

all his men to be armed and drawn up on the beach. After going through some evolutions, they fired three volleys in presence of the King and his attendants, who expressed their surprise by hallowing, jumping, &c. One of the fowls, which had been saved from the wreck, was made to pass across the cove, where Mr BENDER was prepared with his fowling-piece loaded with small shot. He fired, and the bird instantly dropped, having one wing and one leg broken. Some of the natives took it up, and brought it to the King, who was astonished, as he had seen nothing pass out of the gun, how this effect could have been produced.

Some time after, Captain WILSON, and the whole ship's company were vexed, and even alarmed, on observing an unusual coolness in the aspect and behaviour of the King. Instead of his former open and affectionate manner, he had become morose and apparently distrustful. The cause of this change, however, when developed, was not only a confirmation of the highest honour in the breast of the Sovereign, but a proof of the greatest delicacy of sentiment. The King was at war with an island not far distant, called *Artingall*. He meant to make an attack upon that island in a few days. He wished to have the assistance of five Englishmen armed with muskets, pistols, &c. to astonish and annoy his enemies. Whenever Captain WILSON discovered the nature of the King's request, he instantly complied. In a moment, every countenance assumed an unusual gaiety, and perfect harmony and mutual confidence were restored. The five men, with THOMAS ROSE the interpreter, accompanied the fleet of King *ABBA THULLE*, which consisted of a hundred and fifty canoes filled with warriors. No sooner did they arrive within a proper distance of the enemy's fleet than the musketry were ordered to be fired. One or two men were observed to fall. Terror and

dismay, at an exhibition so far removed from the conception of those islanders, instantly seized them, and they fled with the utmost precipitation. The King, elevated by the victory he had so easily obtained, and the terror which he had excited in the minds of his enemies, returned in triumph to his own dominions, where he was received by his subjects with every mark of joy and exultation. Some little time afterwards, the King prepared his canoes and soldiers for another expedition against Artingall. Ten Englishmen, armed as before, with the addition of a swivel-gun, were solicited from Captain WILSON to attend *ARRA THULLE* and his warriors. This request was also granted; and the havoc made by the fire-arms was so great, that another victory was easily obtained by the Monarch of Pelew. Soon after this defeat, peace was concluded between the two contending parties.

*Marriage*, among these people, seemed to be a civil contract, which they regard as inviolable. A plurality of wives was allowed, though the number seldom exceeded two. *RAA ROOK* had three wives, and the King five; but they did not live together. After a woman was pregnant, though she accompanied her husband, she never, while in that state, slept with him. When any Chief appeared with his two wives, they generally sat on each side of him; and the company paid no more attention to them than what is customary where the greatest good manners prevail. One of the English gentlemen, endeavouring to render himself agreeable to a lady by what is usually termed a marked assiduity, *ARRA ROOKER*, with much delicacy, hinted, that such behaviour was not altogether proper.

With regard to their mode of *burying* the dead, Mr SHARP the surgeon, and THOMAS HARVEY the boatswain, saw the funeral of

*RAA*

*RAA Rook's* son, who had fallen in battle. The body was wrapped in a mat, and carried on the shoulders of four men, on a machine made of bamboos, and resembling what is called a *horse* by our chairmen. Beside these four bearers, the funeral procession consisted entirely of women, who incessantly set up the loudest lamentations. The same custom formerly existed in the north of Scotland, and still prevails in some parts of the Highlands and western isles of that country.

Captain WILSON and his ship's company, before their new vessel could be fitted for sea, remained three months in Oroolong, and occasionally visited several other of the Pelew Islands. During this period they could discover no marks of a public *religion* of any kind among these islanders: But they uniformly exhibited the greatest examples of *humanity* and *moral rectitude*, which ought to be the genuine characteristics of all religions, whatever diversity of ceremonials they may happen to assume. But, though these people have no place of *public* worship to which they resort, both their private and political virtues are so eminently conspicuous, that it is almost impossible they should not have some idea of a supreme and a benevolent Deity. The people of Pelew, however, discovered some portion of superstition; for, when King *ABBA THUILE* saw a particular species of *wood* employed in the construction of the new ship, he expressed a wish that this wood should be removed, as he considered it as a *bad omen*, or *unpropitious*. They had likewise a notion of an evil spirit, that often counteracted human affairs. When the second mate, Mr *BARKER*, fell backward from the side of the vessel then on the stocks, *RAA Rook*, who happened to be present, said, the accident was owing to the *unlucky wood*, which had been allowed to remain in the vessel, that the evil spirit had brought this misfortune upon Mr *BARKER*.

They seemed to have also a strong notion of divination. When about to undertake any affair of moment, by splitting the leaves of a plant similar to our bullrush, and measuring or twisting these strips upon their middle finger, they imagined they could discover whether the event would be prosperous or adverse. *Captain WILSON*, in conversation with *LEE BOO*, King *ABBA THULLE*'s second son, after his arrival in England with the Captain, told him, that the intention of saying prayers at church was in order to make men good, and that, when they died, and were buried, they might live again *above*, pointing to the sky; *LEE BOO*, with great eagerness, replied—*All same PELEW—Bad men stay in earth—good men go into sky—become very beautiful*, holding his hand in the air, and giving a fluttering motion with his fingers. This single circumstance indicates, in the most unequivocal terms, that these innocent people firmly believe the existence of the soul after the dissolution of the body, and have an idea of future rewards and punishments corresponding to the virtuous or vicious behaviour of individuals.

It is a singular circumstance in the history of these people, that, if an *attack* is intended against an *hostile* island, instead of surprising the enemy, intimation is uniformly given of the time when the assault is to be made. Though illustrious patterns of humanity, they put to *death* every *prisoner* taken in *war*. This seeming cruelty, however, must not be hastily condemned. It is not performed with the insulting solemnities of seemingly *legal trials*, like the execrable conduct of the present *French Convention*, which will for ever remain a most detestable and humiliating proof of the *barbarity* of what has, till now, been esteemed one of the most *civilized* nations in Europe. The Pelew Islanders, on the contrary, never kill their prisoners but instantly after a victory is obtained, before the effervescence of animosity

mosity is allayed ; and the poor victims are deprived of life by those who are either smarting under *personal* wounds, or who have lost some near *relation* in the combat.

It has formerly been related, that the inhabitants of the South Sea Islands are addicted to *petty thefts*. In the *Pelew* Islands instances of theft likewise occurred ; but this *crime*, if in them it merits that appellation, was always confined to the lower class of people. When a theft, however, was committed, the King and his Chiefs considered it as a gross breach of hospitality, made strict inquiries after the thief, whom they generally discovered, and restored the articles. ‘ Should ‘ some eastern prince,’ Captain WILSON humanely remarks, as an apology for the *Pelewets*, ‘ magnificently decorated, accidentally, as he ‘ passed along, drop a diamond from his robe, and were a poor peasant (knowing how great an acquisition it was), to see it sparkling ‘ in the dust, where is that resistance, that self-denial, which would ‘ go in and leave it untouched ?—A nail, a tool, or a bit of old iron, ‘ was to *them* the alluring diamond.’

We must not leave these amiable people, till a short sketch of the character and feelings of LEE BOO, who was brought from *Pelew* to England by Captain WILSON, shall be given. This young Prince was about twenty years of age when he arrived in a *New World*. His natural disposition was mild, affable, sprightly, and affectionate. He discovered, on all occasions, a keen spirit of investigating the causes or effects which to him were at first incomprehensible. After landing at Macao, he was conducted, along with his protectors and friends, to the house of Mr M’INTYRE, and brought into a large hall, which was lighted with candles, a table being placed in the middle covered for supper, and a sideboard handsomely ornamented.

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This new scene filled LEE BOO's mind with amazement. But the glass-vessels seemed principally to arrest his attention. He fixed his eye upon a large mirror, which nearly reflected his whole body. Here he stood some time lost in astonishment. He then laughed, drew back, and, absorbed in wonder, returned to view this strange appearance. He looked, as young children, when placed in the same circumstances, uniformly do, behind the mirror, to see if any person was there. As there were no quadrupeds in his country, except two dogs which had been left there by the English, the sheep, goats, and cattle he saw at Macao, were objects which struck his mind in the most forcible manner. One of the dogs left at Pelew was a Newfoundland, and his name was a *Sailor*. LEE BOO, from this circumstance, denominated every quadruped he saw, whether small or great, *Sailor*. A horse was a *large sailor*, &c. Observing a man pass the house on horseback, he was so astonished, that he pressed every person in company to go and see so strange a phaenomenon.

When on his voyage to England in the *Morfe* indiaman, Captain ELLIOT, he was very desirous of learning the name and the country of every ship that passed. As each inquiry was gratified, he made an additional *knot* on his *line*. These *knots* were to him the same as written memorandums to us. But, as the knots soon became numerous, to refresh his memory, he was obliged to read them over every day. The officers of the *Morfe*, when they saw him studying his *line*, used to say he was *reading his journal*. He solicited Captain WILSON to be instructed in the use of letters and of reading, which was readily acquiesced in; and he was very attentive and alert in comprehending every species of information he received. On arriving at St Helena, he was much struck with the soldiers and cannon on the fortifications. When walking in the Company's garden, he

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was pleased with some shady walks formed with bamboos arching overhead on lattice-work; and remarked that his own countrymen were ignorant of many advantages they might easily obtain. Like a philosopher and patriot, every useful and extraordinary thing that occurred in his travels, he noted down in his manner, and with the uniform view of improving his countrymen when he should return to his native soil. The Morse arrived at Portsmouth on the 14th day of July 1784. When LEE BOO landed, the number and magnitude of war ships in the harbour, the variety and structure of the houses, and the ramparts, so rivetted and absorbed his mind, that he found himself unable to ask any questions. When he reached London from Portsmouth, he was conveyed to Captain WILSON's house at Rotherhithe. He arrived in his natural glow and youthful spirits. What he had remarked in silence, was now disclosed with vivacity and intelligence. He described the incidents of his journey, and said that it was very pleasant; that he had been put into a little *house*, which was run away with by *horses*; that he slept, but was still proceeding in his journey, and that, whilst he was moved one way, the *fields*, the *houses*, and the *trees*, went in the contrary direction. At the hour of rest, he was conducted to his chamber, where, for the first time, he saw a fourpost bed. Not knowing for what purpose it was intended, he repeatedly jumped in and out, and felt and pulled aside the curtains. At length, being acquainted with its use, he laid himself down to sleep, saying, that, in England, there was *a house for every thing*. Being asked his opinion of England and of his present situation, he instantly replied, *All fine country, fine street, fine coach, and house upon house up to sky.*

LEE BOO was sent to an academy, to be instructed in reading and writing. Whilst there, his manner and deportment soon gained him  
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the esteem of the master, and the affection of his young companions. In the hours of recess from school, he amused Captain WILSON's family with his vivacity and good humour. He mimicked such peculiarities as he observed in the manners and behaviour of his school-fellows, and often said, that, when he returned to *Pelew*, he would have a school of his own, and should be thought very wise *when he taught the great people their letters*. He always called Mr WILSON *Captain*; but he uniformly gave the appellation of *Mother* to Mrs WILSON, considering it as a greater mark of affection and respect. He was often told, that he should say *Mrs WILSON*; but his constant reply was, *No, no—Mother, Mother*. When solicited for charity by young people of either sex, he told them, that it was shameful to *beg* as long as they were able to *work*; but the solicitations of *old age* he could never resist, saying to himself, *LEE BOO must give poor old man—old man not able to work*. Captain WILSON and the young Prince, when dining with Mr KEATE, a friend of Mr WILSON, and well known to LEE BOO, a miniature picture of Mr KEATE was exhibited; LEE BOO, taking the picture into his hand, instantly recognized the likeness, and exclaimed, *Misser KEATE—very nice, very good*. Captain WILSON asked him, if he understood what it represented? He replied, *LEE BOO understand well—That Misser KEATE die—This Misser KEATE live!* A volume on the utility of portrait-painting could not contain more than these few forcible words uttered by this untutored child of Nature.

Every useful or uncommon object which he saw he examined with attention, and, like a true philosopher and patriot, considered whether it might be rendered useful to his own country. When in gardens, he remarked particularly the esculent plants and fruit-trees, asked many questions concerning them, and said that, when he returned home,



home, he would carry seeds of such of them as he thought would grow to perfection in *Pelew*. While rapidly advancing in the knowledge of the English language, and in the art of writing, notwithstanding all the precautions of his friends, he was seized with the small-pox, of which he died in a few days. When very bad, he accidentally heard that Mrs WILSON was indisposed, and confined to bed, he became impatient, and exclaimed, *What, mother ill?* LEE BOO *go up to see her*. On the Thursday before his death, when walking across the room, he looked at himself in the glass. His face being then swelled and disfigured, he shook his head, turned away as if disgusted with his appearance, and said to Mr SHARP the surgeon, that *his father and mother much grieve, for they knew he was very sick*. Growing worse in the evening, he seemed to think himself in danger. He took Mr SHARP by the hand, and looking stedfastly on him, said, *Good friend, when you go to PELEW, tell ABBA THUILE that LEE BOO take much drink to make small-pox go away, but he die; that the Captain and mother very kind—all English very good men;—was much sorry he could not speak to the King the number of fine things the English had got*. Though his feelings and pain must have been acute, his spirit would not allow him to complain. Mrs WILSON's chamber being adjacent to his own, he often called out to know if she was better, always adding, lest she should suffer on his account, *LEE BOO do well, Mother*. Soon after his interment in Rotherhithe church-yard, the INDIA COMPANY ordered a tomb to be erected over his grave with the following inscription:

To the Memory  
 Of Prince LEE BOO,  
 A native of the PELEW, or PALOS Islands;  
 And son to ABBA THULLE, Rupack or King  
 Of the Island COOROORAA;  
 Who departed this life on the 27th of December  
 1784,  
 Aged 20 years;  
 This Stone is inscribed,  
 By the Honourable United East India Company,  
 As a Testimony of Esteem  
 For the humane and kind Treatment afforded  
 By his FATHER to the Crew of their ship  
 The ANTELOPE, Captain WILSON,  
 Which was wrecked off that Island  
 In the night of the 9th of August 1783.

*Stop, Reader, stop!—let NATURE claim a tear—  
 A Prince of MINE, LEE BOO, lies buried here.*

Upon the whole; no poet, either for character, situation, or incident, can have a better subject for a *Tragedy*, than is afforded by the *History of Prince LEE BOO*

THIS

\* This short narrative concerning the Pelew islanders is extracted from *An Account of the Pelew Islands, composed from the Journals of Captain HENRY WILSON, and sent of his officers, by the ingenious GEORGE KEATE, Esq: R. R. S. & S. A.*

THIS interesting Chapter must not be concluded without some general reflections. The reader has now been conducted through almost every region of the globe which has hitherto been visited by Europeans of intelligence. Though, in different climates, men vary in colour, appearance, and manners; yet the human character, however diversified, is not only recognizable, but perceived to be uniformly and distinctively the same. It is not by colour, nor even form, but by mental powers, that men rise superior to all other animated beings in this planet.

## R E L I G I O N.

IN every country, however remote from civilization, traces of RELIGION, or of *superstition*, are discernible. The forms, the objects, and even the effects of religion, according to circumstances and situations, assume different aspects; but the sentiments excited are nearly similar. The savage who starves and shivers in a ~~very~~ frozen region, though he believes the existence of superior beings, naturally regards them as cruel and unpropitious. But, in climates of which the genial warmth multiplies and matures the productions of Nature, the ideas of the characters of gods and goddesses become more mild and benign. Men, placed in circumstances so highly favourable to happiness, feel gratitude to the Author or Authors of the numberless comforts they daily enjoy. Furnished with food in abundance, and having perpetually before their eyes the most delightful scenery, they possess an hilarity of spirit, which makes them ever gay and vivacious. Gloomy ideas, and dreadful apprehensions of futurity, are banished from their thoughts. Still, however, death,

the many physical evils of life, and fortuitous calamities produced by the elements, by earthquakes, and by occasional inundations, alarm their minds, and excite the idea of *bad* as well as of *good* DEITIES. These notions of *good* and of *bad* spirits, who superintended all human affairs at certain periods of society, were universal in all religions of the ancient states of which we have any historical knowledge. Greece and Rome were formerly overwhelmed with deluges of gods and goddesses, both superior and infernal. Hills, mountains, rivers, springs, the earth, the sea, the sun, moon, and constellations, were all held sacred, or considered as so many separate deities, to whom distinct offices were assigned, and particular rites and sacrifices performed at their respective shrines. Though men, by moral doctrines far more sublime, and more consonant to reason, were long ago favoured with the genuine principles of Theism, or of the existence of One great CREATOR and Governour of the universe; yet many of the ancient superstitions, absurd notions and practices, still subsist in several populous nations of Europe, Asia, &c.

■ a very early period of Christianity, a Priesthood, or ecclesiastical Hierarchy, was established. The simplicity, the purity, and the universal benevolence of the Christian system, could not be suddenly embraced by men who had long been habituated to the pompous impressions and exhibitions of Paganism, which had been rivetted in their minds. The early teachers of Christianity perceived this alarming obstacle to the propagation of the Gospel. To remove this obstacle, however, and to accommodate matters, these teachers, with, it must be supposed, the most zealous and upright intentions, adopted a number of heathen ideas and practices, and incorporated them with the faith of what was emphatically denominated the *Catholic Church*. The leaders and  
pastors

pastors of this Church perceived the advantages they might derive from this motely jumble of Christianity and Paganism. Between these two inconsistent, and naturally opposite systems of religion, the minds of men were confounded and intimidated. The power of the POPE, who was regarded not only as the head of the church, but as the *Vicar or representative* of CHRIST upon earth, soon increased to such an enormous degree, that, not the people only, but every Monarch in Europe, trembled at his *anathemas*, and ventured not to take any important step, even in political affairs, without the approbation of his *Holiness*! But the ambition of the POPE, and of his numerous tribes and orders of rapacious Priests, had no bounds. Not Kings and Princes alone, but the poorest private families, were laid under monstrous contributions, to pamper the *stomachs*, and minister to the *lusts* of these *holy locusts*, the most destructive and insatiable of all *vermin*. The arts employed to promote these *diabolical*, falsely called *religious* purposes, were various, and sometimes ingenious. The raptures of *heaven*, and the torments of *hell*, were depicted in the highest colourings which imagination could invent, or terror suggest. To procure the one, and to avoid the other, *money, goods, or victuals*, were the necessary articles of exchange. Those mental tyrants, to complete their system of delusion and of depredation, sealed up every source of information from the people, but what they chose to impart in artful and disguised forms. Factitious miracles were presented to the vulgar and believing eye. *Absolutions* for actual *crimes*, and *dispensations* from ceremonies and rules of the church, were *sold*. A *purgatory*, or state of temporary punishments to *souls* that were either to be eternally *damned* or *saved*, according to the *sums* paid for the prayers of mercenary, and generally ignorant and subaltern priests, was invented. In a word, a thousand tricks and impositions were employed to augment the power and

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riches of the church. The *Pope* became the greatest Emperor that ever reigned on earth; for his dominion was not only territorial but mental. This inhuman and sordid despotism continued for many centuries, and so clouded the minds of men with ignorance, superstition, and timidity, that their natural powers were totally blunted. This period of *Papal* sovereignty was afterwards, with much propriety, denominated the *dark ages*; for, whenever a spark of genius burst through the universal gloom, it was instantly extinguished by the authority of the church.

The spirits of men may, for a time, be depressed and debased by religious and political bugbears; but, from the history of human society, we learn, that this humiliating and lamentable condition of mankind cannot always subsist. Some bold and enlightened minds start up, assume their native rights, and, by their instruction and example, gradually loosen the chains of bigotry and oppression. This happy revolution took place, though later than might have been expected, in the western and northern parts of Europe. Amidst the threatenings of *bulls*, amidst *proscriptions*, *murders*, and *massacres*, daily inroads were made upon the rapacious despotism of the *Pope* and his abhorrent assistants. Men of knowledge, and of generous and ardent minds, arose. The art of *printing*, which enabled them to diffuse light and learning, was invented. The people saw with astonishment the ignorance and thralldom under which they had been enslaved. They spurned at spiritual tyranny, and with indignation threw off its yoke. A reformation in religious opinions and in church-government was established upon more rational principles. Since that glorious period, which does honour to human nature, the influence of this preposterous and infernal species of religion has gradually

gradually declined, and, by some late events, is now nearly annihilated; and, it is to be hoped, that nothing similar will ever again insult and disgrace the characters of rational beings.

## W A R.

BESIDE Religion, human nature is stamped with another universal character. *Hospitalities* were coeval with the existence of man, and still continue to deluge the earth with blood. Avarice, resentment, ambition, competition of interests, real or imaginary, are enumerated among the causes of *war*. But what, in the name of wonder, can be the *final* cause of cruelty, slaughter, and devastation? War, it has been said, gives rise to fortitude, vigilance, and other active powers of the mind. But, are there not a thousand motives capable of exciting and calling forth these powers, without being attended by such horrible effects? As an apology, it has been alleged, that, were it not for the intervention of war, men would increase to such a degree that the earth could not afford them sustenance. This attempt toward a solution of the difficulty is founded on ignorance or inattention. There is not a country in the habitable parts of the world which, with proper industry and culture, is not much more than sufficient to maintain the animals to which it gives birth. This final cause of war must, therefore, be relinquished till such an event, which is impossible, takes place. Nature has provided many effectual checks to a superabundant population. One half of the human race perish before they arrive at their seventh year. Those who surpass this period of existence are hourly cut off by innumerable diseases and accidents. Few, very few, reach what is called *old age*, or fourscore years.

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Where, then, is the necessity which forces men to *exterminate* one another from the face of the earth? The *passions* were bestowed upon us for the *wisest* purposes; but we too often give to these passions a direction contrary to the original intentions of Nature. But why should we be both *willing* and *able* to *pervert* the benevolent purposes of Nature? I will proceed no farther. The subject, though curious, is inextricable: I shall therefore dismiss it, by lamenting that state of human nature which, even in the present *luminous* condition of Europe, is still producing the most horrible, the most shocking examples of *madness* and *cruelty*! \*.

