The Project Gutenberg eBook of Chambers's Edinburgh Journal, No. 458

This ebook is for the use of anyone anywhere in the United States and most other parts of the world at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this ebook or online at <a href="https://www.gutenberg.org">www.gutenberg.org</a>. If you are not located in the United States, you'll have to check the laws of the country where you are located before using this eBook.

Title: Chambers's Edinburgh Journal, No. 458

**Author: Various** 

Editor: Robert Chambers Editor: William Chambers

Release date: December 31, 2007 [eBook #24084]

Language: English

Credits: Produced by Malcolm Farmer, Richard J. Shiffer and the Online Distributed Proofreading Team at http://www.pgdp.net

\*\*\* START OF THE PROJECT GUTENBERG EBOOK CHAMBERS'S EDINBURGH JOURNAL, NO. 458 \*\*\*

### CHAMBERS' EDINBURGH JOURNAL

#### **CONTENTS**

A SWIM EXTRAORDINARY.
WOOL FROM PINE-TREES.
CHAMBERS'S LIFE AND WORKS OF BURNS.
VISIT TO THE COPPER-WORKS OF SWANSEA.
THE KING OF YVETOT.
RELATIONSHIPS.
THIRST IN THE ARCTIC REGIONS.
AN AUSTRALIAN MISS.
THE DAY OF REST.
'THE BIRKBECK MAGAZINE.'

[pg 225]



CONDUCTED BY WILLIAM AND ROBERT CHAMBERS, EDITORS OF 'CHAMBERS'S INFORMATION FOR THE PEOPLE,' 'CHAMBERS'S EDUCATIONAL COURSE,' &c.

No. 458. New Series. SATURDAY, OCTOBER 9, 1852. Price  $1\frac{1}{2}d$ .

#### A SWIM EXTRAORDINARY.

 $\underline{\textbf{Return to Table of Contents}}$ 

I have been all my life a sort of amphibious animal, having, like many an old Roman, learned to swim long before I had learned to read. The bounding backs of the billows were my only rocking-horse when I was a child, and

dearly I loved to ride them when a fresh breeze was blowing. I rarely tired in the water, where I often amused myself for hours together. I grew up with such a liking for the exercise, that I have never been able to forego the opportunity for a swim when it offered; and a daily bath has been for a long course of years as necessary to me as my daily food. The exercise of swimming has been through life my chief pleasure and my only medicine—a never-failing restorative from weakness and weariness, and, what may appear strange to some readers, from the effects of irritation, anxiety, and mortification as well.

This accomplishment, however, once led me into a strange adventure. I was engaged in a rather extensive commercial tour through the central kingdoms of Europe. I had crossed the Hungarian frontier about the middle of the day, after being much annoyed and chafed by a multiplicity of delays and extortions; and at length, hot and wearied, arrived at B-- late in the evening. As soon as I caught sight of the Danube in the distance, I resolved that the first thing I would do after getting housed and refreshed by a few hours' sleep, should be to enjoy the luxury of a leisurely swim in that noble river. With this view, passing through the town, I put up at a small but decent gasthof which stood upon a patch of rising ground close upon the margin of the stream; and having first seen to the comfort of my horse, which was wellnigh knocked up with the day's journey, and next attended to my own, I retired to rest at an early hour, without descending to the common room and joining in the beery orgies of the evening. I rose next morning, as was my custom, a full half hour before the sun; and finding no one stirring in the house, proceeded to the stables, the back of which overlooked the water. Here I found a middle-aged tatterdemalion, whose flesh and costume were all of one colour, and that the precise hue of the dungheap from which he had just arisen, and from which one might have imagined him to have been engendered. He was in the act of cleaning out the stable, as well as the task could be accomplished, with his bare feet and a shovel, the blade of which was not much bigger than his hand. With some trouble, and with the aid of a small coin, I contrived to make him understand my purpose; and he led me up stairs to a loft, in which I might undress and deposit my clothes, and pointed to a rude flight of wooden steps, leading from the window to the water's edge, and from which I might plunge in from any height I chose.

In a few minutes, I had left my clothes upon a truss of odorous clover, and plunging in head-foremost from the top of the ladder, I rose to the surface at a few yards' distance from the bank, and struck out vigorously to enjoy my swim. The sensation was deliciously cool and pleasant. Keeping my eyes fixed upon the opposite shore, I made towards it, feeling all the while as light as a cork and as strong as a colt. How long I revelled in the first exquisite sense of enjoyment I have not, nor had I then, any very distinct idea. Turning, however, upon my back, just to vary my position, my head, of course, faced the shore I had left, from which, to my great surprise, the good town I had left had vanished entirely, and I became aware that the rapid current of the river, upon which, in my eagerness for a bath, I had not bestowed a single thought, had already carried me some mile or two in its progress towards the Black Sea. Not being victualled for so long a voyage, I began to look around me, and to curse the headlong haste which had brought me into such a dilemma. I found that I was as nearly as possible in the centre of the stream, and immediately put all my vigour in requisition to regain the shore I had left. This, to my no small dismay, I soon discovered was not to be accomplished, the current setting strong towards the opposite side. I made an experiment of my strength by means of a small chip of wood which floated by: I could judge what prospect I had of regaining the northern bank of the river by the distance at which I could leave the chip behind me, while swimming in a contrary direction; but it was of no use: in a quarter of an hour's hard struggling I had not gained twenty yards, while I had floated more than a mile further down the stream. Nothing remained for it but to make for the shore, towards which I was drifting at any rate, and that must be done as fast as possible; for being now really alarmed, I felt, or fancied that I felt my strength deserting me. Under this impression, I struck out more furiously, and thus fatigued myself the more; and it was with no small difficulty I at last reached the opposite bank, up which I climbed, with sensations almost as forlorn and hopeless as those of the shipwrecked mariner whom the tempest casts ashore.

In fact, I would have given a round sum for the rags of the shipwrecked mariner to cover me. Here I was in the condition of a primeval savage, on a desert spot, without a dwelling in sight, and prevented, by the want of clothing, from seeking out the habitations of men. I ran to the highest ground in the neighbourhood, and that was close to the water's edge, and looked around me in every direction. On the shore which I had left, I could see what appeared the dim outline of buildings at a great distance; but on the side of

the river on which I was standing, nothing but a vast tract of low land was visible, which, from its swampy condition, it was plain was overflowed by the river in times of flood. I hallooed for some minutes with all the strength of my lungs; but the only response was the rising of a few moorfowl from the marsh, which wheeled cackling above my head, as though wondering what my business might be, and then settled down again in the reedy pool from whence they had arisen at my cry. I sat down upon a stone, and feeling that I was fast going into a state of distraction, tried to collect my faculties, and to consider what was best to be done, or, indeed, if anything could be done. With the sense of my desperate condition came also a horrible sense of the ludicrous. What would my principals in London think of their continental agent shivering, without a rag on, upon the desolate banks of the Danube? Here was I, a man well known upon 'Change, with four thousand pounds in the three-and-a-half per cents, the idea of which had been a comfort to me for many a long year, ready to forfeit the whole sum in exchange for the raggedest pair of pantaloons that ever dangled from a scarecrow, and ready, too, to go down upon my bare knees to any ministering angel of an old Jew who would propose the bargain. I grinned a despairing laugh at the thought of such an absurd compact, and then groaned aloud as the conviction overcame me, that in my present circumstances it would be a prudent one.

Relapsing into grim and savage silence, I glared gloomily at a sharp jagged stone which lay at my feet, and at length, taking it in my hand, walked mechanically into a stagnant pool, where a group of willow sprigs were growing on a few old stumps barely emerging from the water. I contrived to sever a dozen or two of the twigs by hacking at them with the flint-and, carrying them to dry ground, was soon busy in rehearsing over again the toilet of Adam in Paradise. Tying their ends together, I crossed a couple of them over my shoulders in the manner of a shooting-belt, and from these I managed to suspend a kind of frock of green leaves, which effectually transformed my appearance from that of the rude savage of the wild to the civilised Jack-in-the-Green of May-day in London. I may declare without reserve, that I never felt more proud or pleased with any exploit of my whole life than I now did at the completion of my toilet. My spirits, which had before been villainously depressed, rose all at once, and I no longer despaired of restoration to society. I walked majestically up and down, keeping a careful look-out both upon the water and the land. A boat passed at the distance of half a mile from the shore, but I tried in vain to attract the notice of the crew. My voice could not be heard so far, and if by accident they saw me, they must have mistaken me for a bush. I now turned my back to the river in disgust, and commenced a severe and careful scrutiny upon the land-side, to see if I could possibly in any direction make out any signs of life. Five or six hours must have elapsed since the moment when I plunged headlong from the ladder; the sun was now nearly at his meridian; the blue mist which had covered everything, and veiled the distance from my view in the morning when I emerged from the water and crawled up the muddy bank, had now entirely rolled away, and the vast level tract of marsh-land was open to my inspection to a distance at least of some five or six English miles, at the extremity of which it was bounded by a rising ground sparsely wooded. I imagined that I could distinguish tho mud-walls of a row of small cottages, partly concealed by a group of trees, though I was by no means sure that it was not a bank of earth or the face of a rock. I looked anxiously round for other indications of life; and after a close and protracted scrutiny, had the satisfaction of distinctly perceiving a thin column of white smoke winding up the dark background of the distant hill. I resolved now, in case no means of escape should turn up on the river, to attempt the passage of the marsh in another hour at latest-though, from former experience, I well knew the difficulty of the attempt, and the little probability there was that a perfect stranger would succeed in getting across. I saw, too, that if I would make the attempt at all, I must not defer it much longer, since to be overtaken by darkness in the midst of the bog would be certain destruction.

I passed another half-hour in surveying the river, in which, about four miles below the point on which I stood, I now for the first time discovered several small islands, overgrown with reeds or underwood; but they manifested no signs of any human inhabitants, so far as I could distinguish, and I adhered to my resolution of crossing the marsh. Delaying no longer, I descended from my post of observation, intending to travel in a straight line to the point where I could still see the smoke ascending. I had not, however, proceeded 100 yards, before I found that my idea of journeying in a straight line was utterly impracticable. I could walk over the firm soil, and I could swim the pools; but through the deep masses of soft bog I could neither walk nor swim; and after a narrow escape from smothering in one of them, I came to a stand-still. I found, too, that now I was down in the swamp, I could not see the distant hill which was the object of my journey, though it was plain, that from any part of

the marsh I might see the little mound on the river's brink which I had just left. I returned to the mound, and, by the aid of a number of loose stones which were lying about, contrived to erect a couple of small fagots of willow-branches, at a distance of about ten feet from each other, to serve as direction-posts, arranging them so that while I could see but one of them, I might know that I was in the right track. Thus I was left at liberty to take a sinuous course in search of firm ground, as, by making an observation by my telegraph, I could at any time regain the right path.

It is my decided opinion, that had I been left alone, and suffered to continue my journey, I should have accomplished the undertaking, arduous as it was. I had already walked and waded, and swum and staggered, and floundered along for more than a mile, when I suddenly caught sight of a ragged, bareheaded figure about half a mile in advance of me, who was stooping over a stagnant pool, and groping in the water for something, perhaps leeches, of which he was in search. Without reflecting for a moment what might be the effect of my sudden apparition upon the mind of an ignorant boor alone in such a solitude, and too much overjoyed to think of anything but the overwhelming delight of securing a 'guide, philosopher, and friend,' I hastened towards him with all the speed of which I was capable—now clearing a route among reeds and rushes, and now sinking up to my neck in a pool. In less than half an hour, I had arrived, panting for breath, to within a few yards of the pond over the margin of which he was still bending, with his eyes fixed in the water. Pausing for one moment to recover my wind, I raised myself to my full height, and hailed him at the top of my voice with a 'Hola! Mein Herr,' which, like an electric shock, brought him to his feet in an instant. I saw in a moment that I had committed a fatal blunder. The poor wretch stood aghast, horrified beyond the power of description; his white hair stood on end; his bloodshot eyes were bursting from their sockets; his mouth yawned like a cavern, and emitted a faint, gurgling sound, and every limb shook with the agony of fear. I saw that it was necessary to reassure him; and seeing no other way of approaching him than by swimming the pond, I entered the water, and, staff in hand, made towards him. Before I had lessened the distance between us one-half, he had so far recovered himself as to be able to give utterance to one wild yell of terror, and to take madly to his heels. When I had swum the pool, and ascended to the spot which he had left, I saw him running at the top of his speed, and following a winding route, with which he was evidently familiar, as he avoided the water and the bogs, and kept on firm ground. I made an attempt to come up with him; but in my haste trod upon a piece of loose shale, which, sliding beneath me, threw me upon the ground, and badly wounded my right foot, so that for the moment I could proceed no further.

As I sat upon the ground, endeavouring to stanch the fast-flowing blood from my instep by winding round it some long flags from the marsh, I watched the poor fellow till he was no longer in sight, and marked that he never relaxed his pace till he disappeared under the cluster of trees above which I had first noticed the white smoke ascending. To cross the marsh without a guide, was now out of the question; and choosing a dry and mossy spot, I lay down and rested till the afternoon was far advanced, having made up my mind, if no succour came from the hamlet, which I now felt assured was not far from the edge of the marsh, that I would return to the river before it was dark, and make a last and vigorous attempt to swim to the group of islands which I had observed in the distance, in one or other of which I might hope to find human inhabitants. I kept my telegraph in sight, and, the sun being now low in the horizon, was thinking of retracing my steps towards it, when, in the act of rising to do so, I saw a party of men, of whom I distinctly counted fourteen, threading their well-known way through the marsh, and rapidly advancing towards the spot where I lay. They had already measured half the distance, and I might have seen them long before had I happened to look in that direction. I now congratulated myself that my troubles were over, and was pondering how I could best shew my gratitude to my deliverers, when the doubt was suggested to my mind whether they would prove deliverers or not. I kept my eye steadfastly fixed upon their movements, and, as they drew nearer, beheld with dismay that they were all armed, two of them, who led the van, with old muskets, and the rest with staves, scythes, and bludgeons. It was plain that the old fool I had frightened away had described me to his countrymen as some savage monster, and this valiant band had come out against me, to hunt me to the death. I resolved at once to be sure of their object before they came to a disagreeable proximity; and with this view, started suddenly to my feet, and shouted as loud as I could.

