morning to the day,
 Or like the sun, or like the shade,
 Or like the gourd which Jonas had,
 Even such is man, whose thread is spun,
 Drawn out and cut, and so is done—
 The rose withers, the blossom blasteth,
 The flower fades, the morning hasteth,
 The sun sets, the shadow flies,
 The gourd consumes, and man he dies.

Like to the grass that's newly sprung,
 Or like a tale that's new begun,
 Or like the bird that's here to-day,
 Or like the pearly dew of May,
 Or like an hour, or like a span,
 Or like the singing of a swan;
 Even such is man, who lives by breath,
 Is here, now there, in life and death.
 The grass withers, the tale is ended,
 The bird is flown, the dew's ascended,
 The hour is short, the span not long,
 The swan's near death, man's life is done.

Like to the bubble in the brook,
 Or in a glass much like a look,
 Or like the shuttle in weaver's hand,
 Or like the writing on the sand,
 Or like a thought, or like a dream,
 Or like the gliding of the stream;
 Even such is man, who lives by breath,
 Is here, now there, in life and death!
 The bubble's out, the look's forgot,
 The shuttle's flung, the writings blot,
 The thought is past, the dream is gone,
 The water's glide, man's life is done.

Like to an arrow from the bow,
 Or like swift course of water-flow,
 Or like that time 'twixt flood and ebb,
 Or like the spider's tender web,
 Or like a race, or like a gaol,
 Or like the dealing of a dole,
 Even such is man, whose brittle state,
 Is always subject unto fate:
 The arrow's shot, the flood soon spent,
 The time no time, the web soon rent,
 The race soon run, the gaol soon won,
 The dole soon dealt, man's life soon done.

Like to the lightning from the sky,
 Or like a post that quick doth hie,
 Or like a quaver in a song,
 Or like a journey three days long,
 Or like the snow when summer's come,
 Or like the pear, or like the plum;
 Even such is man, who heaps up sorrow,
 Lives but this day, and dies to-morrow.
 The lightning's past, the post must go,
 The song is short, the journey so,
 The pear doth rot, the plum doth fall,
 The snow dissolves, and so must all.

VARIETIES.

SELF-MADE MEN.

James Ferguson, the celebrated writer on astronomy, is one of the most remarkable instances of self-education, which the literary world has seen. His father was in the humble condition of a day-laborer.

At the age of seven or eight, young Ferguson actually discovered two of the most important elementary truths in mechanics—the lever, and the wheel and axle. He afterwards hit upon others, without teacher or book, and with no tool but a simple turning lathe, and a little knife. While he was feeding his flock, in the employment of a neighboring farmer, he used to busy himself in making models of mills, spinning wheels, &c. during the day, and in studying the stars at night.

Before his death, he was elected a Fellow of the Royal Society; the usual fees being remitted, as had been done in the cases of Newton and Thomas Simpson. George III. who, when a boy, was occasionally among the auditors of his public lectures, soon after his accession to the throne, gave him a pension of fifty pounds per annum from the privy purse.

Thomas Simpson, a very able English Mathematician, Professor of Mathematics at Woolwich Academy, and fellow of the Royal Society, was the son of a weaver.—After having acquired a very slight acquaintance with reading, he was placed in the shop with his father. Instead of giving any encouragement to his son's fondness for reading, the father after many reprimands, forbade him even to open a book, and insisted upon his confining himself to his loom for the whole day. He was finally banished from his father's house, and compelled to seek his fortune abroad. He contrived to maintain himself for a while, in a neighboring town, with a poor widow, by working at his trade, devoting his spare moments to his favourite employment of reading, whenever he could borrow a book. In his twenty-fifth or twenty-sixth year, he went to London, without a letter of recommendation, and with scarcely any thing in his pocket, except a manuscript treatise of his own on Fluxions, more valuable than any preceding treatise on the subject in the language.

William Hutton, author of the History of Birmingham, Fellow of the Antiquarian Society, &c. was the son of a working wool-comber at Derby. 'My poor mother,' says Hutton, 'more than once, one infant on her knee, and a few more hanging about her, have all fasted a whole day; and when food arrived, she has suffered them with a tear, to take her share.' From his seventh to his fourteenth year he worked in a silk mill—and was then bound as an apprentice to a stocking weaver in Nottingham.

EXPERIMENTS.

Many ladies ornament their rooms with flower baskets, urns, &c. made of crystals of alum, formed by their own hands as follows.—They saturate with alum as much water, when boiling, as will cover the frame of the basket they wish to form. When removed and put into any vessel convenient for the occasion, and suffered to cool, the article on which they wish the crystals to form is immersed in the water, and crystals of great beauty form all over the wire thread, &c. which gave it shape.

A lady took three or four leaves of red cabbage, and after bruising them, she poured a pint of boiling water upon them in a glass. After tea she placed three tumblers upon the table, which she one half-filled with the water infused with the cabbage. Into one she poured some vinegar; which turned it red; into another some pearlash water, and it became green; into the third some alum water, which changed it to purple.

QUESTIONS ON COMMON THINGS,
Nos. 5 and 6.

What part of our globe contains a mixture of the greatest variety of substances?—What portion of the ocean, by weight, is common salt?—What other useful salts are dissolved in the ocean?—What are some of the most noted salt mines upon the earth?—Which have been longest wrought, those in Poland, or those in England?—In what part of Europe are hills or mountains of salt?—In what state is salt found in Africa?—Is rock salt generally used in its natural state, or is it first dissolved and then evaporated?—To what depth has the earth been perforated to procure salt water?—When salt springs are found at a great distance beneath the earth, is the water raised by pumps or by some internal pressure?—By what process is common salt crystallized, by evaporation or by cooling?—How are glauber and epsom salts crystallized, by evaporation or by cooling?—What is the definition of the term salt as used in science?—What common things in the language of science are called oxids?—Why is the term oxid preferable to rust or dross?—Which is most difficult to reduce to a metallic state, the oxid of iron, or of lead?—What are examples of oxids of iron, also of lead?

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