## POSTSCRIPT.

\* Consider Europe at the moment I write—*Quem Deus vult perdere prius dementat.*



## POSTSCRIPT.

COMMODORE BYRON, in his Voyage round the World \*, mentions the following circumstances concerning the Patagonians he saw while he was in the Straits of Magellan. When he came to an anchor in the Straits, he observed a number of horsemen riding backward and forward, and waving some white substance as an invitation to come on shore; upon which he ordered out a twelve-oared boat, and made toward the beach. When Captain BYRON and his attendants came within a small distance from the shore, they saw about five hundred people, some on foot, but the greater part on horseback. No weapons were perceived among them. Signs, however, were made, that they should retire a little from the shore, and they immediately complied. He drew up his people, with proper officers at their head, upon the shore, and gave orders that none of them should quit their stations till he should call or beckon to them. He then approached alone toward the Indians; but, as they always retired, he made signs that one of them should come near. One of their number accordingly came. ‘He was,’ says Mr BYRON, ‘of  
 ‘a gigantic stature, and seemed to realize the tales of monsters in a  
 ‘human shape. He had the skin of some wild beast thrown over  
 ‘his shoulders, as a Scotch Highlander wears his plaid, and was  
 ‘painted so as to make the most hideous appearance I ever beheld.  
 ‘Round one eye was a large circle of white; a circle of black sur-  
 ‘rounded the other; and the rest of his face was streaked with paint  
 ‘of different colours. I did not measure him; but, if I may judge  
 ‘of his height by the proportion of his stature to my own, it could  
 ‘not be much less than seven feet. When this frightful Colossus

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came

\* Hawkeſworth's edit. vol. 1. p. 27. *et ſeqq.*

‘ came up, we muttered somewhat to each other as a salutation ;  
 ‘ and I then walked with him towards his companions, to whom,  
 ‘ as I advanced, I made signs that they should sit down ; and they  
 ‘ all readily complied. There were among them many women,  
 ‘ who seemed to be proportionally large ; and few of the men were  
 ‘ less than the chief who had come forward to meet me.—They  
 ‘ were all painted and clothed nearly in the same manner.—Their  
 ‘ teeth were as white as ivory.—Except the skins, which they wore  
 ‘ with the hair inwards, most of them were naked, a few only hav-  
 ‘ ing upon their legs a kind of boot, with a short pointed stick fast-  
 ‘ ened to each heel, which served as a spur. Having looked round  
 ‘ upon these enormous goblins with no small astonishment, and with  
 ‘ some difficulty made those that were still galloping up sit down  
 ‘ with the rest, I took out a quantity of yellow and white beads,  
 ‘ which I distributed among them, and which they received with  
 ‘ very strong expressions of pleasure.’ Commodore BYRON distrib-  
 ‘ uted other trinkets among them, such as ribbons, &c. ‘ Their  
 ‘ peaceable and orderly behaviour on this occasion,’ our author re-  
 ‘ marks, ‘ certainly did them honour, especially as my presents did  
 ‘ not extend to the whole company. Neither impatience to share  
 ‘ the new finery, nor curiosity to gain a nearer view of me and what  
 ‘ I was doing, brought any one of them from the station that I had  
 ‘ allotted him.’

Captain WALLIS \* informs us, that he measured some of the Pa-  
 tagonians who appeared to be the tallest ; that one of them was six  
 feet seven inches high ; that some of them were six feet six, and  
 others six feet five inches ; but that the stature of most of them was  
 from five feet ten to six feet. Their complexion, like that of the  
 North

\* Wallis's Voyage round the World, in Hawkesworth, vol. 1. p. 374.

North American Indians, is of a dark copper colour. Their hair is straight, and nearly as hard as the bristles of hogs. They are well made, robust, and strong; but their hands and feet are remarkably small. They are clothed with the skins of the guanico, an animal which, in size, figure, and colour, resembles a deer, but there is a bunch on its back, and it has no horns. It was remarked, that some of the men had a red circle painted round the left eye, and that others had their arms and different parts of their faces painted. The eye-lids of all the young women were painted black. They talked much; but, when spoken to in Spanish, Portuguese, and Dutch, they made no reply. Of their language we were equally ignorant. They had a singular kind of missile weapon. It was composed of two round stones, covered with leather, each about a pound weight, and were fastened to each end of a string about eight feet long. This weapon they use as a sling, one of the stones being kept in the hand, and the other is whirled round the head, till it has acquired sufficient velocity, and is then discharged at the object. So dexterous are they in the management of this double-headed shot, that, at the distance of fifteen yards, they can hit a mark not larger than a shilling. In hunting the guanico or the ostrich, however, they discharge these weapons in such a manner, that the cord entangles the legs of the animals, who then become an easy prey.

‘ After I had spent about four hours with these people, I made signs to them that I was going on board, and that I would take some of them with me, if they were desirous to go. As soon as I had made myself understood, above an hundred eagerly offered to visit the ship; but I did not chuse to indulge more than eight of the number. They jumped into the boats with the joy and alacrity of children going to a fair, and, having no intention of mischief

‘ against us, had not the least suspicion that we intended any mischief  
‘ against them. They sung several of their country songs while  
‘ they were in the boat ; and, when they came on board, did not  
‘ express either the curiosity or wonder which the multiplicity of  
‘ objects, to them equally strange and stupendous, that at once pre-  
‘ sented themselves, might be supposed to excite. I took them  
‘ down into the cabin, where they looked about them with an un-  
‘ accountable indifference, till one of them happened to cast his eyes  
‘ upon a looking-glass, which afforded them infinite diversion. They  
‘ advanced, retreated, and played a thousand tricks before it, laugh-  
‘ ing violently, and talking with great emphasis to each other.—  
‘ They eat indiscriminately whatever was offered to them ; but they  
‘ would drink nothing but water. From the cabin I carried them  
‘ all over the ship ; but they looked at nothing with much attention,  
‘ except the animals which we had on board for live stock. They  
‘ examined the hogs and sheep with some curiosity, and were ex-  
‘ ceedingly delighted with the Guinea hens and turkeys. They did  
‘ not seem to desire any thing they saw, except our apparel ; and  
‘ one of them, an old man, asked for that. We gratified him with  
‘ a pair of shoes and buckles ; and to each of the others I gave some  
‘ trinkets.—I showed them the great guns ; but they did not appear  
‘ to have any notion of their use. After I had carried them through  
‘ the ship, I ordered the marines to be drawn up, and go through  
‘ part of their exercise. When the first volley was fired, they were  
‘ struck with astonishment and terror. The old man, in particular,  
‘ threw himself down upon the deck, pointed to the muskets, and  
‘ then, striking his breast with his hand, lay some time motionless,  
‘ with his eyes shut. By this we supposed he intended to show us,  
‘ that he was not unacquainted with fire-arms, and their fatal effect.  
‘ The rest, seeing our people merry, and finding themselves unhurt,  
foam

‘ soon resumed their cheerfulness and good humour, and heard the  
‘ second and third volley fired without much emotion; but the old  
‘ man continued prostrate upon the deck for some time, and never  
‘ recovered his spirits till the firing was over. When the boat put  
‘ off with them, they all began to sing, and continued their merri-  
‘ ment till they got on shore \*.’

*Nootka Bay—Prince William’s Sound.*

THE inhabitants are generally of a short stature, and square-made. The faces, both of men and women, are flat and round, with high cheek-bones, and flattish noses. Their teeth are white; their eyes dark, and quick-sighted. Their complexions are whiter than those of the southern Indians; and some of the women have rosy-coloured cheeks. Their hair is black, straight, and long; and, on the death of a friend, as a mark of mourning, they cut it short. The legs of the men are, in general, ill shaped, which Captain PORTLOCK attributes to their sitting perpetually in the same position in their canoes. They are as fond of what they esteem personal ornaments; for they paint their faces and hands, bore their ears and noses, and slit their under-lips. In the holes made in their noses, they hang ornaments of bone or of ivory, which are often two or three inches long. At the ears they generally wear beads, which hang down to the shoulders; and, in the slit in the lip, they place a bone or ivory instrument with holes in it, from which they suspend beads that reach as low as the chin. These holes in the lip disfigure them greatly; for some of them are as large as their mouths. With all this fancied finery, however, in their persons they are extremely filthy, and over-

\* Captain Wallis’s Voyage round the World, Hawkesworth, vol. 1. p. 375. &c

run with vermin. Their clothing consists entirely of the skins of quadrupeds and of birds. In general, they are a friendly people, and remarkably affectionate to their wives and children. But your attention to their women must be carried no farther than giving them presents; for nothing irritates them so much as taking improper liberties with their females. Like all other Indians, they have a strong propensity to stealing, not only from strangers, but from one another. ‘In the course of my trading with them,’ says PORTLOCK, ‘I have frequently seen them steal from one another; and, on being detected, they will give up the articles they have stolen with a laugh, and immediately appear as unconcerned as if nothing had happened amiss. I am sure, that with them thieving is rather thought a grace than a disgrace; and the complete thief is a clever fellow, but the burgling pilferer is less admired.—During our intercourse with them, they grew less addicted to thieving, in consequence of my sometimes appearing a little angry with them, and taking some pains to convince them of the impropriety of their behaviour. Upon the whole, they appear a good kind of people; and I am convinced, in a little time, provided a settlement of sufficient strength were established, would be an industrious set of people, in hunting and procuring the sea-otter and other skins for sale to the settlers <sup>†</sup>.’

Both men and women esteem long hair as an ornament. When a relation dies, they cut their hair pretty short, a general mark of mourning among all these Indian tribes. Polygamy seems not to be practised here; ‘as I never observed,’ PORTLOCK remarks, ‘any one of them to have more than one woman, whom he seemed to consider as his wife, to whom they pay very strict attention, and  
‘ treat

\* Portlock’s Voyage round the World, from the year 1785 to 1788, p. 249. &c.

‘ treat with a great deal of tenderness. You cannot affront them  
‘ more than by attempting to make advances to their wives. They  
‘ are likewise very fond of, and remarkably affectionate to, their  
‘ children. It is not the custom with those people, as with the  
‘ South Sea Islanders, for the men and women to eat separately; nor  
‘ are the women confined to eat meats of a particular description;  
‘ but for men, women, and children, to sit down indiscriminately at  
‘ their meals, which chiefly consist of fish of different kinds.—  
‘ Their persons are, in general, much about the size of Europeans.  
‘ The men have a very fierce and savage aspect, which, with their  
‘ drests, gives them much the appearance of warriors. Their wea-  
‘ pons of war are daggers and long pointed spears. They are very  
‘ easily irritated, and would make very little scruple to kill you  
‘ when they think themselves injured. More than once I had near-  
‘ ly experienced that fate, from some trifling disagreements in trade.  
‘ But, being pretty well acquainted with their tempers, I guarded as  
‘ much against them as possible; and, on all occasions, took care to  
‘ be well provided for them, in case of an attempt, by keeping my  
‘ pistols ready-charged before me \*.’

Captain PORTLOCK likewise informs us, that their women, if kept clean, instead of being perpetually covered with filth and nastiness, would be very agreeable. In general, their features are pleasant, and their behaviour modest.

‘ The inestimable value of the American furs,’ Captain PORTLOCK remarks, ‘ will ever make it a desirable trade, and, whenever  
‘ it is established upon a proper foundation, and a settlement made,  
‘ will become a very valuable and lucrative branch of commerce.

\* Portlock's Voyage, p. 290. &c.

‘ It would be an easy matter for either Government or our East  
‘ India Company to make a settlement of this kind ; and the thin-  
‘ ness of the inhabitants will make it a matter of easy practicability ;  
‘ and, as the Company are under the necessity of paying the Chinese  
‘ in cash for their teas, I look upon it a settlement on this coast  
‘ might be effected at a very inconsiderable expence, which would  
‘ more than pay them for every article that is brought from China.’

CHAP.



## CHAPTER V.

*Of Sleep and Dreaming.*

## S E C T. I.

*Of the Nature and efficient Causes of Sleep and Dreaming—Dreams characteristic of the Dreamer—Instead of a Diary, a Nocturnal would more effectually unfold the real Dispositions of Men—Specimen of a Nocturnal—Utility of Dreaming—Dreams not peculiar to Man.*

**A**MONGST the various powers and operations of the human mind, none make a more capital figure than that of the *imagination*. To this faculty we are principally indebted for that great variety of pleasure and amusement which make life agreeable, and reconcile us to the many pains and difficulties incident to our species. By imagination, as far as relates to the present subject, is meant, that operation of the mind which recalls past ideas, or separates and combines ideas in a manner so lively, that the objects they represent seem to have a real existence, and affect us accordingly.

This definition of imagination, though by no means complete, is sufficient for my present purpose. Every man *dreams* more or less. As far as I can learn, this subject has never been treated of in a rational or philosophical manner \*.

*Sleep* is the principal, though not the only source of dreams. I shall, therefore, make a few observations on that state of our existence which is so fertile in producing the phenomenon under consideration.

Man, while awake, is a very passive animal. Independently of his own inclination, his eyes and ears are constantly receiving impressions from a multiplicity of external objects. He is likewise stimulated by his other senses and bodily powers. His stomach must be alternately filled and emptied. The spring of his nerves and muscles necessarily impels him to motion. The pain of inactivity itself is sufficient to spur him on to action. But, no organ of the body, no faculty of the mind, can admit of long-continued action, without lassitude or a disposition to rest.

During sleep, our organs are no longer subject to receive impressions passively from external objects; the elasticity of the nerves and muscles is greatly relaxed; but the imagination, instead of being blunted, is whetted, and rendered more active. To give free scope to the imagination, it seems necessary that all communication with external objects should be entirely cut off. Having cursorily mentioned the principal circumstances and situations favourable to sleep and dreaming, we shall next inquire whether any analogous circumstances

\* The substance of this chapter was read before the *Newtonian Society* of Edinburgh in the year 1764.

stances and situations exist when our senses and other powers are awake.

The great variety of characters, tempers, and peculiar biases exhibited in human nature, renders it difficult to select any general turn of mind as a proper example for illustrating this subject. These differences, however, are not confined to men when awake. Dreams, on the contrary, are as characteristic of the genius or dispositions of any individual as his waking thoughts. A man whose ordinary train of thinking is quick and lively, will never find the quickness or vivacity of his perceptions retarded or blunted by sleep. For elucidating this point, I shall make choice of a person who is naturally inclined to indulge reveries. Let us see how a person of this description is affected by the common occurrences of life. We shall first suppose him walking along the streets of a populous city. Numbers of objects present themselves on every hand, and solicit his attention. Among others, the rapid motion and noise of a coach oblige him to fly suddenly to a side, in order to escape from danger. His fortunate escape at first gives him pleasure. But, upon reflection, he cannot refrain from representing to himself, by means of the imagination, how miserably he should have been bruised, had he been less swift in his movements. This thought continues to torment him, till it is banished by some other idea which claims a superior attention. Let us next view him in a solitary walk. Here, if his mind be perfectly calm, he indulges his fancy with some fictitious scene, in which, by a natural propensity, himself is always the hero. Whether this scene be of a gay or distressful kind; whether the situation of his imaginary affairs demands courage, compassion, generosity, or gratitude, he not only feels the sentiments which these virtues inspire, but his actions uniformly correspond with his sentiments.

ments. Visionary scenes of this kind are not always of a transitory nature. When the situation of the place, and the present disposition of the mind, are favourable, a person often indulges that disposition till he performs a complete drama.

We shall now suppose our man of sensibility to be placed on the top of a precipice, or on the brink of a deep pit. In these situations, his mind is swifter than his eyes; for he is generally down himself before he gets a sight of the bottom. Some people are so much under the influence of imagination, that they have been observed to approach the mouth of a pit with cautious steps, and, as soon as they have looked down a few yards, fly back with horror, till they get far beyond the possibility of danger. Nay, so powerful is the imagination, and so prone to verify its ideas, that, were it counterbalanced by no other principle, a man would throw himself headlong from a precipice, merely to gratify his present feelings. Farther, when a person shuts his eyes, or rather when he is in an apartment without light; if, at the same time, he be alone, and his mind not ruffled or occupied by any painful ideas, then Fancy lays fast hold of him, and turns his attention to such objects as she pleases to represent.

Not to multiply particular situations which are favourable to the operations of imagination, I shall only add another instance on account of its singularity.

Fevers, and several other distempers, by some unaccountable influence of the body upon the mind, almost totally deprive us of our reasoning powers, and pervert our senses to such a degree, that we either mistake common objects, or they make little or no impression upon us. But, though these distempers deprive us of judicious reflection,

reflection, and of regular impressions from the senses ; yet the train of our perceptions, which is the food of the imagination, instead of being interrupted, proceeds with the greater rapidity. I shall not attempt to assign reasons why particular affections of the body impair or destroy the act of reasoning or reflecting : I shall only remark, that the ordinary train of our perceptions is, in some measure, a mere involuntary progression of ideas. But reasoning is a very complex operation, and cannot be performed without the united efforts of almost the whole powers of the mind. Considering, then, the intimate connection between our mental and corporeal faculties, is it not extremely natural, that indispositions or derangements of the body should more readily deprive us of a power whose operations are complex and difficult, than of that faculty the exertions of which are not only involuntary, but often act in direct opposition both to reason and inclination.

From the above analysis, the following remarks are naturally suggested : 1<sup>st</sup>, That the imagination, when not restrained by judgment, or checked by impressions from external objects, uniformly endeavours to complete any scene or set of ideas which happens to arise either from the ordinary train of perceptions, or from any striking impression received by the senses ; and, 2<sup>d</sup>, That circumstances or situations which tend to weaken our reasoning or reflective powers, or to prevent the impressions of external objects, give additional force and activity to the imagination.

These observations shall now be applied to *dreaming*. When a person is just about to fall asleep, he feels a struggle between reason and imagination. The former grows gradually weaker and weaker, while the vigour and activity of the latter continually increase till it completely

completely gains the ascendant. Every man must have repeatedly felt this struggle : But we are particularly conscious of it when reason gets the better of imagination. All the time when a person is *between sleeping and waking*, as it is termed, he is generally in eager pursuit after some airy phantom ; but, if reason chances to prevail, he makes a sudden start, resumes the power over his half dormant faculties, and wonders at his credulity in believing the actual existence of such fleeting fancies. Sleep, however, at last gains a complete victory ; or, in other words, our reasoning powers are entirely to those of the imagination. It was hinted above, that certain circumstances are peculiarly suited to the exercise of the imagination ; such as, alarming or dangerous situations, solitude, tranquillity of mind, quiescence of judgment, emancipation from the impressions of external objects, darkness, &c. Now, is it possible to conceive a more complete coincidence of all these circumstances than takes place during sleep ? Shut up from every external impression, involved in the blackest darkness, in a word, the imagination, freed from every check, roams at large, and triumphs without controul. Every idea that occurs, makes such a lively impression, that it produces a thorough conviction of the existence and actual presence of the object. This belief in the real existence of imaginary objects constitutes the sole difference between the ideas of imagination when asleep, and the same species of ideas which occasionally solicit attention in our waking hours. It only, of course, remains to inquire into the causes which produce this conviction or belief. We have already taken notice of some affections of the body which, in a great measure, have the power of realizing our imaginary ideas. Fevers, madness, and some other distempers, uniformly suspend the power of reasoning, which, as daily experience too frequently shows, makes the unhappy person lose the faculty of distinguishing between the ideas of imagination

gination and the impressions received from real objects. Without going deeper, therefore, it is perhaps sufficient to say, that sleep is one of those particular dispositions of body which invariably produces this strange effect.

The theory of *dreaming* is now, I imagine, pretty obvious. The following observations, however, will render it still more intelligible. In the several situations in which I have supposed our man of sensibility to be placed, and, in general, whenever the imagination fixes upon any particular scene or event, were it not for the intervention of reflection, or the impressions of external objects, we should uniformly pursue these ideas through all their relations as well when we are awake as when asleep: Nay more; we should be as thoroughly convinced of the real existence of the objects, and as sensibly affected with the various incidents, as if we were in the most profound sleep. For example: A man looks down with horror from the top of a high tower. Even the idea of absolute safety is not sufficient to make him easy: But, in order to obtain relief, he finds himself impelled to descend as quickly as possible. Now, in such circumstances, we are indebted to reason for the idea of security; and the loco-motive faculty enables us to descend. But, when the same or similar situations occur to the imagination during sleep, the acuteness of a person's feelings is greatly augmented. This increase of feeling, however, is not the only difference. The absence or imbecillity of his reason excludes the idea of security; and the present inactive condition of his body creates a dreadful consciousness of utter inability to move in any other direction than that of tumbling headlong down.

## S E C T. II.

*Of the final Causes of Dreaming.*

**T**HAT music, sprightly conversation, and, in general, every exercise that falls under the denomination of *amusement*, recreates the mind more effectually than mere inactivity, is a fact which admits of no controversy. Sleep, in one sense, is nothing more than a total suspension from action. But this inactivity is not, of itself, sufficient for repairing that lassitude of organs and waste of spirits, which are the never failing offspring of vigilance and exercise. The all-wise Author of our existence foresaw this defect, and hath accordingly provided the proper remedy. When asleep, the body, it is true, is inactive ; but the imagination is vigorous : And, I may, from experience, venture to affirm, that the imagination uniformly conducts us to scenes that are of a gay, serene, and amusing nature, unless the mind is soured by causes which excite disagreeable ideas, unless the body is struggling with disease or the seeds of disease, unless our characters and dispositions are tinctured with malice, or haunted with remorse. The gay and entertaining scenes presented by the imagination during sleep are much better adapted for recreating and invigorating our faculties than mere insensibility.



But this final cause of dreaming, however obvious, may appear liable to an objection. If this reasoning be just, how does it happen, it may be said, that disagreeable dreams are so frequent? This objection, however, instead of injuring the former, suggests another excellent final cause.

So delicate is the constitution of man, that, beside the many dangerous distempers to which he is constantly exposed, there is a great variety of little uneasinesses, which, though not so alarming as to call forth the sympathy of friends, are nevertheless capable of impairing the happiness, and shortening the lives of individuals. There are some disorders which almost clude our feelings, but, if not timely remedied, would probably cut off our existence in a few moments. It is during sleep that we are most liable to these secret disorders. But, as shall immediately be shown, the effects these disorders might produce are amply provided against by Nature. The chief causes of disagreeable dreams may be reduced to two: 1. When a person is actually labouring under a distemper, or happens to lie in a posture which disturbs some of the animal functions. 2. When any painful idea occurs in the ordinary train of perceptions. The first cause arises from morbid derangements in the corporeal organs, which, by a benevolent and salutary institution of Nature, communicate painful and horrid ideas to the mind. The only difference between these alarming ideas, and those which we feel in similar circumstances while awake, is this: In the former, although our ideas excite the same species of feelings; yet these feelings are generally referred to some wrong cause. This common misapprehension of the particular part really affected is, however, productive of no bad consequences: A furious engagement with the devil, an interview with the ghost of a departed friend; or, in general, some horrible scene generally comes

to our aid, and gives such a brisk shock to the constitution as seldom fails, in cases, at least, where a longer continuance in sleep would be hurtful, to rouse us into reason and safety. Being thus suddenly awaked, the cause of our disagreeable dream, whether it derives its origin from a hurtful position of the body, or any irregularity in the motions of the fluids, is now not only clearly perceived, but instantaneously removed. Persons, therefore, who are so unfortunate as frequently to stand in need of disagreeable dreams, instead of complaining of the pain and horror they occasion, ought to regard them as kindly messengers sent to relieve them from a disease, of which they would be totally ignorant, but which, without their friendly interposition, would probably have put a final period to his existence.

The second cause of disagreeable dreams is derived from the particular temper or disposition of the dreamer's mind previous to sleep, or to painful ideas accidentally occurring in the ordinary train of perceptions. Here it is worthy of remark, that, during sleep, our ideas of pleasure and pain are greatly augmented. Pain, in particular, commonly rises to such an excruciating degree, that it rouses us from sleep entirely. Every man, at some time or other, has had an imaginary fall from a great height. But I doubt much if any person ever arrived at the bottom. He feels himself moving in the air; he even reflects on the terrible effects which must result from this fall. But, before that horrid catastrophe happens, he never fails to awake. It is impossible to determine what the consequences would be, were the imagination allowed to complete ideas of this destructive nature. The effects they produce, even without being completed, are very violent. Alarmed with terror, the motions of the fluids are increased to a hurtful degree; cold sweats are produced; the ears tingle; and great confusion is perceived in the brain. Now, if the

imagination were allowed to complete such ideas, these noxious effects would at least be greatly augmented ; their number too would be increased ; and it is difficult to determine, whether a person who falls from a precipice in imagination would not undergo the same fate as he who does so in reality. Men who have the misfortune to be subject to disagreeable dreams, learn by experience to know that they are *dreaming*. When terrified with impending danger, and even death, I have often said to myself, ‘ Don’t be so much alarmed : You have been in the same or in similar situations, which were uniformly discovered to be *dreams*.’ This species of dormitory reasoning greatly alleviates the pain, and not unfrequently gives an opposite direction to the imagination.