My fears were but too well founded. At the first sound of my voice, the leaders recoiled a few steps upon the main body, who stood still for a few minutes, apparently in consultation, the result of which was, that the firearms changed

[pg 227]

owners, and two bold fellows stepped to the front, and, levelling their pieces, kept my naked body covered with their muzzles, and only refrained from pulling triggers until they should have arrived within killing distance. It was plain I had no time to lose if I would once more try the river, the only chance now remaining to me. I turned and hobbled away as fast as my wounded limb would let me, plunged into the nearest pool, sprawled through the next bog, crashed through the rushes, hopped along the dry ground upon one foot, and scrambled helter-skelter towards the river, expecting every moment to hear the report of the firearms, and to feel a handful of slugs in my body. Never shall I forget the horrors of that chase. I distanced my pursuers, however, and arrived at the margin of the stream without having once presented a fair target to their aim. I did not pause long upon the brink of the flood. They were now yelling like blood-hounds, and their cries rung in my ears as I gained the very spot where I had landed in the morning, and where I again took to the water like a hunted deer, or rather like a hunted duck, for I dived under, with as gentle a splash as possible, and keeping beneath the surface as long as I could hold breath, rose at length a good fifty yards from the shore, and full two hundred yards lower down.

I had no great cause for congratulation at my escape. The sun was setting, night coming on, and here was I in the middle of the broad stream of the Danube, sweeping on at the rate of five or six miles an hour, with no other prospect in view than that of becoming food for fishes in a very few hours at furthest, unless I could succeed in making one of the islands I had seen in the morning. It was a strange thing that I felt no fatigue, even after swimming an hour. I had passed several small islands, but the rapid stream which they breasted broke away so furiously from their sides, that I had not strength to get near them. In their wake, I could see that the water was calm and tranquil enough, but that tranquil water I could not reach. By and by, as the darkness fell, I passed several islands much larger, and was about attempting to land upon one, when I caught sight of a glimmering light at a distance in the centre of the stream. I directed my course towards this in preference; and I perceived as I approached that it proceeded from a raft, moored off one of the islands, upon which the crew were probably cooking their evening meal. I knew that if I approached this raft in front, I should inevitably be sucked under, and never see the light again; at the same time, if I gave it too wide a berth, I should as surely be carried past it, in which case I felt pretty certain that my last chance would be gone. I made a desperate effort at the very nick of time, and happily succeeded in laying hold of a rope, which was hanging in the water, by means of which I was swung round to the stern of the raft, upon which, in a small timber-hut, I could see the crew discussing their supper.

Now that the struggle was over, and my safety secure, all my courage and strength too vanished at once: I felt as weak as a child, and as pusillanimous as a woman, and the hot tears ran down my cheeks like rain. It was as much as I could do to hail the men, who sat laughing and chatting over their porridge not three yards from me, as I clutched the rope with the energy of a drowning man. They started up at the sound of my cry, and in an instant lifted me on board. They were Germans, fortunately; and I gave them to understand in a few words, that I had been bathing, and having been carried away by the stream, had narrowly escaped drowning. I was in no humour to put them in possession of my whole miserable adventure, which it is more than probable they would not have credited if I had. Having rubbed myself dry, one of them lent me a blouse, and offered me food, which, plain as it was, I was but too glad to accept; but before I had eaten a mouthful, an old man made his appearance, bearing slippers, cloak, and cap, and invited me to follow him to his house upon the island, where I might pass the night, and cross over to the mainland in the morning. I followed him across a plank, and beneath the shadow of some willow-trees, to his humble dwelling. He told me that he and his family were the sole inhabitants of the island, and that he united the three professions of fisherman, innkeeper, and rope-maker, and thus managed to make a livelihood. His guests were almost exclusively the navigators on the river, who frequently moored for the night off his island, and partook of such entertainment as he could supply. He sent his fish to market when he caught more than he could consume, and he and his children made ropes and cordage, for which also he had a ready sale on the river. Pending this communication, he prepared me a substantial supper, to which I did ample justice, and then shewed me, at my request, to a small, neat chamber, where I sought and found the repose I so much needed.

I sank into a profound slumber, heavy and dreamless, within a minute after I lay down—the result, no doubt, of the utter exhaustion of every faculty, both of body and mind. Possessing a vigorous constitution, and a perfectly healthy frame, I escaped the reaction of nervous excitement, which most persons in similar circumstances would have undergone, and which in many would have

[pg 228]

altogether. After I had lain in total forgetfulness for some hours, my imagination woke up and plagued me with dreams of indescribable terror and alarm. I was swimming for whole days and nights together in a shoreless sea, tossed by storms, and swarming with monsters, one or other of which was continually seizing me by the foot, and dragging me down; while over my head foul birds of prey, each and all with the terrified face of the poor wretch whom I had frightened in the marsh, and clutching firearms in their semihuman claws, were firing at my head, and swooping to devour me. To avoid their beaks, I dived madly into the depths below, where I had to do battle in the dark with the grim and shapeless monsters of the deep. Then, bursting with the retention of my breath, I rose again to the surface, and enjoyed a moment's pause, until the screaming harpies again gathered around me, and, convulsed with fear, I dived again as the vivid flash from their firearms dazzled my eyes. While performing one of these violent feats, occasioned by a flash which appeared to blaze over the whole sky, I woke suddenly. My landlord, the old fisherman, was standing by my bedside; he had drawn aside the curtains of my bed, and let the sunshine in upon my face, the hot gleam of which was doubtless the blazing flash of my dream. I laughed aloud when I found myself snug in bed, and proceeded to dress in the old man's best holiday suit, which he placed at my service. My wounded foot had well-nigh healed in the night, and I could walk comfortably. During breakfast, I gave the old man and his daughter the real history of my case, to their unspeakable astonishment, and consulted them as to my future operations. The fisherman volunteered to land me at a small village a few miles below, from whence he would proceed with me to K--, where, upon representing my case to the magistrates, I should be furnished with the means of getting back to B---, and recovering my property.

terminated in fever and delirium, and perhaps death. But I did not escape

This, in fact, was the only thing I could do. I engaged the fisherman to accompany me through the whole route; and as he had naturally no desire to lose sight of me, he made no objection. I had slept thirteen hours; and it was ten o'clock in the day, when the old man and I, and his two lads, embarked in the boat for the nearest village. We arrived there before noon, and he hired a conveyance in which we both proceeded to the place he had mentioned, a distance of some twenty miles, which we reached about three in the afternoon. But my companion had no more of either money or credit, and I was compelled to apply to the chief magistrate of the town, whom, by goodfortune, we found at his private residence. He proved a good-natured but rather fussy old gentleman; and when he had heard my story, which he interrupted with a thousand demonstrations of horror, alarm, and sympathy, insisted upon my sharing the hospitality of his house for the night, assuring me that it would be impossible to proceed that day. I gave a reluctant consent, upon his promising that he would put me in a condition to start at an early hour in the morning. Hereupon, consigning my companion to the charge of a servant, he ushered me into a saloon adjoining his study, and introduced me to his family, consisting of two grown-up sons, three daughters, and their mother, to whom I had to tell my luckless adventures over again. That, however, was not the worst of it. As the hour of dinner drew near, the house began to fill with visitors: it was plain that my arrival, and the circumstances connected with it, had been regularly advertised through the town, and all the world was flocking to see the new 'lion' which the river had turned up. And certainly a lion I was, as the play-bills have it, 'for that night only.' I had to tell my story ten times over, and to submit to questionings and cross-questionings without number. All this, perhaps, was but natural enough, considering the circumstances; but it occasioned me no small annoyance; and feigning excessive fatigue, for which I had but too good excuse, I retired early to rest, leaving the assembled guests to pump the old fisherman, which they did to their hearts' content, and to talk over my adventures at leisure.

A servant awoke me before dawn. A carriage and post-horses stood at the door, and after I had made a hearty breakfast, my worthy host put into my hand a letter of introduction to his brother magistrate at B——. I bade him farewell with many sincere and hearty thanks, entered the carriage with my companion, and drove off. The distance we had to go may have been about fifty English miles; but the roads were in such wretched condition, and the cattle, which we changed seven times, of such an abominable breed, that night had fallen upon the town of B—— before we entered it. I drove at once to the little *gasthof*, where, three days before, at the same hour, I had put up upon my arrival. The landlord bustled out to receive me as the carriage stopped at the door; but though I identified him immediately, he shewed not the slightest symptom of recognising me. I told the driver to wait, and beckoning the old fisherman to follow, demanded to be shewn into a private room, and to be favoured with the landlord's company. He obeyed with the utmost alacrity, and taking a lamp from the hand of an attendant, led the way

to a small room on the first floor.

'Well, Herr Bernstein,' I said, 'are you not glad to see me back again?'

'Most happy to see you, gracious sir,' said he; 'but have not the honour to recollect your gracious person.'

'Indeed! An Englishman, on a black horse, put up here three days ago at this hour—surely you recollect that?'

'Ah, too well I recollect that. Poor English gentleman—a countryman of yours, perhaps a friend—ah! dear God! drowned—unhappy man—carried away by the river in the morning before any of us were up.' Here he wrung his hands in evident sorrow: 'Ah, that stupid Grute! why did he let the gentleman bathe in the Danube?'

'Stop!' said I; 'let me put an end to your regret—I am that Englishman!'

'You—you!' cried he, as he staggered back into a seat. 'But it cannot be—it is impossible. I do not recollect you: you are deceiving me! Sir, it is a cruel jest.'

'It is no jest,' said I; 'Heaven be praised. Where is Grute, as you call him? He will tell you whether it is a jest.'

Grute was the filthy stableman; and the landlord, half-dreaming, ran off to fetch him—a most unfortunate circumstance, as it put the rogue upon his quard, and prepared him for the part which it was necessary for his safety that he should play. The landlord returned in two minutes, dragging Grute in with him. I saw by the sudden pallor of the fellow's countenance, and the quivering of his lip, that he recognised me on the instant; but he looked doggedly around him, without manifesting any surprise; and when his master pointed me out as the Englishman supposed to have been drowned, the fellow laughed brutally, and said the attempt wouldn't do, as I was too tall by half a head. I perceived the truth at once. He had made free with the contents of my pockets, in which I had left a few gold pieces, and for his character's sake he could not afford to admit my identity. The landlord plainly mistrusted my tale, now that he had heard the evidence of the stableman, and began to assume a very different tone, and to talk cavalierly of a reference to a magistrate. This reminded me of the letter in my pocket, and I insisted that he should immediately accompany me to the house of the chief-magistrate, who should judge between us. He shewed himself provokingly willing to comply with my demand, and, following me down stairs, entered the carriage. As we drove along, I inquired as to the fate of my valise, my clothes, and my horse; which latter, especially, I described in a way that appeared to stagger him. They were all, he said, in the magistrate's custody, and I should hear more of them, and doubtless recover them, if they were mine, when my claim was decided on. We found the important functionary at supper. I requested a private interview, which was granted, when I presented the letter of my host at K—and waited to see the effect of its perusal. I had to wait a long while, for my hospitable friend had indulged in a long-winded account of the whole adventure, which it took a good half-hour to get through. The effect of the narrative was, however, all that I could have desired: the worthy magistrate asked me a few questions, as he was pleased to observe, for form's sake, relative to the contents of the valise, which he had himself inspected, and I replied satisfactorily. He shook me heartily by the hand, congratulated me on my miraculous and providential escape, not forgetting my marvellous prowess as a swimmer; and, calling in the landlord of the inn and the old fisherman, wrote out in their presence an order for the restoration of my property, and a warrant for the apprehension of Grute, who, it appeared, had helped himself to all my loose cash, with the exception of a single dollar.

There was racing and chasing after Grute during the whole night, but he had had the wit to take himself out of the way. My valise had luckily not been tampered with; the contents were all as I left them; and I had the happiness of rewarding the honest fisherman for the pains he had taken in my behalf, and the confidence he had reposed in me. My poor horse had not been treated so well. In accordance with some old statute, of which I know nothing, he had been claimed by the commandant of a small military force stationed in the place, and had been compelled to commence a course of training, under a heavy dragoon, for the military service. As he had received but one or two lessons, which consisted almost exclusively of an unlimited allowance of whip, he had not profited much by instruction. In fact, he had lost his temper without gaining anything in discipline, and I was eventually obliged to part with him, from the impossibility of bearing with his strange antics. He had cost me fifty guineas in London, and I sold him for fewer thalers to a German dealer, who, no doubt, speedily found him a berth in some barrack, where he

[pg 229]

completed his education for the army. Altogether, my extraordinary swim, taking expenses out of pocket and loss of time into account, cost me something over a hundred guineas, and all I got in exchange for them, was the reputation of a Munchausen whenever I dared to open my mouth on the subject, and a perennial liability to nightmare, with the repetition and aggravation of all the worst horrors of that miserable day.[1]

#### **FOOTNOTES:**

[1] Lest our readers should suppose this curious narrative to be merely an invention of some desperate romancer, it may be proper to state, that the facts are literally true. The hero of the adventure, when a young man, about the close of the last century, was driven abroad by political persecution, and not only realised a fortune, but acquired most of the continental languages. On returning to England, where he became acquainted with our contributor, he devoted himself for the rest of his life to acts of private beneficence, keeping up at the same time a correspondence in Latin with the learned men of other countries.—*Ed. C. E. J.* 

#### WOOL FROM PINE-TREES.

**Return to Table of Contents** 

Interesting accounts have recently appeared in foreign journals of a novel branch of industry carried on in Silesia, combining so much of ingenuity and utility, as to render a summary of the information very acceptable to those who are seeking for new sources of employment or of profit. It appears that in the neighbourhood of Breslau, on a domain known as Humboldt Mead, there are two establishments alike remarkable: one is a factory for converting the leaves or spines of the pine-tree into a sort of cotton or wool; in the other, the water which has served in the manufacture of this vegetable wool, is made use of as salutary baths for invalids. They were both erected under the direction of Herr von Pannewitz, one of the chief forest-inspectors, and the inventor of a chemical process, by means of which a fine filamentous substance can be obtained from the long and slender leaves of the pine. This substance has been called *Holz wolle*, wood-wool, from a similarity in its quality to that of ordinary wool; it may be curled, felted, or spun in the same way.

The *Pinus sylvestris*, or Scotch fir, from which this new product is derived, has been long esteemed in Germany for its many valuable qualities; and instead of being left to its natural growth, is cultivated in plantations of forest-like extent. In this way, many parts of a vast, dreary, sandy surface are turned to good account, for the tree grows rapidly on a light soil, imparting to it solidity and consistency, and affords shelter to the oak, which, under such favourable circumstances, acquires such vigour of development as to outgrow its protector. About the fortieth year of its growth, the pine yields considerable quantities of resin; and the value of the wood for building purposes, and for constructions immersed in water, are well known. Mr Pannewitz has, however, added another to its list of useful applications; and if the leaves can be employed as described, the *Pinus sylvestris* may become an object of culture in countries where it is now neglected.

The acicular leaves of firs, pines, and coniferæ in general, are composed of a bundle, or fasciculus, as a botanist would say, of extremely fine and tenacious fibres, which are surrounded and held together by thin pellicles of a resinous substance. If this substance be dissolved by a process of coction, and the employment of certain chemical reagents, the fibres can then be easily separated, washed, and cleansed from all foreign matter. According to the mode of treatment, the woolly substance is fine or coarse, and is employed as wadding in the one case, and in the other as stuffing for mattresses. Such, in a few words, is an explanation of Mr Pannewitz's discovery. He has preferred the *Pinus sylvestris* to other species because of the greater length of its spines; but there is reason to believe, that it is not the only kind which may be worked with advantage.

There is said to be no danger in stripping the trees, even while young, as they only need the whorl of spines to be left at the extremity of each branch, in order to continue their growth; all the other leaves may be removed without damage. The gathering should take place while they are in their green state, for at no other time can the woolly substance be extracted. This operation, which takes place but once in two years, affords employment and pretty good wages to a number of poor people, some of whom will collect two hundred pounds in a day. The yield from a branch of the thickness of the finger is

[pg 230]

estimated at one pound, and a beginner will strip thirty such branches in a day. In the case of felled trees, the work proceeds with great rapidity.

The first use made of the filamentous matter, was to substitute it for the wadding used in quilted counterpanes. In 1842, five hundred counterpanes so prepared were purchased for the use of the hospital at Vienna; and, after an experience of several years, the purchase has been renewed. It was remarked, among other things, that the influence of the *wood-wool* prevented parasitic insects from lodging in the beds, and the aromatic odour arising from it had been found as beneficial as it was agreeable. Shortly afterwards, the Penitentiary at Vienna was provided with the same kind of quilts; and they have since been adopted—as well as mattresses filled with the same wool—in the Hospital de la Charité at Berlin, and in the Maternity Hospital and barracks at Breslau. A trial of five years in these different establishments has proved, that the wood-wool can be very suitably employed for counterpanes, and for stuffed or quilted articles of furniture, and that it is very durable.

It was found that, at the end of the five years, a wood-wool mattress had cost less than one made of straw, as the latter requires an addition of two pounds of new straw every year. In comparison with horsehair, it is three times cheaper; it is safe from the attack of moth, and in a finished sofa no upholsterer would be able to distinguish between wood-wool and hair-stuffing.

It has been further ascertained that this wool can be spun and woven. The finest gives a thread similar to that of hemp, and quite as strong. When spun, woven, and combed, a cloth is produced which has been used for carpets, horse-cloths, &c.; while, mixed with a canvas warp, it will serve for quilts, instead of being employed in the form of wadding.

In the preparation of this wool, an etherised oil is formed, of an agreeable odour, and green in colour, but which an exposure to the light changes to a yellowish-orange tint, and which resumes its original colour on the light being again excluded. Under the rectifying process, it becomes colourless as water, and is found to differ from the essence of turpentine extracted from the stem of the same tree. Its employment has proved most salutary in gouty and rheumatic affections, and when applied to wounds as a balsam; as also in certain cases of worm disease and cutaneous tumours. In the rectified state, it has been successfully used in the preparation of lacs for the best kinds of varnish; in lamps it burns as well as olive-oil; and it dissolves caoutchouc completely and speedily. Already the perfumers of Paris make large use of this pine-oil.

With respect to the baths: it having been discovered that a beneficial result attended the external application of the liquor left after the coction of the leaves, a bathing establishment was added to the factory. This liquor is of a greenish-brown tint; and, according to the process, is either gelatinous and balsamic, or acid; formic acid having been produced in the latter case. When an increase in the efficacy of the baths is desired, a quantity of extract obtained by the distillation of the etherised oil above mentioned, which also contains formic acid, is poured into the liquor. Besides which, the liquid itself is thickened by concentration, and sent out in sealed jars to those who wish to have baths at home, thus constituting a profitable article of trade.

We understand that these baths have been in operation for nine years, with a continual increase of reputation and number of visitors. That the facts are not exaggerated, would appear from medals having been awarded to M. Weiss, the proprietor and manager, by societies in Berlin and Altenburg, for the extraordinary results produced. As likely to lead to a new development of industry, the processes are especially worthy of attention.

The catalogue of utilities is, however, not yet exhausted; there is one more with which we bring our notice to a close. After the washing of the fibre, a great quantity of refuse membraneous substance is obtained by filtration. This being moulded into the form of bricks, and dried, becomes excellent fuel, and gives off so much gas from the resin which it contains, that it may be used for lighting as well as heating. The making of a thousand hundredweights of the wool leaves a mass of fuel equal in value to sixty cubic yards of pine-wood.

#### CHAMBERS'S LIFE AND WORKS OF BURNS.[2]

Return to Table of Contents

Beheld in his life-time as a singular example of the genius rising from the humbler shades of life, Burns is now ranked as a classic among the poets of

his country. The interest originally felt in his personal character and unhappy fate, has been deepened as the high absolute rank of the poet became appreciated. These changes might be said to call for a more searching inquiry into his life than was at first deemed necessary; and the task was undertaken by one, of whom we may at least be permitted to say, that he possessed the requisite zeal and love of the subject. For obvious reasons, we are not to be expected to say more, in commendation or discommendation, of the work now under our attention; but we may be allowed to advert to its peculiar plan, and some of the new details which it brings before the world.

The leading feature of the work is the assumption on which it proceeds—that the writings of Burns are in a great measure expressive of his personal feelings, and descriptive of the scenery and circumstances of his own existence, and therefore ought to be involved in his biography. Each poem, song, and letter, known as his, has therefore been assigned its chronological place in his memoirs, thus at once lending its own biographical light to the general narrative, and deriving thence some illustration in return. The consequence is, that, with the help of much fresh biographical matter drawn from authentic sources, the life of the bard, as he loved to call himself, is now given comparatively in detail. We can trace him from day to day, and see the ups and downs of his prospects and his feelings, his strangely mingled scenes of happiness and misery. We obtain a much closer and more distinct view of his domestic existence than we ever had before. The real extent of his aberrations, such as they were, is more exactly ascertained. Some unexpected particulars emerge; as, for instance, that, notwithstanding his poverty, he occasionally accommodated his friends with money and credit, and almost to the last was able to be their host as well as their guest. But perhaps the most important result is what we learn of the wonderful versatility of Burns's feelings and emotions. He is found writing a pensive, semi-religious letter one day, and the next indulging in some outburst of extravagant merriment. One day, he indulges in a strain of melancholy recollection regarding a deceased mistress, commemorating her in an elegy which hardly any one has ever since been able to read without tears; and within four-and-twenty hours, he is again strumming on the comic lyre. A deep mortification falls upon him in the shape of a censure from the Board of Excise, a pain in which we are peculiarly disposed to sympathise; but let us not be too eager to suppose that Burns was permanently affected by any such mark of moral bondage. A week or two after, he is found keeping a couple of friends in drink and merriment at his table for a whole night. It is eminently the poet that is thus brought before us -a being of keen sensibility, but whose gusts of feeling are as quick in passing as they are violent while they last.

Beyond these few sentences, limited to a description of the structure of this work, we can only propose to give one or two extracts.

Burns, it clearly appears, while degraded by the humble office assigned to him, did his best, by performing its duties well, to elevate it. He acted humanely towards poor people, but was the conscientious servant of the government in protecting the revenue in essential matters. The editor has been fortunate enough to discover some documents which set his character as a man of affairs in a favourable light.

'The first is a petition of T. J., farmer at Mirecleugh, addressed to the justices of peace for Dumfriesshire, reclaiming against a fine of L.5 which Collector Mitchell had imposed on him for "making fifty-four bushels of malt, without entry, notice, or licence." J. stated that he had been in the habit of making malt for forty years without making entry of his kiln or pond, which he deemed unnecessary, because the malting was always effected at one operation, and not till notice had been given to the proper officer. With respect to "notice" on this occasion—having inquired of Mr Burns which was the best way of sending it to him, he had been informed that a letter might be sent to "John Kelloch's," in Thornhill, whence it might be forwarded by post. He had brought Mrs Kelloch to swear that such a letter had been sent to her by J.'s son for Mr Burns, but had been mislaid. He offered to swear that he had sent the notice to Thornhill in good time, and had had no intention to defraud the revenue. With respect to "licence," J. averred that he had only been prevented from renewing it as usual this year because Mr Mitchell, on his applying for it, had put him off to another time, on the score of being too busy at the time to grant it to him.

'In respect of J.'s petition, the justices, Mr Fergusson of Craigdarroch, and Captain Riddel, ordered the collector to stop proceedings until they should have had an opportunity of inquiring into the truth of what it set forth. Then came Burns's "Answers to the Petition of T. J.:—

"1. Whether the petitioner has been in use formerly to malt all his grain at one

[pg 231]

operation, is foreign to the purpose: this last season he certainly malted his crop at four or five operations; but be that as it may, Mr J. ought to have known that by express act of parliament no malt, however small the quantity, can be legally manufactured until previous entry be made in writing of all the ponds, barns, floors, &c., so as to be used before the grain can be put to steep. In the Excise entry-books for the division there is not a syllable of T. J.'s name for a number of years bygone.

"2. True it is that Mr Burns, on his first ride, in answer to Mr J.'s question anent the conveying of the notices, among other ways pointed out the sending it by post as the most eligible method, but at the same time added this express clause, and to which Mr Burns is willing to make faith: 'At the same time, remember, Mr J., that the notice is at your risk until it reach me.' Further, when Mr Burns came to the petitioner's kiln, there was a servant belonging to Mr J. ploughing at a very considerable distance from the kiln, who left his plough and three horses without a driver, and came into the kiln, which Mr B. thought was rather a suspicious circumstance, as there was nothing extraordinary in an Excise-officer going into a legal malt-floor so as to [induce a man to] leave three horses yoked to a plough in the distant middle of a moor. This servant, on being repeatedly questioned by Mr Burns, could not tell when the malt was put to steep, when it was taken out, &c.—in short, was determined to be entirely ignorant of the affair. By and by, Mr J.'s son came in, and on being questioned as to the steeping, taking out of the grain, &c., Mr J., junior, referred me to this said servant, this ploughman, who, he said, must remember it best, as having been the principal actor in the business. The lad then, having gotten his cue, circumstantially recollected all about it.

"All this time, though I was telling the son and servant the nature of the premunire they had incurred, though they pleaded for mercy keenly, the affair of the notice having been sent never once occurred to them, not even the son, who is said to have been the bearer. This was a stroke reserved for, and worthy of the gentleman himself. As to Mrs Kelloch's oath, it proves nothing. She did indeed depone to a line being left for me at her house, which said line miscarried. It was a sealed letter; she could not tell whether it was a maltnotice or not; she could not even condescend on the month, nor so much as the season of the year. The truth is, T. J. and his family being Seceders, and consequently coming every Sunday to Thornhill Meeting-house, they were a good conveyance for the several maltsters and traders in their neighbourhood to transmit to post their notices, permits, &c.

"But why all this tergiversation? It was put to the petitioner in open court, after a full investigation of the cause: 'Was he willing to swear that he meant no fraud in the matter?' And the justices told him that if he swore he would be assoilzied [absolved], otherwise he should be fined; still the petitioner, after ten minutes' consideration, found his conscience unequal to the task, and declined the oath.

"Now, indeed, he says he is willing to swear: he has been exercising his conscience in private, and will perhaps stretch a point. But the fact to which he is to swear was equally and in all parts known to him on that day when he refused to swear as to-day: nothing can give him further light as to the intention of his mind, respecting his meaning or not meaning a fraud in the affair. No time can cast further light on the present resolves of the mind; but time will reconcile, and has reconciled many a man to that iniquity which he at first abhorred."

No one can fail to see, even in this piece of business, something of the extraordinary mental energy of Burns.