Another final cause must not be omitted. It would be improper, however, to confine this cause solely to such dreams as are occasioned by sleep ; because it is fully as conspicuous, and perhaps more useful, in those exertions of imagination, which are incidentally indulged when our senses are in a state of vigilance and activity. It has been remarked above, that the imagination, in situations favourable to its operations, uniformly leads us into scenes of action which give rise to the exercise of the respectable and benevolent virtues. We have all, at one time or another, supposed ourselves possessed of a great fortune. When indulging this speculation, we never fail to imagine, that we would behave with the utmost condescension to our inferiors ; that we would cherish and reward the virtuous, patronise the learned, support the indigent ; and, in a word, that we would exercise the most unbounded generosity and beneficence. Upon a cursory view of this subject, some people are apt to think, that a propensity to indulge reveries of this nature has its foundation in vanity, and are inclined, from that consideration, to curb and restrain it as vain and presumptuous,

presumptuous, or, at best, as a frivolous mode of employing our thoughts. It merits attention, however, that nature never gives an original propensity to the mind, but with a view to produce some beneficial purpose. But it will appear, from the following considerations, that the propensity to indulge fancied situations, and the particular conduct prompted by these situations, is wisely calculated to strengthen and promote the virtue of individuals.

Although we should never actually be possessed of the supposed great fortune; although these imaginary scenes should never happen; yet, so various are the incidents and situations which may fall out in the course of any man's life, that situations and incidents, if not precisely the same with those he may have figured in his imagination, at least resembling them in their principal circumstances, will undoubtedly occur. Now, when any circumstances in life demands the exertions of benevolence, compassion, courage, fortitude, or resignation, will not we be better prepared to act with dignity and propriety, than if these circumstances had occurred before we had any previous intimation from our feelings how our conduct ought to be directed on such interesting occasions? Hence the indulgence of aerial, though possible scenes of action, has an evident tendency to strengthen our virtue, to enlarge our experience, to improve the vivacity of our pleasurable feelings. Of course, instead of checking, it is our duty to encourage the reveries of fancy, provided her calls are not so frequent as to interrupt pursuits of a more important nature.

## S E C T. III.

*Every Person may derive Advantage from Dreams.*

TO know one's self is the most important of all knowledge, and, at the same time, the most difficult to attain. Mankind are so artful in disguising the real motives of their actions, so ingenious in deceiving themselves, so averse to the discovery of vice or imperfection in their sentiments or behaviour, so keenly engaged in the occupations of life, and so prone to contrast themselves with the most profligate of the species, that they generally rest satisfied with their condition, and seldom inquire with any degree of impartiality into the real character or temperature of their minds. A more simple method of acquiring a knowledge of ourselves must be acceptable to every person who thinks himself interested in the inquiry. This end, I presume, may be accomplished by a moderate attention to our dreams. *Dreaming* must here be understood in the most common acceptation of the word ; for an inquiry into the natural tendency of imagination while awake, would engage us in a struggle with all the obstructions to self-knowledge formerly suggested. Let us, then, attend to those particular vices which we are most inclined to indulge in sleep. That vice which is most frequently and most luxuriously indulged in our dreams, may safely be esteemed our predominant passion. Though motives

motives of interest, decency, and the opinions of our friends, may have restrained us from actual gratification, and created a delusive belief that we are no longer subject to its sollicitations ; yet, if the imaginary gratification constitutes an agreeable dream ; if it is then indulged without check or remorse, we may freely conclude, that we still remain its humble votaries, and that those motives which deter from actual indulgence are not the genuine motives which virtue inspires.

This method of discovering our real characters, it may be said, is more uncertain, and attended with greater difficulty than deliberate self-examination. But, we should reflect, that, during sleep, the mind is more ingenuous, less inclined to palliate its real motives, less influenced by public opinion, and, in general, more open and candid, than when the senses are awake. It is true, that, by the return of external objects, business, and intercourse with the world, dreams are apt to escape from the memory, and that this circumstance, in some measure, deprives us of the advantages which might otherwise result from them. This is, indeed, the only difficulty we have to encounter ; but it is not unmountable. It may be removed by a few minutes labour every morning. Let any person who wishes to know his real character, as soon as he gets up, revolve, as accurately as he can, those thoughts which made the deepest impression upon him while he was asleep, what scenes gave him pleasure or pain, what actions he approved or disapproved, and let him instantly write them in a book kept for the purpose. In opposition to a *Diary*, this book may be entitled *A Nocturnal*. The nocturnalist, however, must be careful to give a candid account of his sleeping transactions, marking with accuracy the various feelings which the particular incidents excited. At first, perhaps, his business will be soon concluded. But the

the mere habit of writing, so ductile is the human mind, will soon make him both more attentive to his dreams, and increase his faculty of remembering them.

For the sake of illustration, and to show that this scheme is not impracticable, I shall subjoin, as a specimen, the capital scenes of a few nights dreams which I recorded thirty years ago.

*Specimen of a NOCTURNAL.*

THE first night I found myself in a most tremendous situation. Alarmed by a sudden shock attended with a hollow subterraneous noise, I ran out to the streets of this populous city, in order to discover the cause. A dreadful prospect presented itself to view. The ground began to undulate like the waves of the sea; sheets of fire dazzled the eye; pales of thunder stunned the ears; the buildings split in a thousand directions; and, had not the native horrors of the scene soon restored me to reason, I should infallibly have been crushed to atoms.

The second night's entertainment, though not so alarming, was much more extravagant and ludicrous. I was for some time diverted with a furious dispute between Dr MONRO and Dr WHYTT concerning the uses of the *Deltoid Muscle*! The combatants at length became so hot, that they were just proceeding to give the dispute an effectual termination by the intervention of the cudgel, when I awoke; and behold it was a dream!

The third night, I found myself in the midst of a brilliant company

of ladies and gentlemen. Cheerfulness and innocence seemed to beam from every countenance. I was treated with the utmost affability and complaisance. My heart began to exult with the most pleasant emotions. The music struck up ; each took his fair partner by the hand, and a sprightly dance immediately commenced. My spirits were much more elevated than I ever had experienced on any former occasion. I moved through the various evolutions of the dance with as much ease and alacrity as if my body had been a mere vehicle of air. But, in the midst of this enchanting scene, while setting to a young lady, my *breeches* fell plump to my heels ! I quickly attempted to lay hold of them ; but in vain. The very power of reaching forth my hand was abstracted from me. I remained fixed as a statue, and the dance was interrupted. The blushes of the company discovered how sensibly they felt my misfortune ; but none had the courage to assist me. In short, the feelings peculiar to such a whimsical situation became at last so exquisitely painful, that I should infallibly have fainted away, had not sleep instantly departed, and restored me to reason and joy.

The fourth night's employment was still more serious and awful. I saw a groupe of winged angels descending from the sky. One of them, who seemed to lead and command the rest, had a large golden trumpet in his hand. When near the surface of the earth, he sounded the instrument, the noise of which made all Nature shrink. He announced the arrival of the last day, that day when the quick and the dead are to be judged, and receive everlasting rewards or torments, according to the merit or demerit of the deeds done by individual mortals. Astonishment and anxiety arrested all the living. They stood motionless, and looked aghast. A new scene instantly appeared. I saw the dead rising in myriads all around me. I particularly



cularly remarked, that, in the *Grey-friars* church-yard, *hundreds* of both sexes pushed one another out of the *same graves* ! The day was so cold and frosty, that the terrified expectants of doom were all shivering. Another phaenomenon solicited my attention. I saw immense numbers of *leaden pipes* filled with *cold water*. Another trumpet was sounded, and the angel proclaimed, that, instead of being roasted in the *flames* of hell, the *damned* were to have their *limbs* eternally immersed in these *water pipes*. Terrified, and half-petrified with this frigifying idea, I got the start, and awoke. Upon examination, I found, that, by some accident, my limbs had been uncovered, and were excessively cold. This simple incident produced the whole scenery I have represented.

But here I must stop, lest I should discover more of my own character than would be consistent with prudence.

## S E C T. IV.

*Of Ominous Dreams.*

THE frequent accounts of ominous dreams we meet with in history, joined to the many stories which are daily related, sufficiently justify a few remarks upon the question, Whether supernatural suggestions are to be expected in dreams ?

To deny the possibility of supernatural suggestions either when asleep or awake, would be both presumptuous and absurd. On the contrary, I can conceive a superior being so thoroughly acquainted with the human frame, so perfectly skilled in the connection and mutual dependence which subsist between our intellect and our sensitive organs, as to be able, by titillating, in various modes and directions, particular combinations of nerves, or particular branches of any single nerve, to excite in the mind what ideas he may think proper. I can likewise conceive the possibility of suggesting any particular idea or species of ideas, by affecting the nerves in the same manner as these ideas affect them when excited by any other cause.

The notion of dreams, however, being frequently suggested by superior beings, is founded partly in ignorance, and partly on a fond regard

regard which men are apt to indulge for every thing that relates to themselves. If it accidentally occurs to a man's mind, which is by no means an uncommon case, that a friend is sick, dead, or in circumstances of great distress; to satisfy himself, he inquires into the situation of this person. Instead of finding him in the miserable circumstances he had fancied, he perhaps sees him not only in health, but making merry with his companions. This delusive and accidental impression is discovered to be false in every circumstance; and, of course, it is for ever concealed. But, supposing his friend to have actually been in the situation which he had imagined; then the case is entirely reversed. He is no longer ashamed of his fond conception. On the contrary, he doubts not that it proceeded from a supernatural cause; and hence, to gratify his vanity, he tells it on all occasions, in order to insinuate his uncommon connection with heavenly powers.

Allowing that events and situations which mankind represent to themselves, by means of the imagination, do sometimes actually happen; yet this circumstance is not wonderful. Considering the activity and wanderings of the imagination, it is surprising that so few examples of this kind occur. We never hear of the numberless instances where there is no coincidence between the events and the previous imagination. But, whenever they chance, even in slight relations, to coincide, which is extremely seldom, they are noised abroad with eager industry.

These observations apply to dreaming with accumulated force. In sleep, the imagination is much more active, and the time spent in fanciful representations is vastly greater than when we are awake. A greater variety of incidents, of course, occur in dreaming. Is it not, then,

then, extremely strange, considering the natural disposition of the mind to guess at future events, that a man should continue to dream, both day and night, for fifty or sixty years together, without, perhaps, being able to recollect a single instance of his foreseeing any particular event?

Upon the whole, were the examples of ominous dreams more frequent, and better authenticated than they generally are, they might with great propriety be ascribed to causes merely fortuitous, and totally independent of any supernatural impulse or suggestion.

S E C T.

## S E C T. V.

*Of the Second Sight, or a Prophetic Power.*

THE observations made in the two foregoing sections may, with much propriety, be applied to what is called the *Second Sight*. The persons said to be possessed of this faculty of seeing actual representations, or pictures of future events, are, in Scotland, chiefly confined to the Highlands and western islands. Like many other prophets, both ancient and modern, our professors of *Second Sight* are illiterate, vulgar, and visionary beings. Their pretensions, however, are not mercenary. They neither ask nor receive money for their supposed predictions. In this, as well as in all other countries, while the people remain in a state little removed from absolute barbarism, superstition spontaneously arises from a thousand causes; poverty, idleness, high and rugged mountains, bleak heaths, a sterile soil, naturally excite gloomy and frightful ideas in uninformed minds. Our Highland *seers* are exactly in this melancholy situation. Their predictions, or rather reveries, accordingly, are all expressive of deaths, and other human calamities.

About thirty years ago, a most absurd publication appeared at Edinburgh under the title of *A Treatise on Second Sight*, in which more

than a hundred instances are related, almost the whole of them portending disastrous events. Were it not with a view to banish, as far as I can, a notion so disgraceful to our country, and so humiliating to human nature, I should not have deigned to fill my book with the following specimen: ‘DONALD MACKINNON, an honest tenant in *Halistra* in *Waternish*, relates, that, in harvest 1760, in the dusk of the evening, as he was binding and putting together corn, on a sudden he saw a neighbour of his foremost, and followed by a pretty throng gathering of people, carrying a corpse directly through a standing corn-field of his own, which he was not well-pleased at; however, through *fear* that it might be a *vision*, he did not chuse to challenge his neighbour. He told what he had seen to his wife and family when he came home, saying, If it was a *vision*, it would undoubtedly be verified ere long; and, to satisfy his mind concerning what he had seen, went early next morning to view the standing corn, to see if any of it was trode down, but not one stalk. About the same time next year, he saw his neighbour, the company and corpse, in reality, coming through the same field from *Grishin nish*, to bury it at the church-yard of *Trumpan* \*.’

This simple example comprehends the spirit and tendency of the whole book; for every story it contains is equally ridiculous.

But here we must pause: The learned and ingenious Dr SAMUEL JOHNSON, who, some years ago, honoured Scotland, and even its Hebrides, with a visit, from similar stories, was credulous enough to believe in the *second sight*. The Doctor’s definition of this ideal faculty is curious. ‘The *second sight*,’ says he, ‘is an impression made either by the *mind* upon the *eye*, or by the *eye* upon the *mind*,

by

\* Treatise on Second Sight, p. 159

‘ by which things *distant* or *future* are perceived, and *seen* as if they were *present* \*.’ To comprehend this definition would require a man to be possessed of both the *first* and *second sights* !

To do justice to the Doctor, however, though he execrates, with a superstitious meanness, that form of church-government called *Presbyterianism*, and prefers to it even *Papal despotism* ; yet, upon this subject, he involuntarily and awkwardly makes a very great and a very just encomium on the good sense and general character of our Highland clergymen. ‘ The islanders,’ he remarks, ‘ of all degrees, whether of *rank* or *understanding*, admit of it (*i. e.* the second sight) except the *ministers*, who universally deny it, and are suspected to deny it, in consequence of a *system*, against *conviction*. One of them honestly told me, that he came to Sky with a *resolution* not to believe it †.’

It is not incurious to remark, that men, even possessed of distinguished parts, when urging any favourite topic, frequently contradict themselves, and, from absolute nonsense, inadvertently recur to sense. Of this, the following lines of Dr JOHNSON afford a striking example : ‘ Strong reasons,’ says the Doctor, ‘ for incredulity will readily occur. This faculty of *seeing* things out of *sight* is local, and commonly *useless*. It is a breach of the common order of things, without any *visible* reason or *perceptible* benefit. It is ascribed only to a people very little enlightened ; and among them, for the most part, to the *mean* and the *ignorant* †.’ The celebrated author of these just observations was a firm believer in the existence of *second sight* ! ‘ The *foresight* of the *seers*,’ says Dr JOHNSON,

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\* Johnson’s Journey to the Western Islands of Scotland, p. 152. Edin. edit. 1792.

† Ibid. p. 154.

‡ Id. ibid.

is not always *prescience* : They are impressed with images, of which the event only shews the meaning

Dr JOHNSON admits what is well known to all our Highlanders, that the persons said to possess this faculty are, in general, ignorant, dozing, indolent creatures, who never work, speak seldom, and spend whole days gaping and gazing straight forward, without altering their position, or taking the smallest notice of what passes around them. The whole employment of their minds, it should appear, is occupied with visionary phantoms : It is not surprising, therefore, that they should, at one time or other, stumble upon scenes or events, to which something similar afterward happens.

In the year 1779, the Reverend Mr DONALD M'NICOL published *Remarks* on Dr JOHNSON'S Journey to the Hebrides, a book written with much spirit, good sense, and acuteness of reasoning. Being born and bred in the Highlands, Mr M'NICOL must be allowed to have had better opportunities of knowing the dispositions, manners, and faith of his own countrymen, than a prejudiced Englishman, who was so *short-sighted*, that he could not *see* a *tree* in Scotland, though he passed many extensive woods and groves, both natural and planted. To shew the light in which Mr M'NICOL viewed the narrative of the Doctor's Journey, I shall transcribe a few lines on the subject of *second sight*.

‘ In page 248. our traveller,’ Mr M'NICOL remarks, ‘ comes to  
‘ examine the question of the *second sight* ; and it is truly surprising  
‘ to see with what a *credulous weakness* he endeavours to defend so  
‘ *visionary* an opinion. Other things, which are believed by every  
man

\* Johnson's Journey, &c. p. 156.



‘ man in the country, which are probable in themselves, and are  
‘ supported by all the evidence that a reasonable man could expect,  
‘ the Doctor often *rejects* ; but *this* point, *absurd* in itself, uncoun-  
‘ tenanced by any *decent* authority, and to which only a few of the  
‘ *most ignorant vulgar* give the *least faith*, he maintains with a  
‘ *zeal* which shews him to be *ashamed* of nothing but *thinking* like  
‘ *other men* \*.’

Even on the supposition that such a faculty as *second sight* existed, the question may be asked, *Cui bono* ? For what end should men be endowed with a power, which can only serve to torment them with unnecessary alarms ? Though we were enabled to see impending calamities, but deprived, as we are, of the capacity of preventing them, instead of a happy attainment, it would render us perpetually miserable. The evils of human life are already sufficiently numerous ; and Nature, for wise purposes, has hid futurity from our eyes.

Like many other superstitions, that of *second sight* must vanish in proportion as knowledge and civilization advance ; and it is a pleasure to learn, that it is now nearly extinguished even in the Western Islands of Scotland.

## S E C T.

\* M·Nicol's Remarks on Dr Samuel Johnson's Journey to the Hebrides, p. 191.

## S E C T. VI.

*Of Somnambulists—History of Two who fell under the Author's Observation.*

**A**NOTHER remarkable phenomenon, which is sometimes exhibited in sleep, merits attention.—Some people, during sleep, retain the faculties of seeing, hearing, speaking, walking, laughing, crying, and, in general, doing almost every thing they are accustomed to perform when they are awake. Near thirty years ago, I had an opportunity of examining a striking example of *somnambulism*. Within a mile of Edinburgh, I happened to reside some time in a farmer's house. Mr BAIRD, my landlord, had a servant maid, whose name was SARAH. I was not long there, when I learned from the family, that SARAH, particularly after receiving an affront, or being angered, was accustomed to rise in her sleep, to go out, and to walk about the fields. My curiosity was excited; and I begged to be informed the first time that SARAH should rise in her sleep. A few nights afterward, one of Mr BAIRD's sons awaked me, and told me that SARAH had got out of bed. I immediately hastened to the apartment where she slept. When I arrived, Mr and Mrs BAIRD, one of their sons, and a servant maid, SARAH's companion, were present. SARAH was in the midst of them. She was slightly and carelessly clothed. Her neighbour servant persuaded her

her to sit down. I took my seat by her. We began immediately to converse. She answered any questions that were put to her pretty distinctly ; but she always mistook the person who spoke for some other, which gave us an opportunity of assuming any character within the circle of her acquaintance. I knew that one of the farmer's servants, whose name was JOHN PORTEOUS, was a lover of her's ; and, therefore, I addressed her in the style which I supposed JOHN might sometimes have done. From that moment she began to scold me, upbraided me with several breaches of promise to marry her, and desired me, in the most peremptory manner, never again to speak to her on that topic. The conversation was accordingly changed. I talked of her mistress, who was in the room, because I knew that they had occasional quarrels. Till now, I suspected that the whole was a trick, but for what purpose I could not discover. SARAH, however, abused Mrs BAIRD in the harshest terms. She said, but the other day, she had been accused of stealing and drinking some bottles of ale ; that her mistress was suspicious, cruel, and narrow-minded. As the mistress of the house was present, when these and other opprobrious terms were used, I began to doubt my preconceived notion of imposture ; and, therefore, changed the object of my experiments and inquiries. I examined her countenance, and found, that her eyes, though open, wild, and staring, were not absolutely fixed. I took a pin and repeatedly pricked her arm ; but not a muscle moved, not a symptom of pain was discoverable. At last, she became impatient to get out, and made several attempts to escape by the door ; but that was prevented by the domestics. Perceiving her inability to force the door, she made a sudden spring at the window, and endeavoured to throw herself over, which would have been fatal to her. To remove every suspicion of imposture, I desired the people, with proper precautions to prevent harm, to try if she would really precipitate

pitate herself from the window. A seemingly free access was left for her escape, which she perceived, and instantly darted with such force and agility, that more than one half of her body was projected before her friends were aware. They, however, laid hold of her, and prevented the dreadful catastrophe. She was again prevailed upon, though with much reluctance, to sit down. She soon resumed her former calmness, and nicely answered such questions as were put to her. This scene continued for more than an hour. I was perfectly convinced, notwithstanding my original suspicions, that the woman was actuated by strong and natural impulses, and not by any design to deceive. I asked if any of the attendants knew how to awaken her. A female servant replied, that she did. She immediately, to my astonishment, laid hold of SARAH's wrist, forcibly squeezed and rubbed the projecting bones, calling out, at the same time, SARAH, SARAH! By this operation SARAH awoke. She stared with amazement, looked around, and asked, how so many people came to be in her apartment at so unseasonable an hour? After she was completely awake, I asked her, what was the cause of her restless and violent agitation? She replied, that she had been dreaming that she was pursued by a furious *bull*, who was every moment on the point of goring her.

A pretty similar example afterwards occurred. Mr THOMAS PARKINSON, then a student of medicine in the university of Edinburgh, was accustomed to talk and to answer questions in his sleep. This fact was known to his companions. To amuse ourselves, two of us went gently into his chamber while he was asleep. We knew that he was in love with a young lady in Yorkshire, the place of his nativity. We whispered her name repeatedly in his ear. He soon began to toss about his hands, and to speak incoherently. He gra-

dually became more calm and recollected. His imagination took the direction we intended. He thought he was stationed under the lady's window, and repeatedly upbraided her for not appearing and speaking to him as she had so often done on former occasions. At last, he became impatient, started up, laid hold of books, shoes, and every thing he could easily grasp. Thinking his mistress was asleep, he threw these articles against the opposite wall of his chamber. By what he said, we learnt, that his imaginary scene lay in a street, and that he was darting the books and shoes at the lady's window, in order to awake her. She, however, did not appear; and, after tiring himself with frequent exertions, he went quietly into bed without wakening. His eyes were nearly shut; and, although he freely conversed with us, did not seem to perceive that any person was present with him. Next day, we told him what had happened; but he said, that he had only a faint recollection of dreaming about his mistress.

In the French Encyclopedie, under the word *Noctambule*, we have an account of a student of divinity in the university of Bourdeaux, who was accustomed to rise in his sleep, and to read and write without the use of his eyes. The fact is attested by the Archbishop of BOURDEAUX, who thought it a phaenomenon worthy of his attention. Lest he should have been deceived by the young man, he interposed an obstacle between his eyes and the paper on which he was writing, or reading. But he read and wrote in the same manner, and with equal accuracy, as if no such obstacle had existed\*.