The daily life of Burns, in his latter years at Dumfries, is described in the following terms:- 'He has daily duties in stamping leather, gauging malt-vats, noting the manufacture of candles, and granting licences for the transport of spirits. These duties he performs with fidelity to the king and not too much rigour to the subject. As he goes about them in the forenoon, in his respectable suit of dark clothes, and with his little boy Robert perhaps holding by his hand and conversing with him on his school-exercises, he is beheld by the general public with respect, as a person in some authority, the head of a family, and also as a man of literary note; and people are heard addressing him deferentially as Mr Burns—a form of his name which is still prevalent in Dumfries. At a leisure hour before dinner, he will call at some house where there is a piano—such as Mr Newall, the writer's—and there have some young miss to touch over for him one or two of his favourite Scotch airs, such as, the Sutor's Daughter, in order that he may accommodate to it some stanzas that have been humming through his brain for the last few days. For another half hour, he will be seen standing at the head of some cross street with two or

[pg 232]

whom he is regaling with sallies of his bright but not always innocent witindulging there, indeed, in a strain of conversation so different from what had passed in the respectable elderly writer's mansion, that, though he were not the same man, it could not have been more different. Later in the day, he takes a solitary walk along the Dock Green by the river side, or to Lincluden, and composes the most part of a new song; or he spends a couple of hours at his folding-down desk, between the fire and window in his parlour, transcribing in his bold round hand the remarks which occur to him on Mr Thomson's last letter, together with some of his own recently composed songs. As a possible variation upon this routine, he has been seen passing along the old bridge of Devorgilla Balliol, about three o'clock, with his swordcane in his hand, and his black beard unusually well shaven, being on his way to dine with John Syme at Ryedale, where young Mr Oswald of Auchincruive is to be of the party-or maybe in the opposite direction, to partake of the luxuries of John Bushby, at Tinwald Downs. But we presume a day when no such attraction invades. The evening is passing quietly at home, and pleasantnatured Jean has made herself neat, and come in at six o'clock to give him his tea-a meal he always takes. At this period, however, there is something remarkably exciting in the proceedings of the French army under Pichegru; or Fox, Adam, or Sheridan, is expected to make an onslaught upon the ministry in the House of Commons. The post comes into Dumfries at eight o'clock at night. There is always a group of gentlemen on the street, eager to hear the news. Burns saunters out to the High Street, and waits amongst the rest. The intelligence of the evening is very interesting. The Convention has decreed the annexation of the Netherlands-or the new treason-bill has passed the House of Lords, with only the feeble protest of Bedford, Derby, and Lauderdale. These things merit some discussion. The trades-lads go off to strong ale in the closes; the gentlemen slide in little groups into the King's Arms Hotel or the George. As for Burns, he will just have a single glass and a half-hour's chat beside John Hyslop's fire, and then go quietly home. So he is quickly absorbed in the little narrow close where that vintner maintains his state. There, however, one or two friends have already established themselves, all with precisely the same virtuous intent. They heartily greet the bard. Meg or John bustles about to give him his accustomed place, which no one ever disputes. And, somehow, the debate on the news of the evening leads on to other chat of an interesting kind. Then Burns becomes brilliant, and his friends give him the applause of their laughter. One jug succeeds another-mirth abounds-and it is not till Mrs Hyslop has declared that they are going beyond all bounds, and she positively will not give them another drop of hot water, that our bard at length bethinks him of returning home, where Bonnie Jean has been lost in peaceful slumber for three hours, after vainly wondering "what can be keeping Robert out so late the nicht." Burns gets to bed a little excited and worn out, but not in a state to provoke much remark from his amiable partner, in whom nothing can abate the veneration with which she has all along regarded him. And though he beds at a latish hour, most likely he is up next morning between seven and eight, to hear little Robert his day's lesson in Cæsar, or, if the season invites, to take a half-hour's stroll before breakfast along the favourite Dock Green.'

three young fellows, bankers' clerks, or "writer-chiels" commencing business,

Whenever a female of any rank secured the goodwill of Burns, he was sure to compliment her in verse, and it was always by putting her into the light of an adored mistress. In his latter days, when declining in health, an amiable young girl, sister of one of his brother officers, obtained his friendly regard by endeavouring to lighten the labours of housekeeping to his wife, then also in a delicate state. The lady, who still lives, 'relates that, one morning she had a call from the poet, when he offered, if she would play him any tune of which she was fond, and for which she desired new verses, to gratify her in her wish to the best of his ability. She placed herself at the pianoforte, and played over several times the air of an old song beginning with the words—

The robin cam to the wren's nest,
And keekit in, and keekit in:
O weel's me on your auld pow!
Wad ye be in, wad ye be in?
Ye'se ne'er get leave to lie without,
And I within, and I within,
As lang's I hae an auld clout,
To row ye in, to row ye in.

'As soon as his ear got accustomed to the melody, Burns sat down, and in a very few minutes he produced the beautiful song:

Oh, wert thou in the cauld blast
On yonder lea, on yonder lea,
My plaidie to the angry airt,
I'd shelter thee, I'd shelter thee:
Or did misfortune's bitter storms
Around thee blaw, around thee blaw,
Thy bield should be my bosom,
To share it a', to share it a'.

Or were I in the wildest waste,
Sae black and bare, sae black and bare,
The desert were a paradise,
If thou wert there, if thou wert there:
Or were I monarch o' the globe,
Wi' thee to reign, wi' thee to reign,
The brightest jewel in my crown
Wad be my queen, wad be my queen.

The anecdote is a trivial one in itself; but we feel that the circumstances—the deadly illness of the poet, the beneficent worth of Miss Lewars, and the reasons for his grateful desire of obliging her—give it a value. It is curious, and something more, to connect it with the subsequent musical fate of the song, for many years after, when Burns had become a star in memory's galaxy, and Jessy Lewars was spending her quiet years of widowhood over her book or her knitting in a little parlour in Maxwelltown, the verses attracted the regard of Felix Mendelssohn, who seems to have divined the peculiar feeling beyond all common love which Burns breathed through them. By that admirable artist, so like our great bard in a too early death, they were married to an air of exquisite pathos, "such as the meeting soul may pierce." Burns, Jessy Lewars, Felix Mendelssohn—genius, goodness, and tragic melancholy, all combined in one solemn and profoundly affecting association!

In numberless instances, the hitherto loosely stated facts of Burns's life are corrected in the present work, partly through the accuracy of a strictly historical arrangement, and partly by direct reference to written documents. On account of the value of dates in placing the facts and compositions in that order which gives so much illustration to the character of the poet, the editor has taken what might appear in other circumstances a pedantic degree of pains on that score. Of this we have an example in regard to the chronology of Burns's attachment to Highland Mary. To fix that affair as occurring in the summer of 1786—an episode in the connection of the poet with the young woman who ultimately became his wife—it is necessary to establish the death of Mary as occurring about the 20th of October that year. This is done partly by reference to a register of burial sites in a church-yard, and partly by a chain of curious evidence respecting the day which Burns celebrated three years after as the anniversary of the event. He composed on that day his beautiful address *To Mary in Heaven*, beginning—

Thou lingering star with lessening ray, That lov'st to greet the early morn, &c.

Mrs Burns had a recollection of the day, which, she said, was in September, at the end of harvest, and which, she added, he spent in his usual duties, though labouring under a cold. As the twilight deepened, he grew sad about something, and wandered out into the barn-yard, to which she followed him, entreating him in vain to observe that frost had set in, and to return to the fireside. She finally found him there stretched on a mass of straw, with his eyes fixed on a beautiful planet, which shone like another moon. He was engaged at that moment in apostrophising the soul of Mary. Out of this anecdote, the editor of the present work contrives to obtain evidence as to the true date in the following manner:—

'In the first place, the harvest was late that year. We find in the Scottish newspapers of the time, that, in the middle of October, a great deal of grain was still *out* even in the favoured district around Falkirk; while a letter from Sanquhar (Burns's neighbourhood), dated the 21st, states that "while much was cut, *very little was yet got in*, owing to the bad weather." It appears that harvest was commenced by the 8th of September in some districts, but was interrupted by rains, and was not concluded till near the end of the ensuing month. Consequently, the incident *might* take place in the latter part of October, and *still be connected with harvest operations*. The second portion of our evidence on the subject is from one of the exact sciences, and appears to us at once to settle the time of the day—the month—and almost the day of the month.

'It fully appears that the planet Venus is the one referred to by the poet, for

[pg 233]

the description applies only to it. Now Venus was in conjunction with the sun, May 30, 1789, and after that became visible as the evening-star towards the end of the summer, reaching its greatest brilliancy in winter. It is therefore certain that the star which "loves to greet the early morn" did not at this time "usher in the day," and consequently, so far as the time of day alluded to in the poem is concerned, a poetical liberty was taken with truth. On the 21st of September the sun set at six o'clock, and Venus forty-four minutes thereafter. The planet was consequently not to be seen at that time except faintly in the twilight. But on the 21st of October the sun set in the latitude of Ellisland at 4h 53m, and Venus 1h 3m afterwards. Consequently, Venus would then have begun to assume a brilliant appearance during a short interval after sunset. On that day the moon was four days old, and within eight diameters of Venus. The planet would then of course be beginning to be dimmed by the moonlight, and this effect would go on increasing till the moon had passed the full—that is, early in November. If, then, we are to set aside the possibility of a later month than October, and keeping in view the all but certainty that Mary was not buried till some time after the 12th of that month, it seems reasonable to conclude, that the barn-yard musings of Burns took place between five and six o'clock of the evening of some day about the 19th or 20th of October, and consequently a very short time after the merry-meeting for the Whistlecontest at Friars' Carse.

'That a month later than October could have been the date of the incident will, I presume, scarcely be argued for. The moon was at the full on Tuesday the 2d of November, and it could not be till after that day that the first hour of the night would be "starry," with Venus in full blaze. By that time, as far as we can gather from the chronicles of the time, the harvest was past. Besides, Mrs Burns might easily mistake September for October, but scarcely for November, a month of such different associations. On this point the temperature of the time might throw some light, if we could be sure of the exact meaning to be attached to the phrase—"the frost had set in." It chances that the temperature of October that year was unusually high, the average at eight o'clock in the evening in Edinburgh being 45½° Fahrenheit. The Edinburgh Advertiser of 30th October speaks of apple-trees and bean-stalks renewing their blossoms in consequence of the extraordinary mildness. On the 19th of October, at eight o'clock in the evening, the thermometer indicated in Edinburgh 51°; on the 20th, at the same hour, 59°; on the 21st, 51° again. The only approach to frost was on the 30th and 31st, when, at eight in the evening, the thermometer was respectively at 33° and 37°. After this, it rose to a more temperate point. Hence it becomes evident that literal frost did not then exist at any such period of the day. Probably Mrs Burns merely thought the evening was beginning to be comparatively chilly. If we can admit of this construction being put upon her words, I would be disposed to pitch upon the warmest evening of the little period within which we are confined for unless the poet had been in a peculiarly excited state, so as to be insensible to external circumstances, which is obviously a different thing from being in a merely pensive state, we must suppose him as not likely to lie down in the open air after sunset, except under favour of some uncommon amount of "ethereal mildness." Seeing, on the other hand, how positively inviting to such a procedure would be a temperature of 59°, I leave the subject with scarcely a doubt that the composition of To Mary in Heaven took place on Tuesday the 20th of October, and that this was consequently the date of the death of the heroine.'

This, no doubt, seems a great muster of evidence about so small a matter; but to judge of the rationality of its being entered upon, the reader must keep in mind the relation of the incident to others. If it only proved that the comic drinking-song *The Whistle*, and *To Mary in Heaven*, were written within three days of each other, it might be not altogether labour lost, for it would establish an exceedingly curious literary anecdote. But the bearing it has on the whole affair of Highland Mary—one of the most deeply interesting passages of Burns's life—is such as, in our opinion, to make every other justification superfluous.

#### **FOOTNOTES:**

[2] Life and Works of Burns. Edited by Robert Chambers. 4 vols. Edinburgh: 1852.

#### VISIT TO THE COPPER-WORKS OF SWANSEA.

Return to Table of Contents

Our first glimpse of the copper-works was obtained in the 'gloaming' of a

[pg 234]

lovely night in August last year, as we rattled over the Landore viaduct of the South Wales Railway. On each side of us, we could behold, given out by the chimneys, innumerable flashes of lurid flame, which rose like meteors into the atmosphere, and scattered around a brilliant light, that was seen in the distance to blend with the waters of Swansea Bay. The scene was very beautiful, and singularly picturesque: we could have wished our enjoyment of it prolonged; but soon the shrill whistle, the escape-valve, and the lamps of the station, admonished us that our journey had come to an end.

Our principal object in visiting Swansea, was to obtain some information concerning the important business of copper-smelting, for which this port has now become so celebrated. Few of our readers, who have not enjoyed our opportunities of seeing them, can form any accurate conception of the vast extent and great economical value and importance of the Swansea copperworks. Indeed, the copper trade is far from being popularly known; and the reason is obvious. Iron, which is very widely distributed in the British islands, is invariably smelted wherever it occurs. Copper, on the contrary, is only mined in one or two localities; and it is never manufactured on the spot. This process is performed almost exclusively at Swansea; and hence the copper trade of the country is confined to a few individual houses, and these are in a locality alike remote and unfrequented by the everyday tourist.

At the period when the first copper-work was established on the banks of the Tawy, about a century ago, Swansea was comparatively an insignificant village. It is therefore to this branch of industry the town and port are chiefly indebted for their remarkable rise and progress. The population in 1801 was only about 6000; while in 1851, if we include the copper-smelting district, it had already reached the number of 40,000. The original cause of Swansea being selected as the great seat of the copper trade, we may very briefly explain. It was early discovered that, from the non-existence of coal in the mining districts of Cornwall and Devonshire, copper, although raised in vast abundance, could not be profitably smelted there. In fact, it was not until a considerable time after copper-mining was properly pursued in Cornwall, that the minerals could be turned to a profitable account. It became apparent at length, however, both from the large quantity of coal necessary for the reduction of copper-ores, and the great expense of the transport, that instead of carrying coal to Cornwall to smelt the ores—the greater quantity to the less -an opposite course must be pursued, and the ores carried to the coal districts, and there smelted.