A recent and authentic account of a sleep-walker has been published

\* This fact is likewise related by the learned and ingenious Lord Monboddo, in his *Antient Metaphysics*, vol. 1. p. 159.

ed on the continent, and now translated into English under the title of *A true and surprising Account of a Natural Sleep-Walker, read before the Philosophical Society of Lausanne in Switzerland, on the 6th of February 1788*. This sleep-walker's name is DEVAUD. At the time the following experiments and observations were made upon him under the direction of the society, he was between thirteen and fourteen years of age. His constitution was weakly, and his nerves extremely irritable. The society appointed three of its members, Dr LEVADE and Messrs REYNIER and VAN BERCHEM, to make and report their observations on the sleeping exertions and behaviour of this young man. These gentlemen faithfully executed the injunctions they had received, and reported the results of the experiments they had made, and whatever authentic relations they procured from others.

His ordinary sleep, which is seldom tranquil, when about to be seized with a fit of Somnambulism, is uncommonly disturbed. While in this state, he is affected with involuntary motions; his heart palpitates; his tongue falters; and he alternately rises up and lies down. On one of these occasions, the gentlemen remarked, that he soon articulated more distinctly, rose suddenly, and acted agreeably to the motives of the dream which then occupied his imagination. When too quickly roused by a violent noise, or other causes, he is sometimes seized with convulsions. After a paroxysm, he complains of being fatigued, and, on some occasions, is affected with sickness and vomiting. At first, when he awoke, and found himself dressed, and in the midst of several persons, his surprise was great. But, after the habit of somnambulism had continued for some time, recollection of similar events, as formerly remarked with regard to disagreeable dreams, gradually diminished his surprise. The ideas of a boy at

school must necessarily be few and simple ; and, of course, his dreams can admit of little variation. His daily visions, cyphering, the church spires, and bells, but chiefly tales of ghosts and hobgoblins, were the principal objects of his nightly visions. When his mind was impressed with particular ideas before going to sleep, which is nothing uncommon, these ideas frequently constituted or gave a direction to his dreams.

The gentlemen examiners mention some effects of electricity and magnetism upon our somnambulist. But, in the translation, (for I have not seen the original), the facts are obscure, uninteresting, and sometimes even contradictory ; and, therefore, shall be passed over in silence.

With regard to the young man's *senses*, we are told, that iron, brass, and silver, applied to his nostrils, made no impression ; but that a bit of cedar, as well as the fingers of another person, gave him some uneasiness. In one of his paroxysms, they presented to him a piece of bread, and some wormwood wine. The latter he immediately distinguished by the smell, and said, *This is not our table wine*. He was afterwards furnished with a little common wine, which he instantly drank. As he was walking along, wrapt up in some dream, two of the gentlemen put themselves in the way he was directing his course ; but he passed between them, without being offended, or seeming to be conscious of the presence of any obstacle. He dressed himself with great propriety in a room which was perfectly dark : He selected his own clothes from a number of others which had been purposely jumbled together, and complained that some of his companions had made sport of him. When his eyes were perfectly shut, he touched, in presence of the gentlemen, several objects, and readily distinguished

distinguished those which he had seen before from those he had not. A book that did not belong to him was put into a drawer where he kept his papers : When he felt the book, he expressed great anxiety lest he should be suspected of theft.

His sense of *bearing* while asleep was very accurate. In one of his reveries, he fancied that he was ringing the bell of St Martin's church, and performed all the necessary motions. After this operation was finished, he was asked how long he had rung ? he answered, *four minutes*. He took a candle with a design to light it : But one of the company, not perceiving that he held it in his hand, remarked in a low voice, that *he had forgot his candle*. *Of what use are your eyes*, said DEVAUD, *if you don't see it ?*

When our sleep-walker wishes to *see* any object, he makes an effort to open his eye-lids, which he does very imperfectly, and with much difficulty. The ball of the eye, on these occasions, appears to be fixed and languid. On this subject Mr N. — makes the following remarks : ‘ When I accompanied the sleep-walker, I remained ‘ always behind him, or by his side ; and very often without touching him. I put my face under his, to observe if his eyes were ‘ really shut ; and I found them always closed. However, after ‘ walking some steps in this posture, he usually discovered me by the ‘ noise of my feet, and went a little aside. When I still followed ‘ him, he raised his head, drew up his eye-brows with difficulty, and ‘ made an effort to open his eyes. This he could do only by halves, ‘ yet so as to perceive me : *Don't stand in my way*, he said, and held ‘ on at the same pace. As the moon shone, I had an opportunity of ‘ examining his eyes very narrowly, and was convinced, that the difficulty he experienced in opening them proceeded from the inaction



‘ of the upper eye-lid, which he could not move without first raising  
‘ the eye-brows \*.’

The gentlemen examiners made many other experiments upon this sleep-walker. But as, in general, they are of a similar nature with those already related, it is unnecessary to give more examples.

Upon this curious subject, I must mention a singular conversation which happened in my house many years ago. The company consisted of the learned and ingenious Dr REID, at present Professor of Morals in the University of Glasgow, and the no less learned and ingenious Dr BLACKLOCK, both well known in the literary world. Dr REID, among many other questions, asked Dr BLACKLOCK, if he had any idea of light? Dr BLACKLOCK replied, that he had not, being deprived of sight so early as the second year of his existence. Dr REID then asked him, if there was any difference between his ideas of persons and objects when he *dreamed*, and those which were excited while awake? Dr BLACKLOCK replied, that the difference was great; that he doubted whether he could communicate this difference in such a manner as to be understood; but that he would make the attempt. His anxiety to please and inform made his explanation at first so obscure and perplexed, that it could not be understood. This perplexity he perceived; retracted what he had said as unintelligible; and, with some degree of exultation, exclaimed, ‘ Now I have it.’ He then told us, that, when awake, he could distinguish persons three ways: The most perfect of which was that of hearing them speak; but he could also recognise an acquaintance by feeling his head and shoulders. The third mode of distinction was by attending, without the aid of speech, to the sound and manner of breathing.

\* See the above mentioned Pamphlet, p. 25.

breathing. He then proceeded, and told us, that, in sleep, the objects which presented themselves to his imagination were more vivid, and that without the intervention of any of the three modes mentioned above, he had distinct perceptions of *distant objects* both animated and inanimated. Being asked by what means he thought these impressions were conveyed to him, he replied, that he imagined his body was united to theirs by a kind of *distant contact*, which was effected by the instrumentality of *threads* or *strings* which proceeded from their bodies to his own; and that mutual ideas were conveyed by *vibrations* of these *strings*. The Doctor could not come nearer to the point; for, though what he said did not amount to ideas excited by actual *vision*, yet the approach was astonishingly near.

## S E C T. VII.

*Some unconnected Facts concerning Sleep and Dreaming.*

MAN is not the only animal that dreams. From many facts, and a very extensive analogy, it is almost certain, that every animal dreams more or less. Dogs bark in their sleep. This barking is indeed feeble ; but the sounds peculiar to the chase, to anger, to desire, to complaint, &c. are easily distinguishable. I have often regretted, that ingenious men, when supporting favourite theories, should so frequently relate the grossest absurdities. The celebrated M. DE BUFFON, in his *Dissertation on the Nature of Animals*, gravely tells us, ‘ that *idiots*, whose *minds* are totally *inactive*, *dream* ‘ like other men : *Dreams*, therefore, are produced independent of ‘ *mind*. Brute animals, though they have *no mind*, not only *dream*, ‘ but I am tempted to think, that all *dreams* are independent of ‘ *mind* \*.’ A most brilliant sentiment, and most *logically* expressed ! Dreaming, thinking, or even feeling, without the intervention of *mind*, involve ideas beyond the limits of human understanding.

When about to sleep, most animals chuse a particular position of body. The camel places his head between his fore feet; the monkey,

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\* Buffon, vol. 3. p. 256. Translat.

like man, lies on his side ; most birds sleep with their head under one wing. The *psittacus galgulus*, a species of parrot, hangs by one foot on the branch of a tree ; and some spiders, and other insects, suspend themselves by their fore legs.

A horse, when in good health, lies not above two or three hours at a time, and seldom sleeps more than three or four hours in the twenty-four. Some horses never lie down, but sleep standing ; and even those which are accustomed to lie down, sometimes sleep on their feet. The ass sleeps still less than the horse ; and, for that purpose, never lies down, except after great fatigue \*. The heaviest and most sluggish animals do not sleep the longest or the most profoundly. The slumbers of the ox are light and short. He is roused by the slightest noise : He generally lies on the left side ; and the left kidney is always larger and fatter than the right †. The sleep of cats, is, in general, light ; but sometimes they have been seen sleeping with much more profoundness than most other animals ‡. The sow-kind sleep longer than most quadrupeds.

Man, perhaps, sleeps longer than any of the larger animals. Beside the natural waste occasioned by exercise and labour, the perpetual activity of his mind fatigues the body, and renders a greater quantity of sleep necessary.

Badgers sleep the whole night and three-fourths of the day ; yet, like the marmottes or dormice, they are subject to a lethargic or benumbed state during winter. This great quantity of sleep, though they eat little, makes them very fat ; for this reason, they are enabled

to

\* Buffon, *ibid.* p. 416.

† *Ibid.* p. 442.

‡ *Ibid.* vol. 4. p. 55.

to endure hunger a long time, and often remain in their holes three or four days together, without receiving the smallest nourishment.

Another affection, peculiar to the state of sleep, is the *incubus*, or *night-mare*. This affection, in general, is produced by indigestion, and by eating too much, and particularly of flesh-meat, at supper. It is likewise sometimes occasioned by lying, while asleep, on the back, and the bed-clothes, of course, pressing on the breast. From whatever cause the *night-mare* proceeds, it is uniformly accompanied with great terror, and a sense of suffocation; for by the pressure of wind, or some other cause, upon the lungs, respiration is either prevented, or very much impeded. The sensations excited by this cause are always of the most excruciating nature. The imagination presents the ideas of some spectre or demon lying on the breast, or of situations which necessarily infer suffocation and death. When the sufferer attempts to throw off the load, or to escape from the impending danger, he discovers a total inability to move any of his members. This circumstance augments his terror and his pain, and, at last, banishes sleep. When he awakes, the imaginary weight, or cause of terror, is removed, and the power of motion is restored. But the palpitations of the heart, and the confusion of the brain, remain for some time, till the paroxysm is completely finished; and then the whole is recognised to have been only an imaginary delusion \*

\* If the reader is desirous of seeing a more full discussion of this subject, he may consult Dr Willis, *De Anima Brutorum*, a learned and ingenious work, published in the year 1672.

## CHAPTER VI.

*Of those Animals who sleep, or continue in a torpid state, during Winter.*

**T**HAT state of animal existence denominated *sleep*, may be considered as an universal affection. Almost every animated being is subject to its dominion. As formerly remarked, some animals require more and others less sleep, according to their constitutions and other circumstances. But there are many animals who continue to sleep during the whole months of winter. While in this condition, they neither move nor take food ; and yet they revive on the approach of summer. Of these a few examples shall be laid before the reader.

It is well known, that many quadrupeds and insects remain in a torpid state during winter ; but it is a remarkable fact, that not a single species of birds, except the swallow and cuckoo, have ever been supposed to sleep during the winter months. With regard to the swallow-tribe, I must refer the reader to my first volume, where this subject is amply discussed \*.

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\* Philos. of Nat. Hist. vol. 1. p. 473.

The land-tortoise is a very long-lived animal. Mr WHITE \* gives an account of one that lived more than forty years in a little walled court. During that period, it regularly retired under ground about the middle of November, and came forth again about the middle of April. On its first appearance in the spring, it discovered very little inclination for food ; but, in the height of summer, it was very voracious. As the summer declined, its appetite grew less ; and, during autumn, it hardly ate any thing. In the month of April 1780, Mr WHITE informs us, ‘ a moist and warm afternoon, with  
 ‘ the thermometer at 50, brought forth troops of *shell-nails* ; and,  
 ‘ at the same juncture, the *tortoise* heaved up the mould and put out  
 ‘ its head ; and the next morning came forth, as it were raised from  
 ‘ the dead, and walked about till four in the afternoon †.’

The *Alpine marmots*, on the approach of winter, retire to their subterranean abodes, the entrances to which they shut up with earth or clay. In this situation they continue to be plump for three months ; but afterwards they gradually decay, and are extremely emaciated at the end of winter. When discovered in their retreats, they are found to be rolled up in the form of a ball, covered with hay ; and they are carried off by the hunters in a state so torpid, that they may be killed without showing the smallest symptom of pain. They may be revived by a gradual and gentle heat ; and those which are tamed and fed in houses never become torpid, but are as lively and active in the winter as in the summer. Their holes are deep, and they live together in numbers. The fattest are selected for eating, and the young ones are preserved for taming ‡.

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\* White's Nat. Hist. of Selborne, p. 135, &c.

† Ibid. p. 262.

‡ Buffon, vol. 4. p. 344. Translat.

The different species of *bats* sleep during the winter months. The final cause of their torpidity is obvious. In that season, there are no moths, or other flying insects, the chief food of bats. Hence, if Nature did not confer this faculty, or rather inactivity, upon them, a single winter would annihilate the species. ‘The prevailing notion,’ says the Honourable DAINES BARRINGTON, ‘that they hang always in clusters touching each other, is not true, as this depends entirely upon their having a proper opportunity of adhering to the place from which they are suspended; they sometimes, therefore, are in contact, and often at considerable distances, but always fix themselves by both their feet\*.’ It is a well known fact, that bats, whilst in a torpid state, evacuate their dung, and, of course, both the circulation of the blood, and a certain degree of muscular action, continue to be exerted. Mr CORNISH applied a thermometer to the body of a bat when perfectly torpid; the liquor stood at 36, and the heart beat 60 times in a minute. When awakened to much that the same animal could fly a little, the thermometer was again applied, the liquor rose to 38, and the heart beat 100 times in a minute.

Some animals who sleep during winter, may be kept awake by supplying them with warmth and proper food. Of this kind are the bear, the viper, and the common house-fly, which, under these circumstances, continue alert and cheerful through the whole year.

The *fat squirrel*, a quadruped about six inches in length, the *sciurus glis* of LINNÆUS, remains in a torpid state during winter. Its internal heat exceeds not that of the air. When the heat of the air is ten degrees above the freezing point, the temperature of the *fat squirrel*,



*squirrel*, the *dormouse*, and the *garden squirrel*, is precisely the same, as M. de BUFFON discovered by plunging the ball of a thermometer into their bodies. We cannot, therefore, be surprised that these animals, whose natural heat is so inconsiderable, should fall into a benumbed state, whenever their internal heat is not augmented by that of the external air, which uniformly happens when the liquor in the thermometer does not rise ten or eleven degrees above the freezing point. Cold is the true cause of the torpid state of what are called the *sleeping* animals. This torpid state continues as long as the cause by which it is produced, and ceases with the cold. A few degrees above ten or eleven is sufficient to revive them; and, if kept in a warm place during winter, they are never benumbed, but go about, and eat and sleep like other animals. When they feel uncommonly chilled, in order to expose less surface to the air, and to preserve their natural warmth, they roll themselves up in the form of a ball. It is in this form that they are found, during winter, in hollow trees, and in holes of walls exposed to the south. In these holes they lie upon collections of moss and leaves, without the smallest motion; and, though tossed about, they neither extend themselves, nor discover the least symptom of life. From this dormant condition nothing can rouse them but the application of a gentle and gradual heat; for, when suddenly placed near a fire, they uniformly die. Though, in this state, they are totally deprived of motion, though their eyes are shut, and the animals seem to have lost every species of sensation; yet they feel any acute pain. When burned or wounded, they contract their bodies, and utter low and repeated cries. Their sensibility, therefore, and the action of the heart and lungs, still subsist. It is obvious, however, that these vital motions are but feeble. The circulation of the blood, it is probable, proceeds in the large vessels only; for the respiration is slow and feeble, the

secretions

secretions: are inconsiderable, and no excrements are voided. In long and rigorous winters, they sometimes die in their holes. They perish not, it should appear, by the loss of substance from perspiration; for in autumn they are exceedingly fat; and equally so when they revive in the spring. As cold is the chief, if not the only cause of their torpor, and as they do not fall into this state till the temperature of the air is below ten or eleven degrees; they frequently revive during the winter; for, in that season, many days often occur when the liquor in the thermometer rises to twelve, thirteen, fourteen, and even higher degrees above the freezing point. In weather of this kind, the dormice either come out of their abodes in quest of food, or eat part of what they had amassed in autumn.

The *Hamsters*, or German marmots, on the approach of winter, retire into their subterraneous abodes, where they remain in perfect tranquillity, and feed on their provisions till the frost becomes severe, when they sink into a torpid state. During this period of their existence, if the holes be opened, the hamster is found lying on a bed of straw. His head is bended under his belly between the two fore-legs, and those behind rest upon his muzzle. The eyes are shut; and, when the eye-lids are forced open, they instantly close again. His members are stiff, like those of a dead animal, and the whole body feels as cold as ice. Neither respiration, nor any other sign of life, can be perceived. When dissected in this situation, the heart alternately contracts and dilates. These movements, however, are so slow, that the pulsations do not exceed fifteen in a minute; though, when the animal is awake, the heart, in the same time, beats an hundred and fifty strokes. The fat seems to be coagulated. The intestines are equally cold with the external parts of the body, and, upon the application of spirit of wine, or oil of vitriol, discover not the

smallest degree of irritability. During this operation, the animal seems to have very little feeling. As if he wanted to respire, he sometimes opens his mouth. But his torpor is too powerful to admit of his awaking entirely.

This lethargy of the hamster has been ascribed solely to the effects of a certain degree of cold, which may be true with regard to the bats and dormice; but, in order to render the hamster torpid, beside cold, he must likewise be excluded from all communication with the external air: For, when shut up in a cage, filled with earth and straw, and exposed to a degree of cold sufficient to freeze water, the hamster never becomes torpid. When the cage, however, is sunk four or five feet under ground, and secured against the access of air, in a few days, he is equally torpid as if he had been in his own burrow. If the cage is brought up to the surface, the hamster, in two or three hours, awakes, and resumes his torpid state when again put under the earth. When passing from a torpid to an active state, the hamster first loses the rigidity of his members, and then makes profound respirations, but at long intervals. His legs begin to move, he opens his mouth, and utters rattling and disagreeable sounds. After continuing these operations for some time, he opens his eyes, and endeavours to raise himself on his legs. All these movements, however, are still unsteady and reeling, like that of a man intoxicated with liquor. But he reiterates his efforts, till he acquires the faculty of standing on his legs. He remains, for some time, fixed in that attitude, as if he meant to reconnoitre, and to repose himself after his fatigue. He now gradually begins to walk, to eat, and to act in his usual manner. According to the temperature of the air, this passage, from a torpid to an active state, requires more or less time. In a cold air, he is generally more than two hours before he completely awakes;

awakes ; but, in a more temperate air, he accomplishes this purpose in less than one hour. It is probable that this change is produced imperceptibly when the animal remains undisturbed in his hole, and that he feels none of the inconveniencies which arise from a forced and sudden reviviscence

The *Hedgehog* is one of those quadrupeds which lie in a dormant state during the winter months. Some years ago, that ingenious, learned, and dexterous anatomist, Dr ALEXANDER MONRO, made some experiments upon the hedgehog, as well as upon frogs, though he informs me †, that he did not prosecute these experiments with all the accuracy and attention which the curiosity of the subject merits. During a severe winter, he kept a hedgehog in a room, where there was no fire from the month of November till March. He placed near the animal boiled beef, bread, cheese, potatoes, water, and straw. About the beginning of December 1764, the hedgehog was affected with an unusual degree of drowsiness. He, however, continued to eat, though more sparingly, till the 25th of that month. From that time till the 8th day of March following, he continued in a profound sleep, except when artificially roused. After being thus roused, he soon walked back to his place of retreat, and resumed his dormant state. On the 25th of December, he weighed thirteen ounces and three drachms ; on the 6th of February eleven ounces and seven drachms ; and, on the 8th of March, eleven ounces and three drachms. The Doctor observed a small quantity of feculent matter and urine among the hay. At the time of his actual reviviscence, no person was present ; and, of course, the circumstances attending it are unknown. In the course of three months, he did not perceive

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\* For these and similar facts, see Buffon and many other natural historians.

† In a letter, dated March 1794.

that the hedgehog had either ate or drank ; but it remained constantly in a profound sleep among the straw. Its limbs, however, were never rigid ; but it lost two ounces of its weight. *Frogs*, which the Doctor kept during the winter in a vessel with water, seemed to be in a similar state with that of the hedgehog.

From every example we have enumerated, it appears, that extreme cold, and an exclusion from a free access to the operation of the external air, are the principal causes which produce the torpidity of certain brute animals. We shall now make a remark upon what happens to the human species when exposed to great cold, especially if accompanied with bodily fatigue. Men in this situation, of which fatal instances too often occur, feel an almost irresistible inclination to lie down to rest. When they yield to this propensity, being benumbed with cold, they soon fall asleep ; and this sleep infallibly terminates in death. Those animals, however, who sleep during the winter, uniformly not only retire below ground, or into some other recess, but cover themselves with substances which resist such deleterious effects of cold as would destroy their existence. If man and the larger animals, when benumbed and actually asleep from the operation of cold, were placed in similar circumstances, it is probable they might be induced to sleep a very great length of time, and again awake without suffering much injury.

## CHAPTER VII.

*Of the Language of Beasts.*

UNDER the term *beasts*, in the course of this chapter, I comprehend all those animals, of every class, who are inferior in mental powers to the human species. We can only perceive the language of beasts by attending to the particular cries they make, and to the influence which these cries have upon the feelings and actions of their associates. This subject is very copious. But I must limit myself to a few facts, accompanied with such remarks as they may occasionally suggest.

I shall begin with the class of quadrupeds. But it is necessary to inform my readers, that by the *language of beasts*, I mean not what is called *articulate* or *artificial* language, but such vocal *sounds* as are expressive of different feelings, wants, and desires, by which animals are enabled to communicate particular sentiments to each other.

In opposition to *artificial* language, the nature of which depends upon convention or agreement, and sometimes upon mere accident, there is a *natural* language which is common to man and to most of  
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the inferior animals. Men possess both these species of language ; but the brute animals are limited solely to natural language. Brutes, by uttering certain sounds, are enabled to communicate their feelings, whether external or internal, to every individual of the same species. These assemblages of inarticulate sounds are uniformly the same, and, contrary to what takes place in the artificial language of man, suffer no variation from climate or institution, but are equally intelligible in every division of the globe.

The *elephant* loves the society of his equals, and can make himself to be understood by them. Elephants are often observed to assemble in troops, to act in concert, and again to disperse. These movements are not accidental, but produced by certain sounds and gestures ; and, though they carry on no common operation, this circumstance may, perhaps, be ascribed to the want of room and of tranquillity ; for, in all countries inhabited by the elephant, men have been very antiently multiplied ; he is, therefore, perpetually disturbed, and no where possesses peaceably sufficient space to establish secure and permanent abodes. Elephants, in a wild state, are neither sanguinary nor ferocious. Their natural dispositions are gentle, and they never make an improper use of their arms or their strength ; for they exert their offensive talents only in defending themselves, or in protecting their companions. Their manners are social. They commonly march in numerous troops ; the eldest precede ; the young and the feeble are placed in the middle ; and those of middle age and full of vigour bring up the rear. The mothers carry their young firmly embraced in their trunks. This order, however, they observe in perilous marches only, as when they intend to pasture on cultivated fields. In the deserts and forests, they travel with less precaution, but never separate so far as to exceed the possibility of receiving assistance from each other.

other. When alarmed with any dangerous attack, they utter *cries* expressive of their situation and want of assistance. The meaning of these cries is perfectly understood by all the elephants within the reach of hearing; and they immediately run with eagerness to the relief of their distressed or apprehensive companions. When an elephant discovers a plentiful pasture, he *calls* to the others, and invites them to partake of his good fortune. From the great sagacity with which Nature has endowed him, he soon becomes acquainted with the language, gestures, and desires of men. He is, of course, easily tamed, instructed, and rendered submissive and obedient. As he is stronger as well as more intelligent than any other animal, his services are more ready, more extensive, and more useful. When the hunters go in quest of a wild elephant, they carry along with them into the forest a tamed female in season; and, when they imagine themselves to be near enough to be heard, her governour makes her utter the *cry* of love. The wild male instantly *replies*, and hastens to join her. She is then made to march towards an inclosure, pitfall, or other snare, repeating, from time to time, the same alluring cry, till he is completely deceived and caught. In a domestic state, the elephant soon learns to understand signs, and even the meaning of words, sounds, and gestures. He distinguishes the tones of command, of anger, and of approbation, and regulates his actions accordingly. He never mistakes the voice of his master; but receives his orders with attention, executes them with prudence and alacrity, but without any degree of precipitation; for his movements are always measured, and his character seems to partake of the gravity of his mass. After this animal has had time to learn the *language* of his conductor, *words* alone are sufficient to make him perform whatever is required of him. The eyes of the elephant, in proportion to the magnitude of his body, are very small, but lively, brilliant, and highly



highly expressive of sentiment. He turns them slowly and with mildness towards his master. When he speaks, the animal regards him with an eye of friendship and attention ; and his penetrating aspect is conspicuous when he wants to anticipate the inclinations of his governor. He reflects, deliberates, thinks, and never determines till he has several times examined, without passion or precipitation, the signs or commands which he ought to obey. As the elephant is naturally grave and moderate, we easily read in his eyes, whose movements are slow, the order and succession of his internal affections. The cry of the elephant, whether excited by love or other sensations, is heard and understood at the distance of more than a league ; but it does not, like the roaring of the lion or tyger, create terror. When the *cornack*, or conductor of the elephant, wishes to have some laborious office performed, he explains the nature of the operation, and mentions the reasons which should induce him to obey. If the elephant seems reluctant, his conductor promises to give him arrack, or some other thing of which he is fond. But it is extremely dangerous to break any of these promises. Many cornacks have fallen victims to indiscretions of this kind. A well authenticated fact, on this subject, happened at Dekan. An elephant, from some motive of revenge, killed his cornack. The man's wife, who beheld the dreadful scene, took her two children and threw them at the feet of the enraged animal, saying, ' Since you have slain my husband, take my life also, as well as that of my children.' The elephant instantly stopped, relented, and, as if stung with remorse, took up the eldest boy with its trunk, placed him on its neck, adopted him for its cornack, and would never afterwards allow any other person to mount it.

Among

Among the larger species of animals, the *camel*, the *dromedary*, the *horse*, &c. not only express, by particular sounds, their own wants, or desires, their pleasures and pains, but, when in a domestic state, learn the meaning of *words*, and know distinctly how to obey the commands of their masters. A troop of camels, when travelling in the sandy deserts of Africa, after a repose, the moment they are *desired*, bend their knees, and lie down to be again loaded. These gentle and inoffensive creatures must suffer much; for, especially when over-loaded, or when too long in want of water, they express their uneasiness by uttering the most lamentable cries. In marching through the desert, the camels require neither whip nor spur; but, when they begin to be tired, their courage is supported, and their fatigue is softened, by *songs*, or by the sound of some musical instrument. Their conductors relieve each other in singing. When time is likely to be too much prolonged, the animals are occasionally allowed to rest only about an hour; after which, the songs are renewed till they arrive at another resting place, when they again lie down. In this manner, and by these means, the camels, with heavy loads, perform journies almost incredible.

The language of the *horse* is not extensive. Mares and geldings neigh less frequently than perfect horses. Their voices also are neither so deep nor so full. In horses of every kind, whether entire or mutilated, five species of neighing, expressive of different passions, are distinguishable. In the neigh of *joy*, the voice is long protracted, and begins and terminates with sharp sounds: The horse, at the same time, flings, but without any inclination to strike. In the neigh of *desire*, whether proceeding from love or friendship, the horse does not fling, the voice is long continued, and finishes with graver tones. The neigh of *anger*, during which he flings

and strikes with fury, is very sharp and short. Neither is the neigh of *fear*, during which he likewise flings, longer than that of anger; the voice is grave and hoarse, and seems as if it proceeded entirely from the nostrils. This neigh has some resemblance to the roaring of a lion. The noise expressive of *pain* is not properly a neigh, but a kind of groan or snorting uttered with a grave tone, and following the alternate motions of respiration. It has been remarked, that horses which neigh most frequently, from motives of joy or desire, are the most generous and healthy. The voice of un mutilated horses is stronger than that of geldings or of mares. The female voice, even from the moment of birth, is weaker than that of the male. At two, or two and a half years, which is their age of puberty, the voices of both males and females, as in man and most animals, become stronger and more grave. In that large and thinly peopled country, comprehended between the rivers Don and Nieper, in the Ukraine, and among the Cossacks, the wild horses associate in troops of three, four, or five hundred. The conduct and behaviour of these troops seem to indicate, that men are not the only animals who live in society and obey, by compact, the commands of one of their own number. Each of these troops have a chief to whom they give implicit obedience. By gestures, movements, and *voice*, he directs their course, and makes them proceed or stop at his pleasure. When the troop is attacked by robbers, or by wolves, this chief likewise gives *orders* for the necessary arrangements and actions. He is extremely vigilant and alert, runs frequently round the troop, and, when he finds any horses out of their rank, or lagging behind, he commands and obliges them to take their proper stations. These animals, without being mounted or conducted by men, march in nearly as good order as our trained cavalry. Though at perfect liberty, they pasture in files and brigades,

gades, and form different companies, without ever mixing or separating. The chief occupies this important and laborious office four or five years. When he becomes weaker, and, of course, less active, another horse, ambitious of command, and who is conscious of his own strength, springs out from the troop, attacks the old chief, who, if not vanquished, keeps his command; but, if beat, he enters, with evident marks of shame and regret, into the common herd. The conqueror instantly takes the lead, is recognised as sovereign, and obeyed by the whole troop\*.

With regard to the *ox-kind*, their language is very limited. The bull seldom bellows but when he feels the ardours of love, and the female perfectly understands the meaning of what he utters. When strangers appear in his pasture grounds, he eyes them with suspicion, utters deep-toned murmurs, assumes a threatening aspect, and sometimes runs furiously at the intruders. These menacing tones and gestures are not, as generally imagined, indications of a natural ferocity of disposition. On the contrary, they are the expressions of heroism and of gallantry. By the sounds he utters, the females are alarmed and put upon their guard. They approach near him, and regard him as their protector and champion. The lowings of the cow proceed oftener from terror or timidity than from any other cause; and pain, hunger, or the absence of the mother, produce the complaints of the calf.

*Sheep* have been represented by the COUNT DE BUFFON and by many other natural historians, as the most stupid of all quadrupeds.

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\* See descrip. de l'Ukraine par Beauplan, and a Memoir communicated to the Count de Buffon by M. Sanchez, formerly physician to the Russian army.

This charge, however, seems not to be altogether just. In a state of subjection, individuals seldom resist the attacks of an enemy. But they soon learn that their protection lies in the shepherd and his dog; for, when it is necessary to watch the flock, in order to prevent the assaults of wolves, foxes, or dogs, upon the first alarm, the whole run with violence to the place where the watchmen are stationed. On other occasions they never choose to make a very near approach either to men or dogs; but the sense of immediate danger removes their usual timidity; and their sagacity teaches them where to seek protection. These associated movements are effected both by imitation and by peculiar *cries*, or *bleatings*, expressive of alarm and of danger; for, though a very few individuals only perceive the common enemy, yet, by motion and language, the intimidating sentiment is in a moment communicated to the whole. When the female loses or is robbed of her lamb, she *cries* in a manner strongly expressive of the anguish she feels. In the eagerness of her search, the loudness of her complaints, and her desultory movements, her eye-balls seem to start from their sockets; and her irregular and distracted motions and distortions, joined to the violence and constancy of her bleatings, are evident indications of the most pungent grief. A young lamb, when it wanders from its mother, in the midst of the most numerous flocks, runs precipitantly about, and *cries* in pitiable tones. These *cries* the mother recognises, distinguishes them to be those of her own offspring, and instantly joins the lamb; their congress is attended with mutual expressions of the greatest joy.

With regard to mental and corporeal powers, the *goat* is much superior to the sheep. He approaches man spontaneously, and is easily rendered familiar. He is fond of caresses both by the hand  
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and by *words*, and is capable of a considerable degree of attachment to those with whom he is familiar. When kept, like dogs or cats, in a domestic state, the whole powers of the goat are called forth. He utters *sounds* expressive of all his desires, and understands, in a limited degree, what is *said* to him by any of the family, as well as by all those who live in the neighbourhood. When he has remained some time in this state, his natural talents are unfolded and improved in a high degree. He knows personally every man, woman, child, and dog, within his usual range. His natural genius, which is bold and adventurous, when improved by domestication, renders him often frolicsome and even petulant. But, except to strangers, he is seldom seriously mischievous.

The natural sagacity and talents of the *dog* are well known and justly celebrated. But, when these are improved by associating with man, and by education, he becomes, in some measure, a rational being. The senses of the dog, particularly that of scenting distant objects, give him a superiority over every other quadruped. He reigns at the head of a flock, and his *language*, whether expressive of blandishment or of command, is better heard and better understood than the *voice* of his master. Safety, order, and discipline are the effects of his vigilance and activity. Sheep and cattle are his subjects. These he conducts and protects with prudence and bravery, and never employs force against them, except for the preservation of peace and good order. But, when in pursuit of his prey, he makes a complete display of his courage and intelligence. In this situation, both his natural and acquired talents are exerted. As soon as the *bark* or the *voice* of the hunter is heard, the dog demonstrates his joy by the most expressive emotions and *accents*. By his *movements* and *cries*, he announces his impatience for combat,  
and

and his passion for victory. Sometimes he moves silently along, reconnoitres the ground, and endeavours to discover and surprize the enemy. At other times, he traces the animals steps, and, by different modulations of *voice*, and by the movements, particularly of his tail, indicates the *distance*, the *species*, and even the *age* of the fugitive deer. All these movements and modifications of *voice* are perfectly understood by experienced hunters. When he wishes to get into an apartment, he comes to the door; but if that is shut, he scratches with his feet, makes a bewailing *noise*, and, if his petition is not soon answered, he barks with a peculiar and humble *tone*. The shepherd's dog not only understands the *language* of his master, but, when too distant to be *heard*, he knows how to act by signals made with the hand.

The senses of the *fox* are equally good as those of the *wolf*; but his sentiments are more delicate, and the organs of his voice more pliant, which enable him to use a more extensive *language*. The wolf utters only frightful howlings; but the fox barks in different tones, yelps, and raises a mournful cry something resembling that of the peacock. He varies his tones according to the different sentiments with which he happens to be affected. He employs an *accent* peculiar to the chase, to the tone of desire, of complaint, and of sorrow. He has another *cry*, expressive of acute pain, which he utters only when he is shot, or has some of his limbs broken. His yelping is a species of barking, and consists of a quick succession of tones; at the termination of which he generally raises his voice similar to the cry of the peacock.

The language of the *cat* is more limited than that of the dog. Still, however, it is highly expressive of her feelings and desires.

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When she wants to flatter, or to solicit favour, she makes a *purring* noise, accompanied with blandishing movements, and often rubs her sides upon the shins or garments of the person from whom she expects gratification. In the season of love, the female not only goes in quest of the male, but announces, by loud *cries* and disgusting motions, the pressure of her necessities. These *cries* never fail to excite the sentiments and procure the attention and assistance of the male. When a cat happens to be barred out, her *mew* of anxiety, or her petition to get admittance, is perfectly different from most of her other cries, but seems to be the same with that which she utters when desirous of food.

The *roe-buck* bellows not so frequently, nor with so loud or so strong a voice, as the stag. The young ones utter a short and plaintive cry, *mi...mi*, by which they indicate their want of food. This sound is easily imitated; and the mother, deceived by the well-known *call*, often comes up to the very muzzle of the hunter's gun, and falls a victim to her maternal affection.

With regard to the *orang-outang*, the various species of *apes* and *monkeys*, their conformation gives many of them a near resemblance in external figure to that of man. From this circumstance, they are enabled to imitate almost every human action. LINNÆUS, and some other authors, have even gone the length of affirming, that the *orang-outang* *speaks* with a kind of hissing voice. But we have no proper evidence of this supposed fact. On the contrary, the COMTE DE BUFFON, who often examined the smaller species of *orang-outang*, denies that this animal ever uttered any sounds which had the most distant resemblance to articulate language. By the mode of chattering and other sounds, however, any person may soon learn  
their



their particular intentions and emotions. BATTEL, who describes the largest species of orang-outangs, tells us, that 'they cannot *speech*, and have no understanding more than a beast \*.' By *speech*, in this passage, BATTEL evidently means *articulate* language; and this very circumstance is, perhaps, more than figure and manners, the strongest characteristic which distinguishes mankind from the brute creation. The COUNT DE BUFFON has collected, from the most authentic travellers, a great number of facts concerning the general manners and sagacity of the two species of orang-outangs; but, it should appear, he has not been able to obtain much information as to their language, or modes of expressing their passions and sentiments. Notwithstanding the great similarity between the form and organization, both external and internal, of the orang-outang, and the general structure of man, yet he cannot lay claim to humanity. Though he has the same organs of *speech*, he never attempts to *articulate*. The figure and proportions of his brain are likewise the same; but he discovers no extent of thought. There cannot, M. DE BUFFON properly remarks, be a more evident proof than is exhibited in the orang-outang, that matter alone, though perfectly organized, can produce neither language nor extensive thinking, unless it be animated by minds superior to those of brutes.

The *pigmies* are very numerous in the mountains of Mauritania, Constantia, and Bugia. We are informed by MARMOL, that they live upon herbs, corn, and fruits; that, in their depredatory expeditions, they go in troops to rob the gardens or fields; but, before leaving the woods or thickets, one of them ascends a high tree, or some eminence, from which he takes a survey of the country, and, when he observes no person in the way, he gives the signal, by a *cry*, which

\* Purchas's Pilgrims, part 2. p. 982.

which is perfectly understood, that the troop may proceed with safety, and leaves not his station as long as his companions are foraging abroad. But, whenever he perceives any person approaching, he *screams*, with a loud and intelligible voice, warning the robbers of their danger, when the whole, by leaping from tree to tree, fly off, and make their escape to the mountains.

In Senegal, many other species of apes, baboons, and monkeys, when robbing orchards or corn-fields, observe a similar conduct with that of the pigmies. One of them, on these occasions, stands sentinel on a tree, listening and looking about on all sides, while the others are busy in collecting the booty. When the sentinel descries any person, he instantly, by loud and significant *shrieks*, alarms the foraging troop, who obey the signal, and fly off with their prey\*.

The *ouarines*, a large species of American monkeys, are distinguished by the appellation of *preachers*. MARCGRAVE, in his History of Brasil, relates the following facts concerning these preacher-monkeys, which, he assures us, he himself often witnessed. The facts are, That, every morning and evening, the *ouarines* assemble in the woods; that one of them assumes a more elevated station, and makes a signal with his hand for the others to sit around and listen to him; that, when they are all seated, he begins a *discourse* so loud and rapid as to be heard at a great distance; that all the rest keep the most profound silence; that, when he stops, he gives a signal with his hand for the others to reply; that, in an instant, the whole *cry* together, till he commands silence by another signal, which they, in a moment, obey; that the first resumes his *harangue*; and that, after bearing him attentively for a considerable time, the assembly

\* Voyage de le Maire, p. 103.

breaks up \*. It were to be wished that MARCGRAVE had endeavoured to discover the intention of these *field-preachings* ; for, if the circumstances he relates be true, and I know no objection to his veracity, it is evident that the animals must be actuated by some peculiar motives. These *barangues*, perhaps, may, like our houses of Parliament, have some common interest for their object, and contain directions for the most prudent modes of accomplishing their purposes.

We shall now leave the language of *quadrupeds*, and proceed to mention a few particulars concerning that of *birds*. Brevity here is the more necessary, because in many places of my former volume, though treating of very different subjects, instances of the language of brute animals not unfrequently occur. Here I shall not confine myself to any systematic arrangement, but content myself with rambling, without any limited order, through the eloquence of the feathered tribes.

. In general, it may be remarked, that every species of birds have peculiar modulations of voice expressive of love, of pain, of anxiety, of anger, of complacency, and of good or bad fortune. These expressions, however, seem to be confined and intelligible to the individuals only of the same species. But there are certain sounds, particularly those of danger and of terror, which are perfectly understood, not only by the same species, but even by different genera and orders of birds. When the fox wishes to surprise birds in the neighbourhood of hedges, brush-wood, or trees, he lies down on his belly, and extends his hind-legs as if he were dead. In this situation, however, he is perfectly vigilant, and cunningly observes the motions

\* Marcgrav. Hist. Bras. p. 226

motions of the birds along the hedges and trees. If any of them happen to spy him, they immediately send forth soft, mournful, but shrill *cries*, to alarm their neighbours, and to advertise them of the enemy's approach. Blackbirds and jays have been frequently observed to follow the fox, flying from tree to tree, and often repeating the same *cries* of alarm and of danger. These *cries*, by whatever birds they are uttered, are understood by every species within reach of hearing, who instantly use all their arts of defence against the common enemy. Birds are well acquainted with their natural enemies, and this knowledge seems to be purely instinctive, and not derived from experience or observation. When they observe the *pine-weasel*, though for the first time, they utter the same mournful *cry* to announce his approach, as when they see a fox. It is likewise worthy of remark, that birds utter this peculiar *cry* upon the appearance of all carnivorous animals, as the wolf, the fox, the pine-weasel, the cat, &c.; but never against the stag, the roe, the hare, nor, I believe, even man, who, of all animals, is the greatest destroyer of the inferior tribes.

The language of most birds is a musical language, and reducible by a pitch-pipe to a musical key. All species are not equally eloquent. The language of some species is copious and fluent, but that of others is confined to a few important sounds, which are necessary to, express barely their feelings and their wants. But no bird, like the finny tribes, is perfectly mute. The language of birds, Mr WHITE of Selbourne remarks, is very antient, and, like other antient languages, very elliptical. They say little, but much is meant and understood\*. *Owls* have a very expressive language.

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\* See Nat. Hist. of Selbourne, by the ingenious and Rev. Mr WHITE, p. 240. of whose observations I have made frequent use.

They *hoot* in a fine vocal sound, which has a considerable resemblance to the human voice. This note seems to express complacency, and sometimes rivalry among the males. They likewise use a quick call, and an horrible scream; and they *snore* and *biff* when they mean to threaten and intimidate. The notes of the *eagle-kind* are shrill and piercing; and, in the season of love, very much diversified. *Ravens*, beside their loud croaks, sometimes exert a deep and solemn note, which makes the woods resound. The amorous sound of a *crow* is strange, and even somewhat ridiculous. In the breeding-season, *rooks* make clumsy attempts towards singing. The *parrot-kind*, as remarked in Vol. I. possess a great range of modulation in their voice, as appears by the facility with which they learn to pronounce words, and even short sentences. The *coo* of the pigeon is amorous and mournful. When the male makes love, or is jealous of rivals, he erects his body, raises the feathers of his neck and head, and employs many strutting and lively gesticulations. To these movements he adds a *guttural*, but not unpleasant kind of *speech*, which is soft and alluring when he means to solicit the female. When jealous of a rival, he utters the same notes, but gives them a more sharp, and even a menacing tone. The *woodpecker*, when pleased, sets up a loud and hearty species of *laugh*. The *goatsucker*, or *fern-owl*, from the dusk till day-break, serenades his mate with *sounds* similar to the clattering of castanets. Most of the small birds, or *passeres*, express their complacency by sweet modulations, and a variety of melodious *sounds*. The *swallow*, by a *shrill alarm*, rouses the attention of his species, and tells them that the hawk approaches. Gregarious and aquatic birds, especially those of the nocturnal kind, who shift their abodes in the dark, are extremely noisy and *inquisitive*; as cranes, wild-geese, wild-ducks, &c.

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Their perpetual clamour prevents them from dispersing and losing their companions.

We shall now make a few observations on domestic fowls, whose *language* is best known, and, of course, best understood. The *voice* of the peacock, like those of many birds of the finest plumage, is harsh and grating. The braying of asses, or the yelling of cats, are not more disagreeable. The voice of the *goose* clanks and sounds somewhat like a trumpet; but, the *gander*, especially when he apprehends danger to the young brood, joined to his threatening aspect, and the movements of his neck, *biffes* in a manner so formidable as deters the too near approach of children and of small dogs. In the *duck-kind*, the *voices* of the female and male are remarkably different. The *quack* of the female is loud and sonorous; but the voice of the *drake* is harsh, inward, and feeble. The cock *turkey*, when proud, or when addressing his mistress, blows up his wattles, erects his feathers, makes a humming noise by vibrating his wings, and utters a gobbling kind of *fund*, which, though we cannot describe, is perfectly understood by his own species. When attacked by a boy, or any other adversary, he assumes a pert and petulant *tone*; and such is the obstinate courage he displays, that he will rather die than give up the contest. A hen *turkey*, when she leads forth her young brood, watches them with the utmost anxiety. If a hawk, or any bird of prey, appear, though very high in the air, the careful and affectionate mother announces the enemy with a low inward kind of *moan*. If he makes a nearer approach, her *voice* becomes earnest and alarming, and her *outcries* are redoubled both in loudness and frequency. The effects of this interesting *eloquence* upon the young are astonishing. They understand the intimidating *language* of the mother, though they know not the immediate cause of

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the danger ; but, by the intuitive knowledge of the meaning of what she *says* to them, they instantly employ every artifice to conceal and protect themselves from the impending danger. To accomplish this purpose, they run under hedges, brush-wood, and even the leaves of cabbages, and of such other plants as happen to be near them.