Now South Wales, poor in copper, is exceedingly rich in coal. Vast beds of the finest bituminous and anthracite coal exist in rich profusion in its inexhaustible coal-fields. From its geographical position and excellent harbour, Swansea was at once selected as the best port on the Welsh coast in which to establish the copper-works; and accordingly, the Swansea valley was soon planted with chimneys, furnaces, roasters, refiners, and, in short, all the necessary and costly enginery which belongs to the vast and intricate processes of smelting copper. With such propriety has the selection of a locality been made, that even now, out of the twenty copper-smelting works of which the country can boast, seventeen are situated on the navigable rivers of Swansea and its neighbourhood.

But this was not the only advantage the Cornish miners derived from this judicious step. The ships employed to transport the ore to South Wales came back laden with coal to feed their enormous engines; and thus a system of traffic, mutually advantageous, was originated, and has continued to exist without interruption down to the present time, and will continue to exist so long as copper is mined in Cornwall and smelted at Swansea.[3]

Within the last twenty years, the importation of foreign ores has become a remarkable feature in the trade and commerce of this place. Not only is Swansea the seat of the copper trade of this country, but it may with equal propriety be styled the copper mart of the world. Large and valuable cargoes of ore are continually arriving at the Swansea Docks from every country in the world where copper-mining is pursued. In 1814, there were only four vessels which traded with foreign ports; in 1849, this number had increased to 771; the greater proportion of them being directly engaged in the copper trade.

The Cornish ores are sold, as we have seen, in the locality in which they are produced; but all these foreign ores, from whatever quarter they may come, are disposed of to the smelters in Swansea by public ticketing. This ticketing is a curious and characteristic feature of the trade. The cargoes are usually consigned to a particular class of brokers, indigenous to Swansea, and known as 'copper-ore agents.' The ore is by them deposited in large yards, where it is crushed to a certain fineness, for the purpose of obtaining a proper admixture

of the 'heap.' Notice is then given to the different smelting-houses, who procure samples of the lot, and assay it. Meetings are held once a fortnight at the Mackworth Arms Hotel; and on these days the agents for the ore and those for the smelter take their seats around a table. A chairman is appointed, who announces the different lots for sale. Having previously made up their minds what to offer—for there is nothing like a saleroom competition—the smelters hand up a folded slip to the chairman, who announces the highest offer and the purchaser's name. With such expedition does this proceed, that different cargoes of copper-ore, to the value perhaps of L.50,000, will often be quietly disposed of in a single hour!

It is very remarkable how closely each offer approximates to the intrinsic value of the ore. A lot of Chili or Australian ore, containing a large quantity of metal, may bring L.50 per ton, while at the same time a poor ore may be sold for a tenth part of the money. But however variable the offers may be in this respect, they never vary much in regard to a single lot. Out of the return of the twenty assayers of the different smelters, probably not a half per cent. of difference will be found in their estimates of the produce. The smelters having thus become possessed of the ore, it is transferred to their own yards, sometimes by means of lighters on the river, but more frequently by the canal which communicates with Swansea and the smelting-works.

Leaving the town, and pursuing our way northwards for two miles towards Neath, we reach the copper-works. The scene is widely different in open day from that which was presented at night. There is no beauty now, and little of the picturesque. The first impression, indeed, the mind is apt to receive, is that of a sense of painful weariness. Hundreds of chimneys—we speak literally—are vomiting forth that white, peculiar-looking, and unmistakable vapour called copper-smoke. Enormous masses of that ugly, black, silicious refuse, known in the smelting vocabulary as 'slag,' is piled above and around in such quantity as to change even the physical appearance of the country.

But this is not all. The noxious gases—which we see and feel around us evolved in the reduction of copper, have not played so long on the surrounding atmosphere without doing their work. Everywhere within their influence, the perennial vegetation is meagre and stinted. The hills, particularly to the southeast of the copper-works, are barren in the extreme. Not one spark of green, not one solitary lichen, can withstand the ravages of the poison. Time was, we were told by an old inhabitant, when these hills produced the earliest and finest corn in the principality; but now they only resemble enormous piles of sandy gravel, unbroken but by the rugged angles on the face of the rock. In the year 1822, the inhabitants of Swansea took legal steps to abate the nuisance. A reward of L.1000 was likewise offered for the discovery of a successful means of neutralising the effect of the vapour. The Messrs Vivian of the Hafod Works spent the princely sum of L.14,000 in experiments, some of which were partially successful, and are still adopted; but after all, it must be confessed that the fumes of sulphurous acid, and of numerous other acids alike poisonous in their character, still taint the atmosphere of the Swansea valley, and still leave the indelible traces of their blasting properties.

The Hafod Works are the largest in South Wales. Situated on the north side of the river, they cover a superficial extent of about twenty acres. The number of furnaces, chimneys, and other brick erections contained in the works, was far beyond our computation; and we can speak feelingly of the devious ways and labyrinth of bypaths with which they are intersected, since, on more than one occasion, we became bewildered in their mazes.

Here was a group of workmen, half-naked, pouring out of a furnace the liquid copper at a white heat; there was another group with a red-hot copper-plate of colossal weight and dimensions, which they crushed like cheese between the huge rollers of the copper-mill: on one hand, there was an old furnace, that had done good duty in times past, in the process of being dismantled; on the other, was one about being rebuilt; and again there was still another, that had, from long service, become so impregnated with copper, that it was actually being built over by a larger one, to be melted in its turn!

We shall avail ourselves of the valuable services of Mr Morgan, the manager for Messrs Vivian, in our walks round the works, although it is not our intention to give a technical description of copper-smelting. [4] Such a course would be alike uninteresting to the reader and unsatisfactory to ourselves. A consecutive description, however brief, of what we saw, would, in like manner, carry us far beyond our limits; and we therefore purposely confine ourselves to whatever is popularly interesting and instructive in the process.

First in order, then, we proceed to the ore-yard, which presents a very motley

[pg 235]

appearance. Under its capacious roof there were tons upon tons of every variety of ore—native and foreign, blue and red, green and yellow, and all intermediate colours—indiscriminately piled around. There was the beautiful green malachite from Australia, the gray sulphuret from Algiers, the phosphate from Chili, and the hydrous-carbonate from Spain. There was the glistening yellow sulphuret from Cuba, the silicate from Brazil, the bright-blue carbonate from the sunny regions of the south, and the dark-brown oxide from the colder regions of the north. There was regulus from New Zealand, and the good old pyrites from the Cornish mines; some compounds with arsenic, antimony, and numerous other substances; and last, though in one sense not least, there was a solitary specimen of ore from Ireland.

These ores were all in the form of a coarse powder. The regulus we have mentioned is simply the sulphuret deprived, by a preliminary operation, of its extraneous earthy matters; and this is frequently effected in the localities where it is produced, such as New Zealand and Chili, the expense of transport from these places being very considerable.

'And what is this?' we inquired, looking at a black earthy substance the workmen at that moment were discharging from a vessel.

'Ah!' said our friend, 'that is a commodity which, I suspect, you know something about. It is a waste product from certain foundries and chemical works—from Scotland in this case—and it contains a small per cent. of copper. We don't care much about it; we seldom have it; but it is sold at the ticketings regularly. For want of a better name, we term it *slag*; but it is not slag, properly so called, which you see all around you. A better denomination is that employed in designating it in the Journal—namely, *rubbish*.'[5]

'You make no kind of distinction in the ore-yard,' we continued. 'Is that unnecessary?'

'Well, practically it is. As these heaps lie, you can perceive that a vertical slice from top to bottom will give us a tolerably even admixture of the different ores. This is always desirable to a certain extent, since the ores being of different constitution, the one materially assists in the reduction of the other. Thus an ore containing a large proportion of fluor-spar may with great advantage be employed to flux another containing felspar or quartz, which substances are almost infusible alone. Indeed, the judicious admixture of ores constitutes the most important vocation of the smelter; and it is to this that the copper-houses of Swansea are indebted for one of their advantages over the proprietors of mines, who, possessing only one kind of ore—rich, probably, but intractable—can never bring it into the state of a metal with any satisfactory profit.'

'What is the value of these ores?'

'That varies much. This gray sulphuret contains about 70 per cent. of copper, and is worth L.35 per ton. This yellow sulphuret, from being mixed with a large quantity of iron and silicious earth, contains only about 12 or 14 per cent. Some malachites contain so much as 50 per cent., and others less pure, 30 to 40 per cent. of copper. But the greater mass of the ores we melt have a far less produce than this. That Cornish ore you see there, for example, contains only  $4\frac{1}{2}$  per cent. of metal. The average produce, however, of all the British and foreign ores smelted at Swansea may be given at about 12 per cent. Previous to the great increase of foreign importation, it was much lower.'

We now come to the process of smelting. The theory of reducing metallic ores, of whatever constitution, is to bring them to the state of oxides; and then, by the addition of charcoal, and with the aid of heat, to expel the oxygen in the form of carbonic acid; after which the pure metal is left. In practice, the reduction of copper-ores is slightly different. Here the object is to separate, first, the earthy matters and extraneous metals, by forming them into oxides by calcination: these are subsequently obtained as waste products in the form of slag; while the copper is left in combination with sulphur, which is then dispelled at one operation. According to Mr Vivian, copper undergoes eight, and sometimes nine, distinct operations in its progress from the ore to the ingot; and these consist of alternate calcinations and fusions, extending over a period of from 100 to 120 hours. As, however, some of these are simple repetitions, we may, for convenience' sake, illustrate the process under its three most important steps.

1. Calcination of the Ore.—Having arranged a proper mixture of ores in the yard, it is weighed out in boxes to the calcining-men. This is drawn up an inclined plane over the tops of the furnaces, and from thence emptied through

[pg 236]

hoppers,  $3\frac{1}{2}$  to  $4\frac{1}{2}$  tons at a time, into the large calcining furnace. Here it is roasted for a period ranging from twelve to twenty-four hours, after which it is drawn into the ash-pit, where it remains to cool. In this state, the ore is a black, amorphous substance, and is termed *calcined ore*. The object of this process is to oxidise the extraneous metals, and also to reduce the quantity of sulphur, by driving it off in the form of vapour. It is, therefore, in this and the analogous processes of roasting, that the sulphurous and arsenous vapours are so profusely given off.

We stood upon one occasion beside a furnace, when the charge was in the act of being withdrawn; but we took especial care never to do the like again. The sensation resembled what one might expect to feel on holding a lighted lucifer-match under each nostril. It is surprising how the workmen stand it. For the greater part of their lives, these poor Welshmen exist habitually in an atmosphere so charged with the above-mentioned abominable gases, that it is difficult to understand from whence their lungs receive the necessary supply of pure oxygen. [6] Sulphurous acid, we may add, is the predominant smell in a copper-work; but arsenic acid, hydrofluoric acid, and even arseniuretted hydrogen, are not at all unfrequent.

2. Melting the Calcined Ore.—This is a totally different operation from the last: in place of roasting, it is one of fusion. The calcined ore is put into the furnace much in the same manner as before; a quantity of the slag from a subsequent process is added to assist in the fusion, and the heat is increased till the whole mass becomes liquid. The object is to separate the earthy matter, which, from being specifically lighter, rises to the surface of the liquid mass in the form of slag, and is drawn off. After two or three charges, the furnace becomes quite filled, and an aperture is then opened in it, through which the red-hot liquid flows into an adjoining pit filled with water. It is by this means granulated, and is now termed 'coarse metal,' or 'regulus;' and is, in fact, an admixture of the sulphurets of iron and copper, containing about 30 per cent. of the latter.

But it is to the earthy impurities here given off that we especially wish to direct attention. This slag, as it is termed, when drawn from the furnace, is run into oblong sand-moulds, from which, when cold, it is taken outside to the 'slag-bank,' as it is called—'slag-mountain,' we prefer saying; and an ugly mountain it is!—where it is broken into small pieces, examined to see whether it still contains metal, and if not, is left to accumulate. It consists essentially of silicon, oxygen, iron; or, to speak more correctly, it is a silicate of the protoxide of iron. It is, in fact, a true *igneous rock*. Portions of quartz and silica still remaining unfused, are often contained in the masses, which give to them, when broken, a true porphyritic appearance, while, from the great preponderance of the protoxide of iron, it is invariably black.

So hard, solid, and indurated do these slags, in process of time, become, that a very tall chimney, the most conspicuous object in the works, is built on the top of a slag-bank. And this beautiful commodity is not without its use in the arts. Part of it is occasionally cast into iron moulds, shaped like old Gothic arches, only uglier; and the casts are applied in great quantity as coping-stones to the walls and fences in the regions of the copper-works. Although not a very tasteful, it is yet a very useful, and, at the same time, a very characteristic application. We may add here, that the aggregate produce of the substance of the different Swansea works may be estimated at about 260,000 tons a year. Our readers may judge for themselves of the ultimate change this is calculated to bring about in the Carboniferous System, and of the learned controversies that are likely to arise among future geologists with respect to the character and constitution of these carefully disintegrated rocks!