None of our domestic birds seem to possess such a variety of *expression*, and so copious a *language* as common poultry. A chicken of four or five days old, when held up to a window frequented by flies, immediately seizes its prey, and utters little *twitterings* of complacency ; but, if a bee or a wasp is presented to it, its *notes* instantly become *harsh*, and expressive of disapprobation, and of a sense of danger. When a hen is about to lay an egg, she intimates her feelings by a joyous and soft *note* : But she has no sooner disburdened herself, than she rushes forth with a *clamorous* kind of joy, which the cock and the rest of his mistresses immediately adopt. This tumultuous noise is not confined to the family, or rather seraglio, but is transmitted from yard to yard, and spreads to every homestead within hearing, till at last the whole village is in an uproar. When a hen has hatched a brood, a new and interesting scene is exhibited. Her relation as a mother requires a new species of *language*. She then runs *clucking* and *screaming* about, and seems to be agitated with the greatest anxiety. When men or dogs suddenly approach her feeble brood, her courage and maternal care are astonishing. With loud *cries*, and rapid motions, she assails the enemy ; neither a man, nor a lion, in these circumstances, are sufficient to repress the courage of this unarmed bird. I have seen a hen, when attending her young, boldly attack, intimidate, and beat of a mastiff. The *vocabulary* of the cock is likewise pretty extensive ; and his generosity

sity and gallantry are remarkable : When he discovers a quantity of food, instead of devouring it himself, he instantly *calls* to his concubines to partake of the repast ; and, if he discerns a bird of prey, or any other alarming danger, with a warning *voice*, he desires his family to be on their guard against the common enemy. The cock has also at command his *love speeches*, and his *terms* of defiance. But his most peculiar *sound* is his *crowing*, by which, in all ages, he has distinguished himself as the countryman's clock, as the watchman who proclaims the divisions of the night.

On the subject of our common poultry, I must not omit a curious fact recorded by that intelligent naturalist the Rev. Mr WHITE of Selbourne. A neighbouring gentleman had, one summer, lost most of his chickens by the depredations of a sparrow-hawk, that was in the practice of gliding down between a pile of faggots and the end of his house to the place where the hen-coops stood. The owner, exasperated to see his flock daily diminishing, hung a setting-net between the house and the pile, into which the unwary robber dashed, and was entangled. 'Resentment suggested retaliation ; he, therefore, clipped the wings of the hawk, cut off his talons, and, after fixing a cork on his bill, threw him down among the brood-hens. Imagination, Mr WHITE remarks, cannot paint the scene that ensued. The *expressions* excited by fear, anger, and resentment, were strange and interesting. The enraged matrons upbraided, execrated, insulted, and, at last, triumphed over the helpless victim ; they never desisted from buffeting their adversary till they had torn him in pieces \*.

With regard to *fibres*, they have been always considered as perfectly



fectly devoid of *language*. But, on this subject, it must be remarked, that the element in which they live, their natural timidity, the swiftness of their movements, and a thousand other circumstances, remove them from the accurate inspection and inquiries of men. That they have the organs necessary for hearing, the justly celebrated DR MONRO, in his dissertation on fishes, has demonstrated in the most satisfactory manner. It is likewise well known, that water, which always contains a certain portion of air, is an excellent vehicle of *sound*. It is, therefore, from these two facts, highly presumable, that fishes have some mode of communicating their sensations and desires to one another. To what purpose should Nature have bestowed upon such a numerous class of animals, as that of fishes, organs exquisitely adapted for hearing, unless to endow them with that faculty? And, if fishes hear, it may fairly be concluded, that they occasionally utter *sounds* which are intelligible to their companions. The strong analogy derived from all terrestrial animals is another argument in support of this rational conjecture.

We shall now make a few observations concerning the *language* of *insects*, particularly those of the winged tribes. The *amours* of dragon-flies, of spiders, and of butterflies, furnish many appearances which permit us not to doubt, that the males and females have a very *expressive* mode of conveying their sentiments to each other. Their varied movements, their little alluring arts, are indications of that *language* which all sentient beings possess in some degree, and the *signs* of which are seldom equivocal. We see the male soliciting, by his gambols, his caresses, and his perseverance, favours which the female affects, at first, to refuse, with no other apparent intention than to excite and inflame the passion of the male.

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The *grasshopper* furnishes us with a remarkable instance of the *language* of insects. The grasshopper is a species of *ventriloquist*. The organs of his voice, which are both curious and complicated, instead of his head, are placed in his *belly*. By this instrument, in the season of love, he *chants*, or *chirps*, to the female, who seems to be pleased with his addresses, and, when disposed, she approaches him, being led, not by the eye, but by his *voice*. From a very general analogy, we are warranted to suppose that organs of *voice* imply the relative organs of *hearing*. Hence we may conclude, that the female grasshopper both hears and understands the *love-speeches* of the male.

Those insects which are brought forth, and live in society, who mutually assist each other in constructing works for the common good and accommodation, seem to have the greatest need of an extensive *language*. Being destined to form one large family, to give mutual aid and support to each other in all their common wants and operations, a species of *language*, and that not very limited, seems to be absolutely necessary to enable them to understand and to execute the different labours allotted to them with that regularity and harmony, which is so remarkable in the magnificent structures erected by bees, wasps, and many other gregarious insects. Bees, as well as flies of every kind, make a humming *noise* by the vibrations of their wings. But the noise of the bee, when flying home with its load, is very different, even to our comparatively blunt ears, from that which it utters after arriving at the hive, where it makes a peculiar *noise*, which is perfectly understood by the working bees, who instantly come and carry off this fresh supply of materials.

Common flies, and particularly the large flesh-flies, make a soft

*singing* kind of noise when flying about in tranquillity. But, when alarmed, or when entangled in the web of a spider, the *noise* of their wings intimates distress and terror. Instead of being soft and agreeable, it is then loud, quick, harsh, and interrupted, precisely analogous to the language and cries of men and of the larger animals when placed in similar circumstances. In my former volume, when treating of *hearing*, I have rendered it more than probable, that the common house-fly is endowed with the faculty of hearing. Whenever we perceive, that effects and movements are uniformly produced by certain sounds, it may be concluded, that the animal is furnished with organs of hearing, though, from their minuteness, we are unable to discover where they are situated. In the winged tribes of insects, it is probable that the organs of hearing are placed near the insertion of the wings, or, at least, that nerves or vessels proceed from the wings to the more immediate organs of hearing, which may be inclosed under that elastic crustaceous substance with which the head is covered. This idea will be rendered still more probable by attending to the various modulations of *sounds* produced by the vibrations of the wings, and by comparing these with the present situation and employment of the insect. When a common fly is irritated or terrified, the *noise* made by the vibrations of its wings is very different from that produced when the animal is flying about undisturbed. When a house or a flesh-fly is tormented by thoughtless children, who, for amusement, often insert pretty large pins into the bodies of these insects, which the animals, with much pain, are obliged to trail after them, the *noise* of their wings is then highly expressive of impatience and of torture. But, when they meet with food agreeable to their taste, the *noise* of their wings is soft, gentle, and even melodious. When the season of their amours arrives, a new and interesting scene, both with regard to movements and  
*language,*

*language*, is exhibited. At that important period of their existence, they assemble in groups, which are more or less numerous, according to circumstances. These groups fly about, making a thousand circumgyrations, but always keep pretty close to each other. In these *love-dances*, as I call them, the males and females often meet, and lay hold of each other in the air; but the congress is only momentary. The *noise* of their wings, however, on this critical occasion, is brisk, sharp, and seemingly expressive of *joy*: This *noise* is easily distinguishable from that excited by terror or by any embarrassing or painful situation. But these groups of lovers not unfrequently descend from the higher parts of a chamber, and alight upon tables or chairs. Here their *language* and motions become still more intelligible. The males run about with ardour in quest of the females, and perch with alacrity and a pleasant murmuring species of *noise* upon the backs of the females, where, if their stay is short, it is amply repaid by the frequency of reiteration. I have often been amused with their mistakes. Though the eyes of flies consist of numerous lenses, so situated that they can see objects all around them; yet these lenses are so minute and so convex, that they can perceive objects at small distances only. When the males are roaming about in quest of females, it not unfrequently happens, in the keenness of research, that two males rencounter: As soon as the mutual mistake is perceived, each makes a sudden *snapping* kind of *noise*, as if they were spitting in one another's faces, and then run off in pursuit of more suitable mates.

Some spiders, when they wish to have sensual intercourse, have a singular method of communicating their desires. A spider, who wants a mate, has a mode of *striking* against the wall or wood where she has settled. She first gives nine or ten gentle blows, re-

fembling, but somewhat quicker and louder, the vibrations of a watch ; after which, she remains some time silent, as if waiting for a response ; if she receives none, she repeats the same *ticking noise*, by what means it is not perfectly known, at intervals of about an hour or two, resuming this exercise and resting alternately both during the day and the night. After these amorous *solicitations* have been continued two or three days, if no lover makes his addressee, probably because none are within the reach of hearing, she changes her situation, till she receives an answer from a neighbouring mate, who makes precisely the same kind of *noise*. If they are mutually pleased with each other, the *conversation* becomes brisker, and the beatings more frequent, till, at last, the approach is so near, that the two *sounds* are confounded. In a very short time, a deep silence takes place, when it is reasonably supposed that the intentions of Nature are accomplishing\*.

This chapter shall be concluded with a few general remarks. With regard to the *language* of beasts, a few examples have been selected from

Amusement philosophique sur le language des Bestes, par G. H. Boujeant, p. 118. Father Boujeant, as appears from his writings, was a man of considerable learning and ingenuity. He was also an acute observer of the operations and oeconomy of Nature. He supported his ideas, concerning the relative *understanding* and *language* of *beasts*, with great spirit and ability. But fanatical, or, which is the same thing, ignorant individuals, and, at last, the *Romish church*, were alarmed. Boujeant was himself a Jesuit ; and, when called to account for his doctrine, like a gentleman of the profession, in a second edition, he not only *recanted* solemnly all his opinions on the subject, but acknowledged them to have been *delusions of the Devil* ! To augment this literary, or rather religious farce, the very same opinions and reasonings are repeated in the subsequent edition, accompanied with the signed *reantation* of the author ! The diffusion of science, so often attempted to be suffocated by *prussis*, though, to the disgrace of human nature, both an antient and a modern practice, exhibits a dreadful picture of what are called *the Lords of the Creation* !

from the four great classes of Quadrupeds, Birds, Fishes, and Insects. To have enumerated more, would not only have tired the reader, but led me far beyond my intended limits. From the few specimens I have given, it is apparent, that Nature, in this, as well as in every other of her operations, supports and conducts her system of animation by universal and intelligent laws. On man she has bestowed three species of language, namely, *natural* language, the language of *gesture*, and, what is still superior, the faculty of inventing and employing *artificial* language. But the most distinguished of the brute animals are limited solely to the two former modes of communicating to each other their various feelings and desires. The *language* of the insect tribes seems to be still more limited. Their *conversation* is chiefly carried on by various vibrations of their wings, and by similar instruments; but still these simple modes of expression, by whatever motives they are produced, are perfectly understood, which is the sole end and intention of all *language*.

One very singular observation remains to be made. Contrary to what almost universally takes place in the human species, the *females* of the inferior animals are not so *loquacious* as the *males*. This remarkable difference, if we scrutinize impartially the intentions of Nature, will be found, like all her other intentions, to be productive of the wisest and most beneficent purposes. Among those brute animals who *pair* or *marry* by mutual selection, and particularly almost the whole of the feathered tribes, when not corrupted by domestication, the *language* of the *males* is more extensive and more frequently repeated, than that of the *females*. It is for this reason, that, in purchasing singing birds, great attention is paid to those characters which distinguish the *males* from the *females*, the latter being considered as comparatively *mute* and useless. When the female thrush,

or

or blackbird, is brooding over her eggs, the male sits upon a neighbouring tree ; and, when no danger appears, he tells her, in melodious and encouraging strains, not to be afraid, because he is keeping the strictest watch. But when he perceives the too near approach of man, of birds of prey, or of any other rapacious animals, he instantly changes his addresses to her. Instead of his former soothing notes, he flies from branch to branch, or from tree to tree, uttering dismal, alarming, and harsh *cries*. In this manner he tells her to beware of the enemy. When the danger is greatly increased, by a still nearer approach, the male again changes his *language* : He then, by quick and precipitate *sounds*, commands her to *fly*, and to save herself even in preference to her eggs or her defenceless brood.

Here the intentions of Nature as well as the necessity of a varied though limited *language*, are evident both to our ears and eyes ; for, on such occasions, the *sounds* are uniformly accompanied with the most expressive *gestures*. When boys are about to carry off a nest of young birds, both parents, notwithstanding their natural dread of man, which is too often augmented by cruelty, make a much nearer approach than at any other time. Their almost invincible attachment to their offspring seems, in a great measure, to deprive them of the principle of self-preservation. Their *cries* are low, mournful, and not unfrequently resemble those uttered by human beings when placed in similar circumstances. But, when despair removes all hope, another change of *language* is exhibited. Both parents then fly round the assailant, screaming and uttering threatening cries ; and sometimes they even attempt to repel the spoiler.

When a boy, I carried off a nest of young sparrows about a mile from my place of residence. After the nest was completely removed, and  
while

while I was marching home with them in triumph, I perceived, with some degree of astonishment, both parents following me, at some distance, and observing my motions in perfect silence. A thought then struck me, that they might follow me home, and feed the young according to their usual manner. When just entering the door, I held up the nest, and made the young utter the *cry* which is expressive of the desire of food. I immediately put the nest and the young in the corner of a wire-cage, and placed it on the outside of a window. I chose a situation in the room where I could perceive all that should happen, without myself being seen. The young animals soon *cried* for food. In a short time, both parents, who understood the language as well as the peculiar *voices* of their mutual offspring, having their bills filled with small caterpillars, resorted to the cage, and after *chatting* a little, as we would do with a friend through the lattice of a prison, gave a small worm to each individual. This parental intercourse continued regularly for some time, till the young were completely fledged, and had acquired a considerable degree of strength. I then took one of the strongest of them, and placed him on the outside of the cage, in order to observe the conduct of the parents after one of their offspring was emancipated. In a few minutes, both parents arrived, loaded, as usual, with food. They no sooner perceived that one of their children had escaped from prison, than they fluttered about and made a thousand *noisy* demonstrations of *joy* both with their wings and their *voices*. These tumultuous *expressions* of unexpected happiness at last gave place to a more calm and soothing *conversation*. By their *voices* and their *movements*, it was evident that they earnestly entreated him to follow them, and to fly from his present dangerous state. He seemed to be impatient to obey their mandates; but, by his *gestures* and the feeble *sounds* he uttered, he plainly told them  
that



that he was afraid to try an exertion he had never before attempted. They, however, incessantly repeated their *solicitations*; by flying alternately from the cage to a neighbouring chimney top, they endeavoured to show him how easy the journey was to be accomplished. He at last committed himself to the air, and landed in safety. Upon his arrival another scene of clamorous and active joy was exhibited. Next day, I repeated the same experiment by exposing another of the young on the top of the cage. I observed the same conduct with regard to the remainder of the brood, which consisted of four. I need hardly add, that not one, either of the parents or children, ever afterwards revisited the execrated cage.

We have already seen, and every body knows, that in general, the *males* of the inferior animals are more *loquacious* than the *females*. But, in the human species, it is likewise an unquestionable fact, that the *females* are much more talkative than the *males*. It is even remarkable, that *female* children, though of the same family, and receiving the same instructions and example, acquire the faculty of *speaking* one year, and sometimes two, sooner than the *males*.

We shall now endeavour to investigate the intentions of Nature in creating such a marked distinction.

In all ages, and in all regions of the earth, the early education and management of children have necessarily devolved upon the mothers. For this important task, they are much better qualified, both in the structure of their bodies, and in the dispositions of their minds, than the males. The connection between the mother and child begins long before it becomes an object of attention to the father. By a thousand circumstances, which mothers only know, and  
times

sometimes attempt, though obscurely, to describe, they contract an affection for a still invisible being. After the child is ushered into the world, the curiosity and the sympathetic joy of the father, are excited. He, accordingly, exerts himself to render the condition both of the mother and child as happy as possible. To support the child with a mild but nutritive food secreted from the blood and other juices of the mother, Nature has provided her with a wonderfully complicated system of vessels, or lacteal pipes, which all terminate in the nipples of her breasts. To these nipples the infants instinctively apply their mouths, and, by suction, create a vacuum. The pressure of the external air upon the breast, or collection of tubes filled with milk, forces them to discharge their contents into the mouth of the child, who continues to swallow it till its stomach is satisfied. During this tender and precarious state of existence, the anxious and persevering attention of the mother, makes her cheerfully endure many toils and hardships, under which she would often sink, were she not, on such occasions, almost preternaturally supported by mere strength of affection.

After the child has arrived at the age of two or three months, and, in strong and healthy children, much earlier, or as soon as it is capable of giving a transient attention to particular objects, then the exertions of the mother are almost perpetual. Her sole object is to please by little amusements which she endeavours to accommodate to the weak, but gradually augmenting capacity of the infant. The chief instruments which she addresses are the *eyes* and *ears*. To the *eye* she presents shining or luminous objects with which children are very early delighted; and, at the same time, repeatedly mentions the *names* of the particular objects. Thus, by habit, the *natural volubility* of female tongues is greatly improved. I have

often been amazed at the dexterity and quickness of mothers and nurses when endeavouring to please fretful children. They hurry the child from object to object, in order to discover if any of them arrests its *eye*. If this attempt does not succeed, they have recourse to other expedients. The *ears* of all infants are delighted with any loud *noise*. The mother, who wishes to appease the fretfulness, or even to keep up the spirit and cheerfulness of the child, tosses it about in her arms, sings, and talks alternately ; and, on such occasions, it is astonishing to observe the quickness of her transitions from one species of incomprehensible jargon to another. Still, however, she goes on either *rattling* with her *tongue*, or making a *rattling noise* on tables, chairs, &c. A person who had never attended to these scenes, which are so often exhibited by a sprightly mother and a sprightly child, would be apt to conclude, that both were proper inmates for a bedlam. These are well known to be universal facts ; and we shall now endeavour to show their utility.

It is a very antient adage, that Nature does nothing in vain. To women she has given the talent of talking more frequently, as well as more fluently, than men : She has likewise endowed them with a greater quantity of animation, or what is commonly called *animal spirits*. Why, it may be asked, has Nature, in this article, so eminently distinguished women from men ? For the best and wisest of purposes. The principal destination of all women is to be mothers. Hence some qualities peculiar to such a destination must necessarily have been bestowed upon them. These qualities are numerous : A superiour degree of patience, of affection, of minute, but useful attentions, joined to a facility of almost incessant *speaking*.

Here, however, I must confine my observations to the last conspicuous

cuous and eminent accomplishment. To be occupied with laborious offices, which demand either bodily or mental exertions, and not unfrequently both, is allotted to the men. These causes, beside their comparative natural taciturnity, totally incapacitates them for that loquacity which is requisite for amusing and teaching young children to *speak*. But the employments of women are of a more domestic kind. Household affairs, and particularly the nursing and training of children, are fully sufficient to engross their attention, and to call forth all their ingenuity and active powers. The *loquacity* of women is too often considered, by poets, historians, and by unthinking men, as a reproach upon the sex. Men of this description know not what they say. When they blame women for *speaking much*, they blame Nature for one of her wisest institutions. Women *speak much*. They ought to *speak much*. Nature compels them to *speak much*; and, when they do so, they are complying religiously with one of her most sacred and useful laws. It may be said, that *some men* talk as *much* as women. Granted. But beings of this kind, I deny to be *men*. Nature seems to have originally meant them to be *women*; but, by some cross-accident, as happens in the production of *monsters*, the external *male form* has been superinduced upon a *female stock*.

## CHAPTER VIII.

*Some Remarks on the Comparative Pleasures and Sufferings of Animals.*

THERE are two great sources of animal pleasure and pain. The one arises from *mental*, and the other from *corporal* causes. In proportion to the extent of intellectual powers in animals, the variety and the intenseness of their pleasures must be augmented. I wish the reverse were not equally true. Man, who stands at the head of all the animated beings of which we have any knowledge, derives the most extensive, variegated, and delicate species of pleasure from natural genius, especially when improved and illuminated by science, by literature, and by impartial, but acute observation. The means, however, of acquiring these accomplishments, are often productive of the greatest human *calamities*. They cannot be attained without much study and reading. But study and reading imply a sedentary life; and a sedentary life gives rise to consumptions, to the stone, to the gout, to want of appetite, and, of course, to every evil which hell can invent, or poor mortals suffer.

But

But let us take a view of the enjoyments procured by the acquisition of knowledge, and by a proper culture of the mind. Every step we advance, from the very commencement of our progress, affords pleasures which are totally unknown, and even incomprehensible to the ignorant and too commonly vicious part of mankind, which unfortunately includes much more than nine-tenths of the species.

When about five or six years of age, our sole delight consists of rambling about, flying from one external object to another with often an unmeaning rapidity, and without perceiving, that, by this restless activity, we are laying up ample stores for future reflection. Nature, in her operations, has seldom one intention only in view : While she is thus early stimulating us to gratify curiosity, or, in other words, to enjoy pleasures which are perpetually changing their forms and modes of impression upon the soft and ductile mind, she is, at the same time, extending and strengthening the body by the movements which these exertions necessarily require. The pleasures resulting from the acquisition of ideas by the inspection and examination of new external objects, from the age mentioned above, proceed with amazing rapidity. But, after this period, in what are called *civilized*, or rather *artificial* societies, the natural current of the mind is checked, and turned into very different channels. To read, to write, to acquire *dead* or *foreign languages* ; and, if the destination be still higher, geometry, and speculative knowledge of every species, are made the principal objects of a young man's attention. This severe check is, in general, too early given. At the very time when young minds are eagerly investigating even the *minutiæ* of Nature, as insects, reptiles, and, when a little farther advanced, birds and quadrupeds of different

different species, they are prematurely hurried on, to the most absurd and preposterous of all studies, namely, that of *dead* and *foreign languages*, long before they understand, to any extent, their *native tongue*.

Some small portions of the ancient *historical* compositions may sometimes be partially understood, and even relished by school-boys. But what are the sentiments which strike in the most forcible manner the unsuspecting, and, as yet, uninformed minds. They are of the most diabolical kind. *Animosity, battles, treachery, cruelty, and murders!* The successful perpetrators of these horrid crimes are celebrated, both by their own *historians*, and by unthinking *pedagogues*, under the grand appellation of *HEROES!* What was the renowned *Alexander?* A *great Hero?* And what is a *great Hero?* An unrelenting *butcher* of his own *species!* Such was ALEXANDER, such was CÆSAR, and such were all *the similar vagabonds, thieves, and murderers* of antiquity. These men, however, are exhibited by our *teachers*, as glorious examples of human *virtues!* What monstrous *lessons* to young and tender minds! But, if our *teachers* were wiser than they generally are, the historical compositions of the ancients would afford them the finest topics for inculcating every species of moral duty, and of moral feeling, upon the minds of youth. Patriotism, love of liberty, and bravery in the defence of the natural rights of man, when tempered with moderation and humanity, and, if properly explained, enforced, and illustrated by the numerous and splendid characters which antiquity occasionally affords, would not only excite attention, but expand the mind, and give it virtuous impressions which no time could ever efface.

I mean not to depreciate *classical learning*. I only complain of a most absurd and hurtful mode of education, which is, it may be said, *universal* in Scotland. Not to mention the *masters* of different mechanical employments, *JOURNEMEN shoemakers, tailors, weavers, carpenters, bakers, masons, bricklayers, &c.* uniformly send their children, when at the age of seven or nine, for the space of four or five years to learn *Latin* at *grammar schools*! During this time, the poor boys are forced to attend the school, and not unfrequently whipped into the repetition of some *Latin vocables*, which are never to be of any use to them during life. For, after performing this, to them, useless, painful, and dreary task, the thread is instantly cut, and they are hurried into apprenticeships, and, of course, into the business of life, without understanding either their *own*, or any other *language*. The progress of Nature may, it is true, be sometimes checked, but never entirely stopped. During the hours of recess from scholastic discipline, she resumes her empire, and by her irresistible power, obliges the children to frisk and romp about, and to enjoy those various and pure pleasures which result from activity and amusement. But, these enjoyments are no sooner over, than the abhorred ideas of unnatural confinement, and of a constrained attention to *jargon*, which, to them, is completely unintelligible, instantly recur, and harass and terrify their imaginations.