To return to the smelting process. The last product—the regulus—is again calcined, with the view of bringing the iron to the state of an oxide. It is again melted, slagged, and run into pigs. In this last operation, the whole iron is driven out in the slag, and the remainder—'white metal,' as it is called—is almost a pure sulphuret of copper. The sulphur, having all along preserved its combination with the copper—a fine illustration of the theory of chemical attraction—must now at length be expelled. This is effected by the last process of roasting. When in a state of fusion in the furnace, the charge is exposed to a stream of air, in which case a double action ensues. Part of the oxygen enters into combination with the sulphur, producing sulphurous acid, which is expelled in the form of vapour, and part of it combines with the copper remaining in the furnace; this is again run out into the form of pigs, and in this state it is termed 'blistered copper.' To produce the finer kind of copper, another process has yet to be gone through; but for ordinary tough copper, it is at once transferred to what we may describe as the last stage,

3. Refining.—We quote Mr Vivian:—'The pigs from the roasters are filled into the furnace through a large door in the side: the heat is at first moderate, so as to complete the roasting or oxidising process; after the charge is run down, and there is a good heat on the furnace, the front door is taken down, and the slags skimmed off. An assay is then taken out by the refiner with a small ladle, and broken in the vice; and from the general appearance of the metal in and out of the furnace, the state of the fire, &c., he judges whether the toughening process may be proceeded with, and can form some opinion as to the quantity of poles and charcoal that will be required to render it malleable, or, as it is termed, to bring it to the proper pitch. The copper in this state is what is termed dry: it is brittle, of a deep-red colour, inclining to purple, an open grain, and crystalline structure. In the process of toughening, the surface of the metal in the furnace is first well covered with charcoal; a pole, commonly of birch, is then held into the liquid metal, which causes considerable ebullition, owing to the evolution of gaseous matter; and this operation of poling is continued, until, from the assays which the refiner from time to time takes, he perceives that the grain, which gradually becomes finer, is perfectly closed.' After some further manipulation of a similar kind, the refiner is at length satisfied of its malleability, and that the copper is now in its proper place, as he terms it. It is then poured out by means of iron ladles, coated with clay, into ingots or moulds of the different sizes required by the manufacturer.

'This process of refining or toughening copper, is a delicate operation, requiring great care and attention on the part of the refiner to keep the metal in the malleable state.' It is also, beyond comparison, the most beautiful sight in the copper-works. At one particular stage of the process, we saw the mass of molten copper in the furnace—some five or six tons—assume the most beautiful and resplendent appearance it was possible to imagine. It was like a sea of 'burnished gold;' and, indeed, were it not for the intense heat, the redhot ladles of the workmen, and other little circumstances of the kind, the stranger would have some difficulty in believing that he did not look upon a beautifully polished mirror.

We have now come to the end of the smelting process; and have left ourselves no room to describe the transformation into sheets, bars, bolts, and boilerplates which the metal undergoes in the next department of the works. These, however, are a better understood series of operations, consisting, as they do, of the usual and ordinary processes of rolling the hot metal between powerful iron rollers. Nor have we space to allude even to the vastly numerous and varied applications of the metal; although we may take the opportunity of briefly adverting to the recently discovered process of smelting copper by electricity, and of inquiring into the probability of its ever becoming an economical application.

It will be seen, in the first place, that the present mode of smelting copper, though simple in theory, appears in practice extremely complex. For this reason, within the last twenty-five years there have, we believe, been as many patents taken out to simplify and hasten the operation. Without exception, these have been proved to be altogether inapplicable. Let us see how this is explained.

Out of these numerous improvements, we select two that appear peculiarly attractive. The first is the method of precipitating the copper, in our second process, from the fused silicates containing it, by the action of the electric current—the negative pole of the battery terminating in an iron plate, which replaces the copper in the liquid mass. The second method is an improvement on this. From some experiments made at the School of Mines in Paris, it was shewn that metallic iron alone, without the aid of the battery, was capable of precipitating copper from the silicates in a state of fusion, just as it does in saline solutions at ordinary temperatures. But in applying this last method to practice—for the electricity was obviously rendered unnecessary by the discovery—it was found that the expenditure of iron was so great, that it could not be profitably applied except as a means of assisting the reduction.

'Still,' said Mr Morgan, when commenting on these methods, 'this, in point of fact, is precisely what we do. We add, as you have seen, a great proportion of slag to the melting of the calcined ore, which consists chiefly of the oxide of iron; while at the same time we derive the additional advantage of employing an excellent flux—an advantage which metallic iron does not possess. But, irrespective of these considerations, the plain fact of the matter is, that *it will not pay* to smelt copper expeditiously. We don't wish to do so. It is quite a matter of choice with us those continued operations; and their great advantage lies in this, that we are enabled to extract every particle of copper from the ore. By any of these other methods—very philosophical they are, I

[pg 237]

admit—we could not accomplish this. The slags would all contain more or less metal; and when I inform you, that we can afford to remelt those slags if they contain only a half per cent. of copper, you will perhaps understand our reasons for still adhering to our venerable system.'

Thus we discovered that the smelting of copper by electricity, and of reducing it with metallic iron, would not pay.

Our statistics are short, but they are heavy: about 300,000 tons of copper-ore are annually smelted at Swansea; 28,000 tons of copper are annually produced; and 600,000 tons of coal are annually burned. The value of the ore is about L.2,000,000; of the copper, L.2,600,000; of the coal, we have no correct means of ascertaining. Of the population of Swansea, about one-fourth are dependent on the smelting-works; and of these, about 3500 are directly engaged in the business. The probable amount of wages paid by the smelters is about L.135,000; and the current expenditure of the copper-works in the aggregate exceeds L.500,000 a year.

The last thing we did was to visit the Hafod Schools. These excellent schools—one for boys, one for girls, and one for infants—were erected about six years ago, and are still maintained at the expense of the Messrs Vivian. At the time of our visit, there were 600 of the rising population of the place doing their utmost to unlearn the Welsh idiom, and to acquire the art of speaking and writing the English language with propriety. We regret that we cannot dwell on this the most gratifying circumstance of our visit. Messrs Vivian & Sons are unquestionably great copper-smelters, but, in our humble opinion, the greatest action they ever did, and what must ever commend them to all good minds, was the establishment of these schools.

To us it was a change, a relief inexpressibly delightful, to emerge from the Stygian regions of the copper-works, where for the last five or six days we had wandered like an 'unshriven spirit,' and to find ourselves in contemplation of the happy faces of the scholars, and to hear the hopeful, encouraging tones of their intelligent teachers. The popular song of *Children go, to and fro,* was being sung in the infant school at the moment we took our leave, and we shall never forget the impression. It struck upon our senses, to use an appropriate metaphor, like the crystal stream of the desert—like the shadow of a great rock in a weary land.

#### **FOOTNOTES:**

- [3] See for some interesting information on the system of Cornish Mining, an article in No. 42 of the present series.
- [4] On this point, we refer all who are desirous of pursuing the subject, to a valuable memoir in the *Annals of Philosophy*, by John Henry Vivian, Esq., F.R.S., the proprietor of the Hafod Works. This paper, we may add, is the standard authority on the subject; and is, with some modification, copied by Drs Ure and Lardner, and by most popular works upon metallurgy.
- [5] The production of this curious substance is explained in an article on the 'Value of Rubbish,' No. 385.
- [6] Notwithstanding this, we were assured by a gentleman connected with the copper-works, that there is no specific disease arising from copper-smelting, as in the case of lead. Asthma, rheumatism, and colds, are the prevailing affections among the men; and even these are in a great measure due to their own carelessness.

#### THE KING OF YVETOT.

Return to Table of Contents

There are few of our countrymen who have travelled in France but must frequently have heard proverbial allusion made to a certain monarch of Yvetot; and still fewer must be those who, having the slightest knowledge of French literature, are unacquainted with Béranger's happy lyric—

There reigned a monarch in Yvetot
But little known in story,
Who, stranger all to grief and wo,
Slept soundly without glory;
His night-cap tied by Jenny's care
(The only crown this king would wear),
He'd snooze!

Ha, ha, ha! Ho, ho, ho! The merry monarch of Yvetot.

His jolly court he held each day,
'Neath humble roof of rushes green;
And on a donkey riding gay,
Through all his kingdom might be seen:
A happy soul, and thinking well,
His only guard was—sooth to tell—
His dog!
Ha, ha, ha! Ho, ho, ho!
The merry monarch of Yvetot.

No harsh exacting lord was he,
To grasp more than his folks could give;
But, mild howe'er a king may be,
His majesty, you know, must live;
And no man e'er a bumper filled,
Until the jovial prince had swilled
His share!
Ha, ha, ha! Ho, ho, ho!
The merry monarch of Yvetot.

He ne'er sought to enlarge his states,
But was a neighbour just and kind;
A pattern to all potentates,
Would they his bright example mind.
The only tears he e'er caused fall,
Fell when he died—which you'll not call
His fault.
Ha, ha, ha! Ho, ho, ho!
The merry monarch of Yvetot.

It is well known that Béranger's song, from which we have extracted the preceding four verses, as translated by Anderson, was a friendly, though rather satirical remonstrance with Napoleon—of course we mean the Napoleon—touching his ambitious and bellicose policy. But it is not so well known, that there really was a kingdom of Yvetot, and that its several dynasties reigned peacefully for upwards of eleven centuries. Anderson, in a note to the song, says: 'Yvetot, a district in the north of France, possesses a monarch of its own, a sort of burlesque personage, whose royal charger is a donkey; his guard, a dog; his crown, a night-cap; and his revenue, a gratuitous draught of wine at the ale houses of his liege subjects!' Young, another translator of Béranger, not any better informed, tells us that 'the Lords of Yvetot claimed and exercised, in the olden time, some such fantastical privileges as are here alluded to.'

The translators have some excuse for their ignorance regarding the king of Yvetot; for few Frenchmen of the present day, with the exception of antiquaries, consider him to have been anything else than a popular myth. Be it our task, then, to jot down some authentic notices of that ancient, and now extinct monarchy.

Yvetot, a town and commune of ancient Normandy (Pays de Caux), in the department of Seine-Inférieure, now traversed by the railway leading from Havre de Grâce to Rouen, was, in the sixth century, the seigniory of one Vauthier, chamberlain to Clotaire I., the royal son of Clovis and Clotilda. Nothing whatever is known of the earlier part of Vauthier's history, more than that he held the fief of Yvetot from Clotaire by the feudal tenure of military service. An able and trustworthy statesman in the council-chamber, a valiant and skilful commander in the battle-field, the chamberlain lived on terms of the most intimate familiarity with his king, who ever lent a ready ear to his sage suggestions. This high honour, however, being not at all agreeable to the other followers of the court, they entered into a conspiracy to ruin the favourite chamberlain. Taking advantage of his absence, they perfidiously vilified him to the king. The chroniclers do not state what were the exact charges brought against him, but they must have been weighty and artfully insinuated, for the rude and truculent Clotaire swore that he would, with his own hand, slay the Sieur of Yvetot, when and wherever he should chance to meet with him. The reader must not be surprised at such a vow: in those days, sovereigns frequently indulged in a plurality of offices, and could upon occasion perform the duty of the executioner as well as that of the judge. Vauthier happened to have a friend at court, who sent him timely warning of this state of affairs; and not thinking it by any means prudent to expose himself to the lethal fury of a king who had unscrupulously killed his own nephews, he left the country, and joined the army of the north, then fighting

[pg 238]

against the Thuringian pagans, the enemies of Clotaire and his religion, such as it was.

After ten years of arduous service and heroic exploits, Vauthier, crowned with glory, and hoping that time had mollified the malignant feelings of the king, turned his face once more towards his native country. But at that period bad passions were not so easily effaced; besides, the accusers of Vauthier were now doubly interested in keeping him at a distance. The Lord of Yvetot, hearing how matters stood, to make sure of a favourable reception, proceeded, in the first instance, to Rome, where he made a friend of Pope Agapet, who sent him with letters to Clotaire, in the capacity of an envoy. Under the shield of so sacred a function, Vauthier had no hesitation in repairing to Soissons, and presenting himself before the king; yet, to be still more secure, he chose for that occasion the solemnities of Good Friday-the anniversary of the great day of Christian mercy. Clotaire was at the high altar of the cathedral, celebrating the holiest rites of the church before a crucifix veiled in mourning, when Vauthier made his presence known. Throwing himself on his knees in humble supplication, he presented the letters of the sovereign pontiff, and implored pardon, if he had been guilty, by the merits of Him who, on the same day, had so freely shed his blood for the salvation of all mankind. The ferocious and implacable king recognised the suppliant, and, without regard to the sanctity of either the place or the day, drew his sword, and, with one blow, struck the unfortunate chamberlain dead on the stone pavement, at the very steps of the altar.

Violent passions have, generally speaking, rapid revulsions. Scarcely was Vauthier's body cold, when the king repented his hasty deed. The clergy read to him the letters from Pope Agapet, which attested the innocence of his former favourite; and they represented to him, that he had committed the grossest description of sacrilege, the sin from which the sovereign pontiff alone could absolve. In a short time the barbarous Clotaire passed from a state of rabid fury to one of the most abject despair, so that he required little persuasion from the clergy ere he sent a messenger to Rome, bearing rich presents, to beg for absolution from the pope. The messenger arrived at Rome just as Agapet was at the point of death; yet the business being urgent, and the presents valuable, he was ushered into the sick-chamber of the dying head of the Christian church. Supported by attendants, the pope proceeded to pronounce, in a feeble voice, the penitential discipline of Clotaire. He said that the king could not expect pardon unless he gave the highest possible satisfaction to the heirs of the murdered man: but here a fit of coughing attacked and carried off his holiness, so that whatever penance he intended to inflict was never known. Clotaire, however, determined to expiate his crime, long pondered upon the meaning of the pope's dying words, and at last concluded that, as there was nothing higher than a king, the words 'highest satisfaction' meant that he should raise the heir of Vauthier to the royal dignity. Accordingly, he by charter erected the seigniory of Yvetot into a kingdom—an act in perfect consonance with the ancient French feudal law, which enfranchised the family of the vassal from all homage and duty, if his lord laid violent hands upon him.

From that time until the latter part of the eighteenth century, the descendants of Vauthier reigned as independent sovereigns of their little kingdom of Yvetot, owing neither tribute, service, nor allegiance to any other power. Consequently, until the great Revolution, which, like the bursting of a pent-up deluge, changed the features of the whole country, the inhabitants of Yvetot paid no taxes to the government of France.

Historians and jurisconsults have written many grave and learned dissertations on the curious position of this little kingdom shut up in a greater one; and, though they differ in some trifling respects, they all coincide in concluding, that the king of Yvetot, being independent of any other potentate, was never obliged to engage in quarrels which did not concern him, and accordingly lived in peace with his neighbours, whom he never pretended to frighten. Moreover, in spite of courtiers and counsellors, statecraft and politics were unknown in Yvetot; thus the king remained neuter during the various wars that raged around him, though he could bring an army of one hundred and twenty royal troops into the field. The seriousness of these disquisitions has been occasionally enlivened by a spice of pleasantry. We are told how the king of Yvetot kept his own seals, and was his own minister of finance; that his court consisted of a bishop, a dean, and four canons, not one of whom ranked higher in the church than a parish curé; four notaries, dignified by the title of judges, representing the states of the kingdom, formed the senate, and composed his majesty's privy-council; four of the best-looking of the tenants' daughters were ladies of the bed-chamber and maids of honour to the queen; four stalwart body-guards attended on all occasions of ceremony

[pg 239]

—at other times, they worked as agricultural labourers on the royal farm; a footman performed the duty of chamberlain, and, when necessary, that of herald; a groom was master of the horse; a gardener superintended the woods and forests. This, however, is only a traditionary account of the court of Yvetot; and, lest the reader should think it all a joke, we shall specify some of the documentary evidence still extant respecting that little kingdom.

A decree of the Court of Exchequer of Normandy, executed in the year 1392, mentions the king of Yvetot; and various letters-patent, granted by monarchs of France in 1401, 1450, and 1464, acknowledge and confirm the title. In the early part of the fifteenth century, when Normandy was under English rule, one John Holland, an Englishman, claimed, in the name of his master Henry VI., certain taxes and feudal duties from the kingdom of Yvetot. Strange to say, in those semi-barbarous days, the case was tried in a court of law, and the issue given against Holland, the court fully recognising the Lord of Yvetot as an independent king. A letter of Francis I., addressed to the queen of Yvetot, is still in existence. In one of the many episodes of the wars of the League, it happened that Henry IV., compelled to retreat, found himself in Yvetot, and determined not to recede further, he cheered his troops by jocularly saying: 'If we lose France, we must take possession of this fair kingdom of Yvetot.' At the coronation of his second wife, Mary de Medici, the same monarch rebuked the grand chamberlain for not assigning to Martin du Belley, then king of Yvetot, a position suitable to his regal dignity. The Belley dynasty reigned in Yvetot for 332 years. The last king of that petty kingdom was D'Albon St Marcel, who, when at the court of Louis XVI., modestly assumed no higher rank than that of a prince. The Revolution, as we have already intimated, swept away the ancient crown, and the King of Yvetot is now nothing more than the title of a song, with its burden—

Ha, ha, ha! Ho, ho, ho!

#### RELATIONSHIPS.

Return to Table of Contents

#### MASTER AND SERVANT.

The relationship of a master and servant—or, to use the modern phrase, employer and employed—is properly constituted by the agreement of one individual to perform certain duties to another; that is, instead of being guided solely by his own will, to submit himself to perform in certain matters the will of another.

The extent of duty which is embraced in the contract may vary very much. It may be only for the performance of one single act, or it may be for almost the whole range of daily avocations and duties. There is often a vagueness about the limit of duties, and we often find the master inclined to exact more than the servant is inclined to give. There are very good reasons why masters should not consider themselves as having a right to a full command and power over their servants in all things; nay, that in things not within the contract, they should be inclined to admit a certain equality in the two parties. Masters are too apt to regard themselves as the lords of their servants in all respects and at all times. They exercise an authority and assume a superiority in matters beyond the contract.

On their side, servants often grudgingly perform the duties they have undertaken. These two causes of discontent produce the worst results.

The practical remedy seems to be, that masters ought more generally to recognise and act on the principle, that the lordship they bargain for is not of the whole man, but only in certain respects and duties; and that it is only as regards those duties they can expect their servant to surrender his will to the guidance of his master's: while it should be equally impressed on the servant, that in those respects in which he has agreed to submit to and execute the will of his master, that submission and surrender of his will should be absolute, and without the least reserve or limitation. Perfect obedience is a beautiful fulfilment of duty, and defensible on the grounds of common-sense; for as no one can serve two masters—that is, in the performance of any particular duty—so no man can both obey his own inclination and submit himself to his master's will in the performance of the same act.

On moral grounds, it is improper that any one should attempt to execute in all things the will, of any earthly master; for there is a power, and, in most cases, several powers, superior to both master and servant, to whom both owe

duties; and therefore the servant cannot legally, nor without failure in his higher duties, enter into any contract which may hinder the performance of those duties. In matters of the law, it is held that such a contract is not binding; and thus, in the case of a moral law being contravened by a contract, a door of escape is open to those who have entered into such contract, it being in opposition to the will of a higher authority.

When a servant, therefore, is in duty bound to execute the will of his master, his obedience should be perfect. All hesitation or murmuring is a violation of his contract—a breaking of his promise and agreement.

But the master and servant should equally learn, that in other respects, and at other times, the parties are not necessarily in the state of superior and inferior; but, unless from some other cause, are to be regarded as on a footing of equality; and this is the true interpretation of the doctrine of fraternity and equality, which has, from not being properly understood, played such wild work among some neighbouring nations. In this sense, however, it is safe and useful.

Not only, however, may the individuals who sometimes and in some respects are master and servant, be at other times and in other respects regarded as on a level, but they may with propriety, and often do, change places. The servant becomes of right the master. For if he should employ that master as his physician or lawyer, no matter what may be considered the respective ranks of the parties, the physician or lawyer must, to perform his duty, become the servant, and submit his will in the business he is employed in to that of his employer.

This way of regarding servitude is not a degrading one, but the reverse. Nothing is so pleasant to a reasonable and truly noble mind as to pay obedience to those to whom it is due; and if the adaptability of the same individual to be both master and servant was more practically carried out, our civilisation would work more smoothly, and we should probably approach more to that desirable state in which no one would have a stigma attached to him from his birth or occupation, but only from the manner in which he performed his duty.

It would help considerably towards a proper understanding of the relationship between employers and employed, if the employed would, for their own sake, maintain that degree of self-respect which would induce others to respect them. On this point we would speak kindly, yet frankly, and cannot do better than quote a passage from a small treatise on Political Economy, just published.[7] 'The true relationship between employers and employed is that subsisting between a purchaser and a seller. The employer buys; the employed sells; and the thing sold is labour. Attaining a clear conviction on this point, the connection between the two parties is that of mutual independence. Thrown much together, however, a spirit of courtesy and goodfellowship ought to temper the intercourse, and it will be the better for all parties if this spirit prevails. In some situations, however, there is shewn a disposition on the part of workmen to ask favours of employers—as, for example, seeking to absent themselves on holidays without a corresponding reduction in the amount of wages. This seems to be as wrong as it would be for the employer to ask his workmen to labour certain days for nothing. The rights and obligations are distinctly mutual. One has no right to encroach on the other; and, indeed, there can be no encroachment, no favour asked, on either side, without a certain loss of independence. This feeling of independence should be carefully cultivated and preserved, along with those habits of courtesy which soften the general intercourse of society.

We are happy to add, that, to all appearance, a great advance in all these respects has been made within these few years—disagreements respecting wages and other circumstances between employers and employed, being conducted and finally adjusted in a spirit very different from what used to be manifested a quarter of a century ago.

#### **FOOTNOTES:**

[7] Political Economy: Chambers's Educational Course.

#### THIRST IN THE ARCTIC REGIONS.

Return to Table of Contents

INIKSI IN THE ARCTIC REGIONS

[pg 240]

insatiable desire for water; on the contrary, it appears to be increased in proportion to the quantity used, and the frequency with which it is put into the mouth. For example, a person walking along feels intensely thirsty, and he looks to his feet with coveting eyes; but his good sense and firm resolutions are not to be overcome so easily, and he withdraws the open hand that was to grasp the delicious morsel and convey it into his parching mouth. He has several miles of a journey to accomplish, and his thirst is every moment increasing; he is perspiring profusely, and feels quite hot and oppressed. At length his good resolutions stagger, and he partakes of the smallest particle, which produces a most exhilarating effect; in less then ten minutes he tastes again and again, always increasing the quantity; and in half an hour he has a gum-stick of condensed snow, which he masticates with avidity, and replaces with assiduity the moment that it has melted away. But his thirst is not allayed in the slightest degree; he is as hot as ever, and still perspires; his mouth is in flames, and he is driven to the necessity of quenching them with snow, which adds fuel to the fire. The melting snow ceases to please the palate, and it feels like red-hot coals, which, like a fire-eater, he shifts about with his tongue, and swallows without the addition of saliva. He is in despair; but habit has taken the place of his reasoning faculties, and he moves on with languid steps, lamenting the severe fate which forces him to persist in a practice which in an unguarded moment he allowed to begin.... I believe the true cause of such intense thirst is the extreme dryness of the air when the temperature is low. -Sutherland's Journal.

#### AN AUSTRALIAN MISS.

Return to Table of Contents

The precocity of the Australian youth, to be properly understood and believed, can only be fully appreciated by being an eye-witness to some of these very extraordinary young creatures. I have seen a girl of ten years of age possess all the manner of an old lady of sixty: she would flirt with three men at a time, and have a ready answer for them when teasing her; would move like an accomplished actress, manipulate gracefully, play whist, chess, and other games, and talk about getting married. This child, for such I must call her, was a greater mental giant than O'Brien, with his moving mountain of flesh, and far more entertaining than twenty Tom Thumbs.—Shaw's Tramp to the Diggings.

#### THE DAY OF REST.

Return to Table of Contents

Rest, rest! it is the Day of Rest—there needs no book to tell

The truth that every thoughtful eye, each heart can read so well;

Rest, rest! it is the Sabbath morn, a quiet fills the air, Whose whispered voice of peace repeats that rest is everywhere.

O weary heart! O heart of wo! raise up thy toil-worn brow; The fields, the trees, the very breeze—they all are resting now:

The air is still, there is no sound, save that unceasing hum, That insect song of summer-time that from the woods doth come.

And even that seems fainter now, like voices far away,
As though they only sang of rest, and laboured not to-day;
The hum of bees seems softer, too, from out the clear blue heaven,

As if the lowliest creatures knew this day for rest was given.

The spacious tracts of meadow-land, of bean-fields, and of wheat,

And all the glebe, are undisturbed by sound of Labour's feet:

The cotter in his Sunday garb, with peace within his breast,

Roams idly by the garden-side, and feels himself at rest.

The streams, the trees, the woods, the breeze, the bird, and roving bee,

Seem all to breathe a softer sound, a holier melody; Yon little church, too, tells of rest, to all the summer air, For the bell long since has ceased to peal that called to praise and prayer.

But while I stand 'mid these tall elms, a sound comes creeping near,

That falls like music heard in dreams upon my charmèd ear;

Like music heard in dreams of heaven, that sacred sound doth steal

From where the old church aisles repeat the organ's solemn peal.

Now Heaven be praised! a gracious boon is this sweet rest to me—

How many shall this truth repeat to-day on bended knee! How many a weary heart it cheers, how many an aching breast:

Now Heaven be praised, a gracious boon is this sweet Day of Rest!

TORQUAY.

#### 'THE BIRKBECK MAGAZINE.'

Return to Table of Contents

Some numbers have been sent to us of a cheap London periodical with this title. Its peculiarity is, that the promoters and contributors are young men, members of the Mechanics' Institution, Southampton Buildings, who intend throwing open their columns to unknown writers connected in a similar way with the other Mutual Improvement Societies. A considerable circulation might be secured by this plan; and perhaps such a work may be as well calculated to elevate the aspirations, and excite wholesome emulation, as the productions of more practised pens.

Printed and Published by W. and R. Chambers, High Street, Edinburgh. Also sold by W. S. Orr, Amen Corner, London; D. N. Chambers, 55 West Nile Street, Glasgow; and J. M'Glashan, 50 Upper Sackville Street, Dublin.—Advertisements for Monthly Parts are requested to be sent to Maxwell & Co., 31 Nicholas Lane, Lombard Street, London, to whom all applications respecting their insertion must be made.

\*\*\* END OF THE PROJECT GUTENBERG EBOOK CHAMBERS'S EDINBURGH JOURNAL, NO. 458 \*\*\*

Updated editions will replace the previous one—the old editions will be renamed.

Creating the works from print editions not protected by U.S. copyright law means that no one owns a United States copyright in these works, so the Foundation (and you!) can copy and distribute it in the United States without permission and without paying copyright royalties. Special rules, set forth in the General Terms of Use part of this license, apply to copying and distributing Project Gutenberg™ electronic works to protect the PROJECT GUTENBERG™ concept and trademark. Project Gutenberg is a registered trademark, and may not be used if you charge for an eBook, except by following the terms of the trademark license, including paying royalties for use of the Project Gutenberg trademark. If you do not charge anything for copies of this eBook, complying with the trademark license is very easy. You may use this eBook for nearly any purpose such as creation of derivative works, reports, performances and research. Project Gutenberg eBooks may be modified and printed and given away—you may do practically ANYTHING in the United States with eBooks not protected by U.S. copyright law. Redistribution is subject to the trademark license,

# START: FULL LICENSE THE FULL PROJECT GUTENBERG LICENSE PLEASE READ THIS BEFORE YOU DISTRIBUTE OR USE THIS WORK

To protect the Project Gutenberg<sup>TM</sup> mission of promoting the free distribution of electronic works, by using or distributing this work (or any other work associated in any way with the phrase "Project Gutenberg"), you agree to comply with all the terms of the Full Project Gutenberg<sup>TM</sup> License available with this file or online at www.gutenberg.org/license.