I have hitherto limited my remarks to *languages* alone. But, with regard to sentiment, the motely *chaos* becomes doubly *dark*. Of battering rams, spears, swords, shields, and other warlike instruments, some idea may be formed. But the political views of commanders, the various marches and counter marches of armies, of detached parties for the purposes of foraging, or of observing the motions and probable intentions of the enemy, and the means employed to ren-

der



der these intentions abortive, must be perfectly incomprehensible to school-boys, who do not know one inch of the countries where such operations are transacting. It will be said, perhaps, that all these difficulties may be obviated by proper *maps* and descriptions. To young men farther advanced in years, and who are destined to some learned profession, or to the education which every gentleman ought to receive, *maps* and descriptions are excellent sources of information. But, to school-boys, at the age I speak of, *maps* and descriptions convey no ideas of the countries they are intended to represent. *Globes*, it may be thought, will remove all objections of this kind. *Globes*, however, only augment the obscurities arising from *maps*, when attempted to be thus prematurely obtruded upon minds totally incapable of understanding the principles upon which either of them are constructed. The names of countries, of some rivers, and chief towns, like *Latin vocables*, may, by the mere exertions of memory, and of perseverance, be mandated, and repeated, as the words and short sentences which *parrots* are taught to express. But, by these exercises, no new ideas are acquired ; nor are those which may have formerly been in some measure acquired, either illustrated or expanded. The *fruitless* and *painful* labours, however, which such preposterous conduct in managing the early education of youth produce, are immense, and truly ridiculous.

These and similar observations relate principally to *prose* compositions. But, what are we to say of *poetry*, the language of which is highly *figurative*, and the *sentiments* and allusions are derived from every object of nature and of art, which can strike the imagination of the poet ? To read such works of genius and of learning with any degree of intelligence, often baffles the experience, the industry, and the abilities of our most acute commentators. This remark is appli-

cable, in part, to every species of poetry, but acquires a redoubled force with regard to that species called *epic*. Beside the various descriptions and allusions derived from natural and artificial objects, what goes under the strange appellation of *machinery*, is almost perpetually introduced. Not contented with *heroes* and brave *men*, in describing battles and human exertions, *gods* or *devils* must interfere in every hostile contest. In the Heathen mythology, the number of gods and goddesses is as infinite as their attributes and destinations. Every nation, every town, every mountain, every river, and many principal families, and even individuals, were supposed to be the favourites of particular divinities, by whom they were superintended, and protected, on all critical emergencies, from danger and death. When two heroes met and commenced a furious combat, if one of them was about to fall, to prevent the deadly blow, a *god* or *goddess* instantly stepped forward to his assistance, and, by some silly or absurd miracle, saved him from impending destruction ! BUTLER, that prince of humour and of wit, ridicules, in the finest strains, the *machinery* employed by ancient as well as modern poets. When two of his renowned heroes were about to engage, not with swords, but with fire-arms, in the moment of danger, he makes PALLAS interpose to save her favourite, in the following ludicrous manner :

But PALLAS came in shape of *ruff*,  
 And 'twixt the spring and hammer thrust  
 Her Gorgon shield, which made the *cock*  
 Stand *stiff*, as 'twere transformed to *flock*

The splendid and beautiful descriptions of many natural objects are not more intelligible to mere boys than the machinery of *gods*, of *goddesses*, of *angels*, or of *devils*. *Amaranthine* bowers, *myrtle* groves,

\* Hudibras, canto 2 line 781.

groves, tombs covered with the dismal *cypress*, crowns of *laurel*, the deadly *nightshade*, the *cedar* of Lebanon, and a thousand similar names of objects, are equally unknown to the *master*, to the *school-boy*, and often to the very *poets* who use them in their compositions. When the names and descriptions of plants happen to occur in the reading either of prose or verse, it would be no difficult task, particularly in the seminaries of Edinburgh, where we have one of the most extensive and best replenished *botanic* gardens in Britain, for *masters* to procure *specimens* of almost every vegetable that is mentioned by the historians and poets of antiquity. A single inspection of such specimens would elucidate many passages in classical authors more completely than all the definitions which human ingenuity can invent. Besides, this mode of explaining particular parts of the Classics would have another happy effect. It would not only give immediate pleasure to boys, but create a habit of attention to the productions of Nature with which we are perpetually surrounded, and perpetually overlook.

But, say our *pedagogues*, for an explanation of all such generic or specific names, consult your *dictionary*. We shall do so; and take a few examples from that of *Ainsworth*. AMARANTHUS, *everlasting, a flower which never fadeth*! CUPRESSUS, *a cypress-tree*! MYRTUS, *a myrtle-tree*! LAURUS, *the laurel or bay-tree*! CIRCÆA, *the herb called night-shade*! MORUS, *a mulberry-tree*! MERCURIALIS, *the herb called Mercury*! MESPILUS, *a medlar-tree*! MANDRAGORAS, *an herb called mandrake*! MENTHA, *the herb called mint*! AMYGDALA, *an almond-tree*! PLANTAGO, *plantain*! LEUCOGRAPHIS, *an herb good for those who spit blood*! I will not disturb my readers with more specimens of similar unmeaning *explanations*,

or rather no *explanation* at all ; for they convey no ideas whatever. In almost every page of our common dictionaries, whether Latin, English, French, &c. examples of such *jargon* are to be found. Our Lexicographers, however, not unfrequently descend still lower, and, instead of absurd definitions, or substituting English for Latin names, in which they are likewise *often* wrong, content themselves with barely saying, the *name* of a *tree* ! the *name* of a *plant* ! the *name* of an *herb* ! the *name* of a *precious stone* ! the name of a *four-footed beast* ! &c.

Are these the sources from which *boys*, or even *men*, are to derive information concerning the productions of Nature ? But, it is much to be lamented, that, in general, our *pedagogues* themselves are unqualified to use the proper resources, and, consequently, must be equally ignorant as the pupils they are attempting to instruct. To boys the task of learning dead languages is sufficiently hard and laborious. But, when ordered to read passages where natural objects of various kinds frequently occur, in the explication of which neither their *dictionaries* nor their *masters* can afford the smallest assistance, the *drudgery* of groping in the *dark* becomes often so *painful*, that many boys leave the school perfectly *disgusted*, and drop for-ever such unprofitable, and, to them, unintelligible studies.

But, notwithstanding these, in particular instances, perhaps unavoidable *difficulties*, when somewhat farther advanced in years, if young men, by persevering industry, joined to a partial knowledge of some branches of science, are once enabled to read and to relish the writings of ancient or of foreign authors, then the *pleasures* resulting from the perusal of them more than counterbalance the *pains* suffered in the acquisition of that species of knowledge. Some of the

the above remarks are equally applicable to the study of science and of art. But, as the principles of the arts and sciences are fixed, and seldom subject to cavil or misrepresentation, whenever these simple and natural principles are properly explained and understood, the *pleasures* arising from their application are very great. As formerly remarked, premature *studies* are uniformly *painful*; because such young minds are incapable of comprehending the principles, and far less the application of them to arts or science. *Grammar*, the first science obtruded upon, I may say, *infantine* intellects, is one of the most abstract and intricate. To attain even a tolerable knowledge of grammar, whatever be the language, (for the general principles are, and must be the same,) presupposes a considerable range of intuitive facts, as well as of acquired ideas.

When these difficulties, however, are once surmounted, and the mind is enabled to perceive the beauties and the utility of science, its *happiness*, which it hourly receives from a thousand sources, may be said, as far as our present condition admits, to be complete. But a mind thus cultivated is by no means *satisfied*. Every new acquisition, though attended with *pleasure*, produces, at the same time, a number of *painful* sensations. In proportion as the mind is expanded by different kinds of science, its desire for farther and often impossible acquisitions augments, and gives rise to *painful* anxieties, which not unfrequently terminate in *dejection*, which is a species of *madness*.

We shall now trace the progress and feelings of a well informed mind, after it has engaged in the more serious and interesting affairs of society. Here a preliminary remark must be made. The more the mind has been stored with a variety of knowledge, the  
more

more *acute* are its *feelings*. It derives *pleasure* from many sources, of which the *vulgar* can have no idea. But, mark the reverse. The causes of *pain* augment in more than a quadruple proportion. Of most of these the *vulgar* have not a conception; but they *torture* the feelings of what are called *refined minds*.

Business, of one kind or another, now becomes necessary; and an almost infinite series of *pains* and of *pleasures* are the unavoidable results. Mental or corporal exertions, however laborious, we shall not consider as absolutely *painful*; for when these are past, and followed with success, they are causes of the greatest *pleasures*. At this period of life, another source of *pleasure*, as well as of *pain*, arises in an unexpected, and often involuntary manner. Both in the male and female sex, peculiar and strong attachments are formed. Marriage, in general, is the consequence of such attachments. But, with regard to the present subject, what are the common consequences of marriage? *Children*, and a multitude of new *pleasures* and *pains*. When in health, the *pleasures* afforded by children are numerous and delightful; but, when *disease* comes, the account is more than balanced. A helpless infant tortured with *pain* is a most *excruciating* object. But, when a lovely child is, perhaps, suddenly torn from its mother's breast by *death*, the *painful* sensations excited by such an event, *parents* alone can know. To proceed: When children have happily got over the common diseases incident to that critical period of life, and have advanced to manhood, and engaged in different occupations, the *anxieties* of parents, instead of being *blunted*, become more *acute*. They then look forward, with redoubled *apprehension* and *affection*, to the probable success or misfortunes of their offspring. When successful, the *pleasure* is great. But when, from negligence and vice, or even from unforeseen misfortune,

tune,

tune, a contrary event takes place, the *painful* feelings of parents are not to be described. Parents not unfrequently, from a natural, but superabundant affection, risk more than their fortune with a view to bring their children respectably forward in the world, and to render them happy. Such conduct is foolish; but the folly is amiable. A single slip, however, in children too frequently produces the greatest *miser*y to both them and their parents. In all such cases, contrary to the common adage, *evil comes out of good*.

We have hitherto given slight sketches of the *pains* and *pleasures* arising from highly *cultivated* minds; and shall now descend to what are called the *vulgar* and uninformed.

The *vulgar*, in all nations and conditions of society, constitute the great body of the human race. Born and brought up by poor and ignorant parents, their children, of necessity, are excluded from every source of superior knowledge. These seemingly unfortunate circumstances, it should appear, would be productive of the greatest *miser*y. But Nature, ever attentive to the general *happine*s of her productions, has decreed that the *vulgar* should, at least, be as *happy* as the *learned*. They are excluded from many sources of real *pleasure* which the learned possess. But they know nothing of such defects; and what they do not know cannot possibly give them *uneasiness*. They labour with cheerfulness, and eat their food with an appetite which no riches can purchase. Every moderate animal *enjoyment* is within their reach; and their rank in society precludes them from many *painful* circumstances which opulence alone can procure. Their sleep is sound and refreshing; and, as their food is generally light and easily digested, they are seldom troubled with those *disagreeable dreams* which *torment* the luxurious, whose sto-

mach

machs are not only feeble, but often overloaded with *dainties*, and still oftener with *intoxicating liquors*. The vulgar are not *barrassed* with ambition, nor anxiously solicitous concerning *future* prospects or *future* events. They *enjoy* the present moments as they fly, and *rely* upon the continuance of similar sources of happiness.

In their domestic affairs, the *vulgar* are exempted from many *evils* which too frequently *perplex* the imagination, and *hurt* the feelings of those who occupy the higher stations of life. Of the many  *vexatious* circumstances arising from the *negligence*, the *petulance*, the *thefts*, and the long train of *vices* daily committed by *servants*, the *vulgar* can never form an *idea*, and, of course, cannot *feel* the *uneasiness* which they occasion. The *vulgar* are likewise exempted from a thousand *restraints* and ceremonious *etiquettes*, which cramp the *freedom*, occupy fruitlessly the *attention*, and give rise to numberless *anxieties* and *disappointments* among what are called *people of fashion*. The *pleasures* of the *vulgar*, though comparatively few, are more genuine and unadulterated, because they are less *artificial*, and, of course, unaccompanied with *emulation* or *jealousy*, and seldom followed with *regret* or mental *reproach*. The *pleasures* of the *great* are generally tumultuary, exhaust the spirits, and produce *languor* and *compunction*, two painful feelings which mutually augment each other.

Upon the whole, to men of observation and reflection, it *must* be apparent, that the laborious *pleasures* of the *vulgar* are superior to the *luxurious*, and, I may say, *painful pleasures* of the *learned* and *opulent*.

Proceeding on our plan, we shall next consider the condition of what are called *brute animals* with regard to *pleasure* and *pain*.

*Brutes*



*Brutes* are exempted from a thousand sources of *pain* which afflict even the *vulgar* of the human species. *Brutes* have not an idea of *futurity*; but they *enjoy* every moment of their existence, which, though, in most of them, not so long protracted as that of man, is, in general, a continued series of *pleasures*. I speak not of those animals, or rather slaves, called *domestic*; for these, to the disgrace of the human species, are too often overloaded, beat, starved, and maltreated in a shocking manner; but I speak of animals in that state which the God of Nature formed them.

The absence of *pain* is certainly a species of *pleasure*. When nothing *hurts* either the *body* or the *mind*, *pleasing* sensations must necessarily follow. The mere consciousness of existence is *pleasure*. If brute animals are excluded from the *pleasures* of *imagination*, they are, at the same time, exempted from innumerable *tortures* to which it gives rise. Many of them, wherever they stroll, find their natural food under their feet. Others, of a more rapacious kind, are obliged to hunt for their subsistence. Their food, of course, is more precarious. But Nature has endowed them with the faculty of sustaining, with impunity, long abstinence. She has likewise bestowed upon them courage, artifice, patience, and alacrity both in attack and defence.

With regard to bodily *pain*, arising either from disease or external injury, the *brute* must suffer as much as the *man*. *Brutes*, however, though they *suffer* from these causes, are not *tormented*, like man, with the *terrors* of their consequences. They have not a conception of *death*, far less of *future* existence, and, what is infinitely worse, of *eternal* and excruciating *torture*. But, to many of mankind, these are perpetual sources of *misery* and of *terror*.

Hitherto I have been talking of the comparative *pains* and *pleasures* of the larger animals. I shall now hazard a few remarks with regard to the condition of the more minute tribes.

*Insects* are animated beings as well as men and quadrupeds. But it is extremely difficult to form proper ideas of their pains or pleasures. If we may judge, however, from the quickness and vivacity of all *winged* insects, we should reasonably conclude that every instant of their existence is attended with *pleasure*. Their lives, especially in their fly-state, is short; but, as a recompense, it is all *enjoyment*. They have their food, it is true, to search for and procure; but, from the instruments which Nature has conferred upon them, they are enabled to extract nourishment from almost every vegetable and animal substance, and even from the earth and waters. In quest of food, or of their proper mates, they are perpetually *active*; and *activity* itself is one of the principal sources of *animal happiness*. When *man*, whatever be the cause, loses the springs of *activity*, from that moment he is *miserable*. It is not unnatural, therefore, to conclude, that, whenever we see *activity* in the inferior animals, *happiness* must be the consequence.

The motions of those *insects* which are not furnished with wings are comparatively slow and languid; but we are not, from this circumstance, warranted to infer that they are more *unhappy* than the winged tribes. Motion, whether quick or slow, requires *exertion*, and that exertion is not only *pleasant*, but productive of vigour and of health. Still, however, when we consult our own feelings, we are necessarily led to think, that the most *active* animals are the most *happy*. In the human species, an *active* mind *enjoys* life more completely than the *indolent* and *sluggish*. *Sloth*, or the absence of *activity*, is  
real

*real pain.* But slow motion, in some of the insect-tribes, does not imply *inactivity*; because, from their frame, that slowness of movement requires, perhaps, even greater *exertions* than the rapid motions of other species.

The sluggish motion of earth-worms, and of snails, may, to us, seem to indicate great *labour*, and even *pain*. But, it should be considered, that, if their movements are comparatively slow, their travels are proportionably short; for their food is almost perpetually before them.

The great multiplicity of insects, both in species and individuals, is often attended with no small injury to man as well as to many other animals. As a counterpoise, however, their enemies are innumerable. Myriads of birds, &c. daily devour ten thousand times the number of *insects*, both of the winged and reptile kinds. A bird, in an instant of time, swallows a fly; and, in the same instant, its life is extinguished, without feeling, perhaps, a single *pang*.

This subject shall be dismissed with a few remarks. From the facts and observations related above, it seems to be apparent, that Nature, through the whole of her *animated* productions, has distributed her *pleasures* and her *pains* in an equitable manner. If man and the larger animals are occasionally subjected to a greater number of diseases than the smaller tribes, their lives are, in general, protracted to a much longer space; and, of course, the *quantity* of their *enjoyment* is increased. Some species of birds, as eagles, parrots, &c. beside the *pleasures* arising from their natural *activity*, are very long-lived. Most of the small birds, though they live not so long, are still more *active*; and, of consequence, their *happiness* is proportionably augmented. The

lives of most insects are very short ; but their *active enjoyments*, during their existence, are almost perpetual. Thus, animals of every denomination appear to have nearly an equal portion of *happiness* and of *pain* bestowed upon them by the beneficent institutions of Nature. Even *pain* itself is no inconsiderable cause of *pleasure* ; for, when abated or entirely removed, the *pleasures* arising from these fortunate circumstances are immense.

## CHAPTER IX.

*Of Poisonous Animals.*

**P**OISON, it ought to be remarked, is a relative term. Substances which are deleterious or hurtful to one species of animals, afford the most salutary food to others. The bite of the common viper is very poisonous, and its effects are various to man, as well as to many other animals. But broth made of vipers is often prescribed by physicians in cases of consumption and of general weakness. I suppose, however, that the heads, which are the chief, or rather the only receptacles of the poison, are cut off before the animals are boiled ; for FONTANA, that justly celebrated Naturalist, who made more experiments upon the nature and effects of poisons than any man either before or after his time, has shown, that the venomous liquid, even when taken into the stomach, and without the intervention of any wound, is extremely dangerous and hurtful. REDI, and some other authors, maintain a contrary opinion. But FONTANA, with much probability, attributes these innocuous effects to the smallness of the quantities thrown into the stomach at one time.

The venom of all vipers, of which there are many species, when introduced, by means of a bite, into the bodies of men and other animals,

animals, is extremely hurtful, and, if not timely prevented, is certainly mortal. The Abbé FONTANA, anxious to discover a remedy to remove, or rather prevent, the dreadful effects of this animal poison, tried, often at the hazard of his own life, several thousand experiments on this subject. In the course of these, he found, that oils, and particularly that of turpentine, were the most effectual in preventing the too often fatal effects of poisoned wounds occasioned by the bite of vipers. The best method of applying this remedy, he tells us from his own experience, which was great, is to foment the part affected with oil of turpentine as hot as the patient can conveniently bear, and to continue this application a long time. He thinks it also of use to keep the part affected immersed in water, either pure or impregnated, with some of the neutral salts, or with quicklime. These applications lessen the pain and inflammation. He likewise found that vomits had some effect in preventing the danger, but cutting out the wounded part, as soon as possible after the accident, was always the most effectual remedy, because it prevented the poison from being absorbed into the general circulation of the mass of blood, which infallibly produces death. The same method of care is practised with equal success upon sheep, horses, and black cattle, who are much more liable, when browsing on heaths, to be wounded by vipers than the human species.

Upon this subject, a curious and extraordinary fact must not be omitted. That insignificant and inactive insect called the *fresh water polypus*, of all poisonous animals, seems to possess the most powerful and active venom. Small water-worms, which the polypus is only able to attack, are so tenacious of life, that they may be cut to pieces without their seeming to receive any material injury, or to suffer much pain from the incisions. But the poison of the  
polypus

polypus instantly extinguishes every principle of life and motion. What is singular, the mouth or lips of the polypus have no sooner touched this worm than it expires. No wound, however, is to be perceived in the dead animal. By experiments made with the best microscopes, it has been found, that the polypus is neither provided with teeth, nor any other instrument that could pierce the skin

The *Spider*, which feeds upon flies, wasps, and similar insects, is furnished with a very sharp hooked forceps, placed near the mouth. With this weapon he seizes and pierces the flesh of such insects as entangle themselves in his web; and, at the same instant, by means of a small white proboscis, he infuses a poisonous juice into the wound, which, in a moment, kills the animal. This poison must be very active and deleterious; for flies, and many other insects, may be mutilated by depriving them of their legs, wings, and even cutting their bodies through the very middle of the abdomen, and, in that condition, will survive several days, as I have frequently experienced. I never prosecuted the experiment so far as to know whether any of the lopped off parts would be reproduced.

The poisonous weapons of the *scolapendra*, or *centibes*, are somewhat different from those of the spider. Its bite is so painful, especially in the East Indies, as we are informed by BONTIUS, that it makes the patient almost mad. When the claws of its forceps are examined by a microscope, on the upper side of each of them, near the point, a small aperture appears, through which the venom is conveyed into the wound. Of the East India centipes, LEEUWENHOEK † had one sent to him alive; and he found, that, by pressing

\* Abbé Fontana on Poisons, vol. i. p. 106. Trans.

† Continuatio Arcan. Natur. epist. 124.

pressing the claw, a small drop of liquor issued out of this aperture.

Stinging animals, of which the *scorpion* is the chief, likewise instil a liquor into the wounds they make. The poison of scorpions is more or less virulent in proportion to the heat of the countries they inhabit. In some parts of Africa, its effects are so dreadful, and these horrible reptiles so numerous, that LEO tells us, the town of Pescara is annually almost totally deserted by the inhabitants in the summer months; because inevitable death is the consequence of the scorpion's sting\*. Signor REDI, when residing at Florence, had several African scorpions sent him from Tunis. They arrived in the month of November; and he irritated them to sting pigeons, pullets, &c. without discovering the smallest symptoms of uneasiness in these animals. But, what is singular, on the approach of spring, one of the scorpions, which had remained no less than eight months without food, and the wound of whose sting was formerly attended with no bad effects, stung to death two pigeons successively. A third and fourth, however, though wounded in the same manner, received no injury. But the same scorpion, after being allowed to rest all night, killed another pigeon next morning. At the point of the sting, REDI often observed a small drop of white liquor, which entered the animal's body along with the sting. This liquid venom, it should appear, is not secreted from the blood and other juices of the animal, during the cold months of winter. The operation of cold is also greatly assisted by abstinence from food. Benumbed with cold, and half-starved for want of food, how is it to be expected that the animal's fluids should retain their former vigour and activity, far less that they should be able to afford a liquor

\* Leo Hist. Afric. lib. vi



quor so highly exalted as to deprive other creatures of life? Like certain fluids of other animals, which are secreted in small quantities only, the sting of the scorpion, even in the hottest months of summer, after two or three attacks, is perfectly inoffensive, till the expenditure of this deleterious liquor has again been replaced by the operation of food and of time.