## Section 1. General Terms of Use and Redistributing Project Gutenberg™ electronic works

- 1.A. By reading or using any part of this Project Gutenberg<sup>TM</sup> electronic work, you indicate that you have read, understand, agree to and accept all the terms of this license and intellectual property (trademark/copyright) agreement. If you do not agree to abide by all the terms of this agreement, you must cease using and return or destroy all copies of Project Gutenberg<sup>TM</sup> electronic works in your possession. If you paid a fee for obtaining a copy of or access to a Project Gutenberg<sup>TM</sup> electronic work and you do not agree to be bound by the terms of this agreement, you may obtain a refund from the person or entity to whom you paid the fee as set forth in paragraph 1.E.8.
- 1.B. "Project Gutenberg" is a registered trademark. It may only be used on or associated in any way with an electronic work by people who agree to be bound by the terms of this agreement. There are a few things that you can do with most Project Gutenberg<sup> $\mathsf{TM}$ </sup> electronic works even without complying with the full terms of this agreement. See paragraph 1.C below. There are a lot of things you can do with Project Gutenberg<sup> $\mathsf{TM}$ </sup> electronic works if you follow the terms of this agreement and help preserve free future access to Project Gutenberg<sup> $\mathsf{TM}$ </sup> electronic works. See paragraph 1.E below.
- 1.C. The Project Gutenberg Literary Archive Foundation ("the Foundation" or PGLAF), owns a compilation copyright in the collection of Project Gutenberg<sup>TM</sup> electronic works. Nearly all the individual works in the collection are in the public domain in the United States. If an individual work is unprotected by copyright law in the United States and you are located in the United States, we do not claim a right to prevent you from copying, distributing, performing, displaying or creating derivative works based on the work as long as all references to Project Gutenberg are removed. Of course, we hope that you will support the Project Gutenberg<sup>TM</sup> mission of promoting free access to electronic works by freely sharing Project Gutenberg<sup>TM</sup> works in compliance with the terms of this agreement for keeping the Project Gutenberg<sup>TM</sup> name associated with the work. You can easily comply with the terms of this agreement by keeping this work in the same format with its attached full Project Gutenberg<sup>TM</sup> License when you share it without charge with others.
- 1.D. The copyright laws of the place where you are located also govern what you can do with this work. Copyright laws in most countries are in a constant state of change. If you are outside the United States, check the laws of your country in addition to the terms of this agreement before downloading, copying, displaying, performing, distributing or creating derivative works based on this work or any other Project Gutenberg<sup>TM</sup> work. The Foundation makes no representations concerning the copyright status of any work in any country other than the United States.
- 1.E. Unless you have removed all references to Project Gutenberg:
- 1.E.1. The following sentence, with active links to, or other immediate access to, the full Project Gutenberg $^{\text{\tiny TM}}$  License must appear prominently whenever any copy of a Project Gutenberg $^{\text{\tiny TM}}$  work (any work on which the phrase "Project Gutenberg" appears, or with which the phrase "Project Gutenberg" is associated) is accessed, displayed, performed, viewed, copied or distributed:

This eBook is for the use of anyone anywhere in the United States and most other parts of the world at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this eBook or online at <a href="https://www.gutenberg.org">www.gutenberg.org</a>. If you

are not located in the United States, you will have to check the laws of the country where you are located before using this eBook.

- 1.E.2. If an individual Project Gutenberg<sup>™</sup> electronic work is derived from texts not protected by U.S. copyright law (does not contain a notice indicating that it is posted with permission of the copyright holder), the work can be copied and distributed to anyone in the United States without paying any fees or charges. If you are redistributing or providing access to a work with the phrase "Project Gutenberg" associated with or appearing on the work, you must comply either with the requirements of paragraphs 1.E.1 through 1.E.7 or obtain permission for the use of the work and the Project Gutenberg<sup>™</sup> trademark as set forth in paragraphs 1.E.8 or 1.E.9.
- 1.E.3. If an individual Project Gutenberg<sup>™</sup> electronic work is posted with the permission of the copyright holder, your use and distribution must comply with both paragraphs 1.E.1 through 1.E.7 and any additional terms imposed by the copyright holder. Additional terms will be linked to the Project Gutenberg<sup>™</sup> License for all works posted with the permission of the copyright holder found at the beginning of this work.
- 1.E.4. Do not unlink or detach or remove the full Project Gutenberg<sup>TM</sup> License terms from this work, or any files containing a part of this work or any other work associated with Project Gutenberg<sup>TM</sup>.
- 1.E.5. Do not copy, display, perform, distribute or redistribute this electronic work, or any part of this electronic work, without prominently displaying the sentence set forth in paragraph 1.E.1 with active links or immediate access to the full terms of the Project Gutenberg<sup>TM</sup> License.
- 1.E.6. You may convert to and distribute this work in any binary, compressed, marked up, nonproprietary or proprietary form, including any word processing or hypertext form. However, if you provide access to or distribute copies of a Project Gutenberg<sup>TM</sup> work in a format other than "Plain Vanilla ASCII" or other format used in the official version posted on the official Project Gutenberg<sup>TM</sup> website (www.gutenberg.org), you must, at no additional cost, fee or expense to the user, provide a copy, a means of exporting a copy, or a means of obtaining a copy upon request, of the work in its original "Plain Vanilla ASCII" or other form. Any alternate format must include the full Project Gutenberg<sup>TM</sup> License as specified in paragraph 1.E.1.
- 1.E.7. Do not charge a fee for access to, viewing, displaying, performing, copying or distributing any Project Gutenberg $^{\text{m}}$  works unless you comply with paragraph 1.E.8 or 1.E.9.
- 1.E.8. You may charge a reasonable fee for copies of or providing access to or distributing Project Gutenberg $^{\text{TM}}$  electronic works provided that:
- You pay a royalty fee of 20% of the gross profits you derive from the use of Project Gutenberg™ works calculated using the method you already use to calculate your applicable taxes. The fee is owed to the owner of the Project Gutenberg™ trademark, but he has agreed to donate royalties under this paragraph to the Project Gutenberg Literary Archive Foundation. Royalty payments must be paid within 60 days following each date on which you prepare (or are legally required to prepare) your periodic tax returns. Royalty payments should be clearly marked as such and sent to the Project Gutenberg Literary Archive Foundation at the address specified in Section 4, "Information about donations to the Project Gutenberg Literary Archive Foundation."
- You provide a full refund of any money paid by a user who notifies you in writing (or by e-mail) within 30 days of receipt that s/he does not agree to the terms of the full Project Gutenberg™ License. You must require such a user to return or destroy all copies of the works possessed in a physical medium and discontinue all use of and all access to other copies of Project Gutenberg™ works.
- You provide, in accordance with paragraph 1.F.3, a full refund of any
  money paid for a work or a replacement copy, if a defect in the electronic
  work is discovered and reported to you within 90 days of receipt of the
  work.
- You comply with all other terms of this agreement for free distribution of Project Gutenberg  $^{\text{\tiny TM}}$  works.

1.E.9. If you wish to charge a fee or distribute a Project Gutenberg<sup>™</sup> electronic work or group of works on different terms than are set forth in this agreement, you must obtain permission in writing from the Project Gutenberg Literary Archive Foundation, the manager of the Project Gutenberg<sup>™</sup> trademark. Contact the Foundation as set forth in Section 3 below.

#### 1.F.

- 1.F.1. Project Gutenberg volunteers and employees expend considerable effort to identify, do copyright research on, transcribe and proofread works not protected by U.S. copyright law in creating the Project Gutenberg<sup>™</sup> collection. Despite these efforts, Project Gutenberg<sup>™</sup> electronic works, and the medium on which they may be stored, may contain "Defects," such as, but not limited to, incomplete, inaccurate or corrupt data, transcription errors, a copyright or other intellectual property infringement, a defective or damaged disk or other medium, a computer virus, or computer codes that damage or cannot be read by your equipment.
- 1.F.2. LIMITED WARRANTY, DISCLAIMER OF DAMAGES Except for the "Right of Replacement or Refund" described in paragraph 1.F.3, the Project Gutenberg™ trademark, and any other party distributing a Project Gutenberg™ trademark, and any other party distributing a Project Gutenberg™ electronic work under this agreement, disclaim all liability to you for damages, costs and expenses, including legal fees. YOU AGREE THAT YOU HAVE NO REMEDIES FOR NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTY OR BREACH OF CONTRACT EXCEPT THOSE PROVIDED IN PARAGRAPH 1.F.3. YOU AGREE THAT THE FOUNDATION, THE TRADEMARK OWNER, AND ANY DISTRIBUTOR UNDER THIS AGREEMENT WILL NOT BE LIABLE TO YOU FOR ACTUAL, DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE OR INCIDENTAL DAMAGES EVEN IF YOU GIVE NOTICE OF THE POSSIBILITY OF SUCH DAMAGE.
- 1.F.3. LIMITED RIGHT OF REPLACEMENT OR REFUND If you discover a defect in this electronic work within 90 days of receiving it, you can receive a refund of the money (if any) you paid for it by sending a written explanation to the person you received the work from. If you received the work on a physical medium, you must return the medium with your written explanation. The person or entity that provided you with the defective work may elect to provide a replacement copy in lieu of a refund. If you received the work electronically, the person or entity providing it to you may choose to give you a second opportunity to receive the work electronically in lieu of a refund. If the second copy is also defective, you may demand a refund in writing without further opportunities to fix the problem.
- 1.F.4. Except for the limited right of replacement or refund set forth in paragraph 1.F.3, this work is provided to you 'AS-IS', WITH NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE.
- 1.F.5. Some states do not allow disclaimers of certain implied warranties or the exclusion or limitation of certain types of damages. If any disclaimer or limitation set forth in this agreement violates the law of the state applicable to this agreement, the agreement shall be interpreted to make the maximum disclaimer or limitation permitted by the applicable state law. The invalidity or unenforceability of any provision of this agreement shall not void the remaining provisions.
- 1.F.6. INDEMNITY You agree to indemnify and hold the Foundation, the trademark owner, any agent or employee of the Foundation, anyone providing copies of Project Gutenberg<sup>™</sup> electronic works in accordance with this agreement, and any volunteers associated with the production, promotion and distribution of Project Gutenberg<sup>™</sup> electronic works, harmless from all liability, costs and expenses, including legal fees, that arise directly or indirectly from any of the following which you do or cause to occur: (a) distribution of this or any Project Gutenberg<sup>™</sup> work, (b) alteration, modification, or additions or deletions to any Project Gutenberg<sup>™</sup> work, and (c) any Defect you cause.

## Section 2. Information about the Mission of Project Gutenberg<sup>™</sup>

Project Gutenberg<sup>TM</sup> is synonymous with the free distribution of electronic works in formats readable by the widest variety of computers including obsolete, old, middle-aged and new computers. It exists because of the efforts of hundreds of volunteers and donations from people in all walks of life.

Volunteers and financial support to provide volunteers with the assistance they need are critical to reaching Project Gutenberg $^{\text{\tiny TM}}$ 's goals and ensuring that the Project Gutenberg $^{\text{\tiny TM}}$  collection will remain freely available for generations to come. In 2001, the Project Gutenberg Literary Archive Foundation was created to provide a secure and permanent future for Project Gutenberg $^{\text{\tiny TM}}$  and future generations. To learn more about the Project Gutenberg Literary Archive Foundation and how your efforts and donations can help, see Sections 3 and 4 and the Foundation information page at www.gutenberg.org.

# Section 3. Information about the Project Gutenberg Literary Archive Foundation

The Project Gutenberg Literary Archive Foundation is a non-profit 501(c) (3) educational corporation organized under the laws of the state of Mississippi and granted tax exempt status by the Internal Revenue Service. The Foundation's EIN or federal tax identification number is 64-6221541. Contributions to the Project Gutenberg Literary Archive Foundation are tax deductible to the full extent permitted by U.S. federal laws and your state's laws.

The Foundation's business office is located at 809 North 1500 West, Salt Lake City, UT 84116, (801) 596-1887. Email contact links and up to date contact information can be found at the Foundation's website and official page at www.gutenberg.org/contact

### Section 4. Information about Donations to the Project Gutenberg Literary Archive Foundation

Project Gutenberg<sup>™</sup> depends upon and cannot survive without widespread public support and donations to carry out its mission of increasing the number of public domain and licensed works that can be freely distributed in machine-readable form accessible by the widest array of equipment including outdated equipment. Many small donations (\$1 to \$5,000) are particularly important to maintaining tax exempt status with the IRS.

The Foundation is committed to complying with the laws regulating charities and charitable donations in all 50 states of the United States. Compliance requirements are not uniform and it takes a considerable effort, much paperwork and many fees to meet and keep up with these requirements. We do not solicit donations in locations where we have not received written confirmation of compliance. To SEND DONATIONS or determine the status of compliance for any particular state visit <a href="https://www.gutenberg.org/donate">www.gutenberg.org/donate</a>.

While we cannot and do not solicit contributions from states where we have not met the solicitation requirements, we know of no prohibition against accepting unsolicited donations from donors in such states who approach us with offers to donate.

International donations are gratefully accepted, but we cannot make any statements concerning tax treatment of donations received from outside the United States. U.S. laws alone swamp our small staff.

Please check the Project Gutenberg web pages for current donation methods and addresses. Donations are accepted in a number of other ways including checks, online payments and credit card donations. To donate, please visit: www.gutenberg.org/donate

### Section 5. General Information About Project Gutenberg™ electronic works

Professor Michael S. Hart was the originator of the Project Gutenberg<sup>TM</sup> concept of a library of electronic works that could be freely shared with anyone. For forty years, he produced and distributed Project Gutenberg<sup>TM</sup> eBooks with only a loose network of volunteer support.

Project Gutenberg<sup>™</sup> eBooks are often created from several printed

editions, all of which are confirmed as not protected by copyright in the U.S. unless a copyright notice is included. Thus, we do not necessarily keep eBooks in compliance with any particular paper edition.

Most people start at our website which has the main PG search facility:  $\underline{www.gutenberg.org}$ .

This website includes information about Project Gutenberg  $^{\text{\tiny TM}}$ , including how to make donations to the Project Gutenberg Literary Archive Foundation, how to help produce our new eBooks, and how to subscribe to our email newsletter to hear about new eBooks.