In the history of the *scorpion*, a remarkable circumstance must not be omitted. We are informed by gentlemen of veracity, who had lived several years in *Barbary*, that, when a scorpion is surrounded with a circle of burning coals or wood, and the animal begins to be pained with the heat, it runs about violently in quest of some mode of escape; but, finding that impossible, it strikes itself two or three times on the back parts with its sting, by which wounds its life is immediately extinguished. We are likewise told, that this is a common amusement among the soldiers of Gibraltar, where these noxious animals abound. This self-murder, produced by pain and despair, indicates two curious instincts; 1. That the scorpion is sensible of his dangerous situation; and, 2. That he knows the mode of getting quit of a painful and desperate existence. This fact likewise decides another controversy, whether poisonous animals of the same species can kill another by an infusion of their venom. The same fact is exhibited by the viper. Dr HERMAN, when transporting three large vipers in one glass, two of them were killed during the voyage by fighting and biting each other with their poisonous fangs; and the learned RHODIUS observed, at Padua, that two scorpions, which were put into the same glass, fought with their stings, and one of them first killed the other, and then devoured it.

The structure of the stings of *bees*, *wasps*, *hornets*, &c. has been

accurately described by several authors, and particularly by HOOKER and REAUMUR. Even with the naked eye, a person may sometimes perceive a bee discharge the venom from its sting; which is rendered still more perspicuous by a common magnifying glass. As the stings of these, and many other smaller insects, often produce inflammation and pain, these effects may be very soon prevented or removed by sucking out the inslilled poisonous drop with the mouth; but, if this has been neglected, fomenting the part affected with warm oil and discutient ointments, as in the bite of the viper, seldom fails to be a complete cure.

We shall now make a few remarks upon the bite of that enormous species of spider denominated the *tarantula*. It is very frequent in, and infects that warm district of Italy called *Apulia*. BAGLIVI, a native of that country, and a well known and learned physician, published a long dissertation on this subject. After BAGLIVI, LUDOVICUS VALETTA, a Celestine monk of Apulia, favoured the world with a treatise concerning this dangerous spider †.

The *tarantula* is a spider of that species which has eight eyes and eight legs, four on each side, and three joints in every leg. From the mouth proceed two sharp darts similar to a hooked forceps, or the claws of a crab, by which the animal can easily pierce the skin; and, after the wound is inflicted, the tarantula, by means of a proboscis situated between the claws of the forceps, insills a drop of a most active venom, which resists the operation of the usual *alexipharmic* medicines; for, notwithstanding the repeated use of them, the patient is affected with a gradually increasing melancholy, grows perfectly

\* See Baglivi de Praxi Medica, et Dissertationes, Romae, 1696.

† De Phalangio Apulo Opusculum, Neapoli, 1706.

perfectly stupid and timorous, and, in a short time, expires. By what accident or fortunate thought an almost certain cure for the bite of the tarantula was first discovered, it is of little moment to inquire. But it is an unquestionable fact, that *music* is the only effectual remedy. At the first sound of a musical instrument, if the tune happens to rouse the attention and strike the fancy of the patients, though lying motionless, as in a fit of apoplectic stupor, they gradually begin to move their hands and feet, and at last get up, and, for three or four hours, dance with wonderful vigour and agility, which occasions profuse sweatings. They are then put to bed for a short time, and afterwards renew their dancing with the same spirit and vehemence. Instead of being exhausted by this violent exercise, the patients declare, and show by their exertions, that, instead of fatiguing them, the more they dance they become the stronger and the more nimble. In this exercise, the persons bit by the tarantula generally occupy twelve hours a day, and continue it for three or four days, when all symptoms of distress are completely removed. It is not every species of music which excites patients; for some are struck with one kind, and some with another. One is roused with a flute, another with a timbrel; one with a harp, and another with the violin. The musicians, accordingly, are obliged to make a variety of trials before they can accommodate their art to the minds of the sufferers. But we are assured by REDI, MEAD, FONTANA, &c. that brisk and chearful tunes produce the most instantaneus and happy effects; but that slow and melancholy airs have not the smallest influence. Whilst the *tarantali*, as they are called, or persons who have been bit by the tarantula, are dancing to music, they seem to lose all sense of modesty and decorum; they perform many ridiculous tricks, and talk in the most obscene manner. Heat exalts, and, of course, augments the dangers arising

from every species of animal-poison. Apulia is the hottest district of Italy ; and, accordingly, the bite of the tarantula there produces more violent effects than in any other part of that country. The inhabitants of Apulia, from the heat of the climate, conjoined, perhaps, with some other circumstances, are generally meagre, passionate, witty, and, in an uncommon degree, subject to inflammatory diseases, phrensies, melancholy, and other species of madness. We are informed by Dr MEAD, who collected his facts from the most respectable authorities, that, in other countries, causes which produce only a slight melancholy, occasion the most deplorable effects in Apulia. ‘ Women,’ he remarks, ‘ in a *chlorosis*, suffer almost ‘ the same symptoms as persons poisoned by the tarantula do, and ‘ are cured the same way ; and, in like manner, the venom of the ‘ scorpion does here, in effects and cure, agree very much with that ‘ of this spider \*.’

From these, and many other instances of salutary effects of *music* in removing diseases produced by animal-poisons, it is amazing that this remedy is so seldom tried by our modern physicians. In many species of melancholy and madness, from whatever causes they originate, the effects of different kinds of music might at least be tried. If a person labouring under a deep melancholy could be excited to dance with spirit, and even with some violence, profuse sweats would be induced, and, probably, as in cases of mania occasioned by the bites or stings of poisonous animals, these sweats would expel the noxious cause from the system. Music might even be tried in the paroxysms of madness. If it should be found, which is by no means improbable, that music allays or cools the over-heated animal fluids, and, consequently, the turbulence of the mind,

\* Mead on Poisons, p. 108

mind, this cure would be infinitely more humane than the *coercions* of *strait waistcoats, stripes, &c.* which are, perhaps, too commonly prescribed even by the best physicians.

Ideas of this kind should not be despised. The antients, with great wisdom and ingenuity, employed *music* as a cure, or, at least, as an alleviating remedy in almost every kind of *madness*. We are informed by a Jewish historian \*, that SAUL, then King of the Jews, was afflicted with an *evil spirit* sent from the LORD; that is, the man was *mad*. What I think exceedingly curious, and shows the general opinion among those people concerning the salutary effects of *music* in mental diseases, is, that even the *servants* of SAUL, when he was frantic, recommended *tunes* on the *harp* as the most effectual cure. The passage is so remarkable, that I cannot refrain from transcribing it. ‘ And SAUL’s servants said unto him, Behold now  
‘ an evil spirit from GOD troubleth thee: Let our lord now com-  
‘ mand thy servants, which are before thee, to seek out a man who  
‘ is a *cunning player* on an *harp*: And it shall come to pass, when  
‘ the evil spirit from GOD is upon thee, that he shall play with his  
‘ hand, and thou shalt be well. And SAUL answered one of his ser-  
‘ vants, and said, Behold, I have seen a son of JESSE the Bethlehem-  
‘ ite, that is *cunning* in *playing*.—Wherefore SAUL sent messengers  
‘ unto JESSE, and said, Send me DAVID thy son, which is with the  
‘ sheep. And JESSE took an ass laden with bread, and a bottle of  
‘ wine, and a kid, and sent them by DAVID his son unto SAUL.  
‘ And DAVID came to SAUL, and stood before him; and he loved  
‘ him greatly, and he became his armour-bearer. And SAUL sent to  
‘ JESSE, saying, Let DAVID, I pray thee, stand before me; for he  
‘ hath found favour in my sight. And it came to pass, when the

‘ evil

\* 1. Samuel, chap. 16.

‘ evil spirit from GOD was upon SAUL, that DAVID took an *harp*, and  
 ‘ played with his hand : So SAUL was *refreshed*, and was *well*, and  
 ‘ the evil spirit departed from him \*.’ This is all well ; but, from  
 the following part of the history, we learn that DAVID was not only  
*cunning* in playing on the *harp*, but that he was equally *cunning* in  
*politics* ; for, in a short time afterwards, he *harped* poor SAUL both  
 out of his *kingdom* and his *life*.

The old Greeks and Romans seem to have understood the effects  
 of *music* in alleviating and even curing particular diseases. We are  
 told by GALEN, an antient, and, to this day, a most celebrated phy-  
 sician, ‘ that ÆSCULAPIUS used to recover those, in whom violent  
 ‘ motions of the mind had induced a hot temperament of body, by  
 ‘ melody and songs †.’ PINDAR, in one of his odes, takes notice of  
 the same happy effects produced by *music* ; and Dr MEAD very pro-  
 perly remarks, that, from these and similar facts, not only the no-  
 tion but the term of *charming* (*a carmine*) seems to have derived its  
 origin ‡. THEOPHRASTUS, in his Treatise on *Enthusiasm*, informs  
 us, ‘ that *ischiad*ic pains were cured by the *Phrygian* melody. This  
 species of music was performed upon the pipe, and was the most ve-  
 hement and exhilarating that was known among the antients ; for it  
 sometimes excited the hearers to what had the appearance of mani-  
 acal and furious exertions of body ||, which perfectly corresponds  
 with the effects of *music* in expelling the venom of the *tarantula*.  
 Beside the effects of music upon the minds of persons labouring un-  
 der certain diseases, some of the antient physicians carried this prac-  
 tice

\* 1 Samuel, chap. 16. vers. 15, to the end

† De Sanit. Tuenda, lib. 1. cap. 3.

‡ Mead on Poisons, p. 123.

§ Bartholin. de fibus voc. 2. 1. 10

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ice farther, and placed the instrument upon the part affected. CAELIUS AURELIANUS denominates this application of music, *decantare loca dolentia* ; and adds, that the pain is mitigated and often dissolved by the tremblings and palpitations of the diseased part \*. AU-  
 IUS GELLIUS mentions this same cure of *ischiadick* complaints, and subjoins, from THEOPHRASTUS, ‘ that the music of a pipe, rightly  
 ‘ managed, healed the bites of vipers †.’

APOLLONIUS tells us, that *music* cured distractions of mind, epilepsies, and many other distempers ‡. As to this fact, he is joined by DEMOCRITUS, who taught, that the *music* of *pipes* was the proper medicine for many diseases || ; which THALES of *Crete* confirmed by his practice. When sent for by the LACEDEMONIANS to remove the pestilence from them, he is said to have done it by the operation of *music* §. All these instances show, at least, that *music* was very antiently employed as a remedy both in mental as well as corporeal diseases. CAELIUS AURELIANUS ascribes the invention of this cure to PYTHAGORAS, who settled and founded his sect in that very part of Italy where the *tarantulae* are most frequent, which was then called *Graecia Magna*, and now *Calabria*.

With regard to the dreadful effects produced by the bite of a *mad dog*, we shall make only a few remarks. The terrible disease it occasions is generally known by the appellation of *hydrophobia*, or *dread of water*. The wound from the bite of a mad dog, at first, differs  
 not

\* Morb. chronic. lib. 5. cap. 1

† Noët. Attic. lib. 4. cap. 13.

‡ Histor. Mirab. l.

|| Apud Aul. Gell. loc. citat

§ Plutarch. de Musica.

not from that of any other animal, and heals as soon; for a considerable time, often elapses before any symptoms of madness appear. Instances are recorded where the disease was deferred till two, three, or six months after the wound was inflicted. I myself knew a case where the wound did not show itself till full twelve months after the bite. This case was that of JAMES POLLOCK, a blacksmith and athletic person, in the suburbs of Edinburgh. As soon as symptoms of madness appeared, he was carried to the Royal Infirmary, where, in a few days, he died of an evident *hydrophobia*. GALEN tells us, that he saw a case of *hydrophobia* more than a year after the wound was received\*. Dr MEAD, who had great practice as well as skill with regard to the effects of different poisons, informs us, that he knew a case of this disease more than eleven months after the fatal accident. He adds, however, that the attack generally happens in thirty or forty days, and sometimes, especially in young people, in fifteen or sixteen. The first approaches of this distemper are commonly discoverable by an acute pain in the part that had been wounded, which gradually extends to the adjacent parts, and is followed by a general lassitude, and an uneasiness in the limbs. The patient then grows melancholy; his sleep is disturbed and unrefreshing; he complains of faintness and of depressed spirits, and especially of an oppression at his breast; his pulse intermits; his nerves and members tremble; he is affected with cold sweats, a great sickness, and loathes every species of food. Though he feels an inward heat and thirst, and wishes to drink; yet he swallows meat, but particularly liquors, with the utmost difficulty. These symptoms proceed increasing in their violence; and, the next day, from the pain he feels in swallowing, he conceives such an aversion to liquors, that the very sight of them throws him into dreadful convulsions. This *hydrophobia* has  
always

\* Comment. 2 in 1. Proorrh. Hippocrat.



always been considered as an infallible symptom of a person's being affected by the poison proceeding from the bite of a mad dog; for it seldom, if ever, appears in any other disease.

At this period of the distemper, a fever usually comes on, which is attended with a quick but low pulse. The patient cannot command the smallest degree of sleep; his voice turns hoarse; a white froth collects in his mouth, which he spits out upon the people about him; universal convulsions succeed, but particularly in the throat, and in the *musculi erectores penis*, which produce a continued *priapism*. During this dismal scene, which is generally fatal in the course of two or three days, a *delirium* appears, sometimes attended with the most dreadful paroxysms of rage and fury, and frequent attempts of the patients to injure their most beloved friends and relations. But this disease, instead of *furor*, more commonly terminates in a deep *melancholy*. In this situation, the unhappy but humane patient, resigns himself to the quick approaches of death, and desires his attendants to beware lest he should hurt them, begs them not to trouble him any more, and, in a short time, expires in convulsions.

This cruel and terrifying disease is taken notice of by many of the antients, such as DIOSCORIDES, GALEN, AETIUS, ÆGINETA, &c. None of them, however, have described it so accurately, and with so much precision, as CAELIUS AURELIANUS \*. From the writings of SORANUS, and other Greek physicians, he has collected the symptoms of this disease with great care and exactness. Among the moderns, the history of this malady is ably delivered to us by VANDER WIELE †, and the ingenious Dr LISTER ‡. There are some symp-

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tems,

\* De Morbis acutis, lib. 3.

† Observat. varior. cent. I. obs. 100.

‡ Exercit. Medicinal.

toms, though with occasional variations, are common to all persons infected with this deleterious poison. The slightest touch of any part of their bodies is painful. The smallest noise is offensive to their ears; and the opening or shutting of a door terrifies them as much as if the house were falling upon them. Light is so hurtful to the eyes, that even the sight of any white substance becomes intolerable. The internal parts are likewise so tender and easily affected, that they cannot bear their natural *stimuli*. The ordinary coolness of fresh air is disagreeable to the lungs; and the passage of urine is accompanied with great pain. The aspect of the sufferers is either frightful with threatening symptoms of rage and fury, or dull, depressed, and attended with moanings and every indication of despair. When the patient is *maniacal*, the strength of the muscles is almost incredible. Dr MEAD mentions a case of a man who was tied down in bed with strong cords; but such was the convulsive force of his muscles, that he broke the whole by one great exertion, and immediately died paralytic. But such exertions of strength are not peculiar to *canine* madness. In every species of *mania*, from whatever cause it originates, when an actual *furor* comes on, the exertions of muscular force are prodigious. The cause of this increased force of muscular action is obvious. In madness, the sense of pain is either almost extinguished, or, which amounts to the same thing, is not attended to by the patient. Whenever the sense of pain is blunted or obliterated, nothing but actual tearing the tendons or muscular fibres can put an end to their mechanical powers. Men, when not disordered in mind, are obliged to desist from overstretching their muscles by the pain it produces.

With regard to the *cure* of this horrible distemper, it accords not with my plan to be very particular. When evident symptoms of *canine*

nine madness once exhibit themselves, the skill of the physician, as well as the virtues of medicines, are totally ineffectual. But, whenever a person is bit by a dog who is, perhaps, only supposed to be mad, medical practitioners, with great propriety, employ preventative remedies, the principal of which I shall just mention.

The wounded part is the first object of attention. The ancient physicians \*, who, in this article, are still followed by the moderns †, advised, where the part would admit of it, that the wound should be enlarged by incision; that a cupping-glass should be applied; that the wound should be seared with a hot iron; and that a discharge from the ulcer should be artificially kept up for many days. Two or three preventative remedies are recommended upon seemingly rational grounds: The *cineres cancrorum fluvialium*, or ashes of the river craw-fish, have been often celebrated. These were procured by burning the fish alive upon a plate of copper, with a fire made of the twigs of white briony. GALEN avers, that this remedy was never employed without success. Before the days of GALEN, DIOSCORIDES tells us ‡, that this plant is a medicine, the efficacy of which may be relied upon. A spoonful or two of this calcined powder were given to the patient every day; and the same dose was continued for forty days. It was used either alone, or mixed with a small porportion of *gentian root* and *frankincense*.

The *Spongia, vel Cynorrhodi, Rosae sylvestris*, the sponge of the dog-rose, is another celebrated antidote against canine as well as other animal poisons. P. BACCONE ||, who wrote a treatise upon

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\* Galen. de Ther. ad Prif. lib. 1. cap. 16. Aetius, lib. 6. cap. 14. Celsus, lib. 5. cap. 27.    † Hildan. Obs. cent. 1. obs. 87.    ‡ De Theriac. cap. 2.

§ Musco de plante rare, obs. 2.

its virtues, informs us, that, in Sicily, it has received the denomination of *Sanatodos*, or *All-beal*. The plant *Alyssum*, or *Madwort*, among the antients, had its name from its great efficacy in preventing *canine madness*. *Garlic*, *Agrimony*, and *Oxylapathum*, were likewise employed with advantage. Dr MEAD justly remarks, that all these remedies are powerful *diuretics*.

Most *insects*, especially when taken internally, create an unusual discharge of *urine*: But those flies, known by the name of *Cantharides*, have a more powerful effect in promoting this evacuation than any other species. The learned BACCIUS \*, from the authority of RHAZES and JOANNES DAMASCENUS, prescribes *Cantharides* to be given in substance for many days successively. This *antidote*, as he calls it, is prepared by infusing the flies in four butter-milk twenty-four hours, then drying them, and, with the flour of lentils and wine, making them up into troches of about a scruple in weight, one of which is to be taken every day. Even though the patient, he adds, by the use of this medicine, should pass urine mixed with blood, yet copious draughts of milk removes that symptom, and the *hydrophobia* is happily prevented. We are likewise informed by BACCONE, that the physicians in Upper Hungary prescribe five *Cantharides* as a dose to men, and a greater quantity to larger animals †.

ARTIUS ‡, who carefully collected all the medicines prescribed by the antient physicians for preventing or curing *canine madness*, affirms, that he himself knew an old man who cured those who had the misfortune to be bit with *common sorrel* only. He washed the wound with a decoction of this plant, and laid it on the part as a cataplasm, and likewise

\* De Venen. p. 89.

† Masco di fisica, obs. 21.

‡ Lib. 6. cap. 24.

likewise gave it in drink, which made the patient discharge great quantities of turbid urine.

From all these and similar accounts, it appears that the remedies against the effects of this poison have, in all ages, been strong *diuretics*. By reflecting on this circumstance, the celebrated Dr MEAD was led to recommend the following prescription: ‘ Let the patient be blooded at the arm nine or ten ounces. Take of the herb called, in Latin, *Lichen cinereus terrestris*; in English, *Asb-coloured ground liver-wort*, cleaned, dried, and powdered, half an ounce;— of black pepper powdered, two drachms: Mix them well together, and divide the powder into four doses, one of which must be taken every morning, fasting for four mornings successively, in half a pint of cow’s milk warm. After these four doses are taken, the patient must go into the cold bath, or a cold spring or river, every morning fasting, for a month: He must be dipped all over, but stay in (with his head above water) longer than half a minute, if the water be very cold. After this, he must go in three times a week for a fortnight longer \*.’

This remedy was first published in the *Philosophical Transactions* of London †, by Mr DAMPIER, in whose family it had been long, and, of course, infamously kept a secret. In the year 1721, however, Dr MEAD, like a gentleman and a man of humanity, procured it to be inserted in the *Pharmacopeia Londinensis*, under the name of *Pulvis antilyffus*. This Lichen, like the other medicines formerly recommended, is a strong diuretic. To this prescription Dr MEAD added cold bathing, either in the sea or river water, according to the situation

\* Mead on Poisons, p. 164.

† No. 237.

tion and circumstances of the patient. The antients also had the idea of curing canine madness by cold bathing. But, instead of employing it as a preventative, they never used it till evident symptoms of *hydrophobia* appeared, when it was perfectly ineffectual. Besides, their practice often amounted nearly to actual *drowning*, which, to be sure, would remove every disease as well as the *hydrophobia*. CELSUS \*, who was as bold as well as a skilful physician, prescribes cold bathing as the only certain cure for this dreadful disease; and advises, that, if the patient cannot swim, he should be allowed to remain some time under the water, that he may swallow part of the fluid; and, if he can swim, that he should be kept under by force, in order to compel him to drink. Dr MEAD remarks, that this practice is just *drowning* and *recovering* by turns†. We are told by the famous VAN HELMONT ‡, that he saw an old man, who had been seized with the *hydrophobia*, cured by *submersion* in salt water; that this patient was first held under water about four minutes, then taken out, and again plunged twice, about a minute each time; that, when taken out, he was thought to be quite *dead*; but that, by warmth, and by being laid across a barrel, he threw up the water he had been obliged to swallow, and recovered both his life and right senses! The same author tells a story of a cure of the common *mania* by *drowning* the patient in fresh water; from which he draws this *sage* conclusion, that it makes no *difference* in the case whether the water be *salt* or *fresh*! Such medical practice may be reckoned *bold*, as it certainly is; for, to *drown* any person will most effectually remove all his *complaints*! It is astonishing that the learned Dr MEAD, within less than fifty years ago, should have related seriously stories almost equally ridiculous in *substance*,

as

\* Lib. 5. cap. 27.

† Mead on Poisons, p. 172.

‡ Ortus Medicin. demens idea.

as they are absurd in the *terms* he employs ; but so it is\* ! The Doctor, however, afterwards remarks, that, before the canine madness makes its appearance, simple *immersion*, without *drowning*, often prevents this horrible disease †.

Two other preventative remedies have been, by some physicians, highly recommended. 1. What is called the *Ormskirk medicine for the bite of a mad dog* : It is no part of my business to give specific quantities, because these may be either false or fanciful. I shall, however, relate the bases of the two supposed remedies.

1. The *Ormskirk* medicine consists of chalk, alum, Armenian bole, the powder of the plant called *elacampen*, and the oil of anise-seeds.

2. The *tonquin* remedy, which is recommended as an antidote by Sir GEORGE COBB. It is composed of native and factitious cinnabar, compounded with musk.

With regard to the *serpent* tribe, which is very numerous, some of them are armed with *fangs*, through which a mortal poison is conveyed into the bodies of such animals as they happen to bite ; but luckily the proportion of these noxious species, when compared to the whole, is very small. The species of *serpents* described by LINNÆUS amount to 218, of which 32 only are poisonous, and, of course, 186 are innocuous. Of *lizards*, 77 species are enumerated, not one of which contains or emits a particle of venom. The *toad* is a verrucous animal, has a lurid appearance ; his movements  
are

\* Mead on Poisons, p. 173.

† Ibid. p. 177.

are fangful and disgusting; and, when irritated, he emits from every pore of his body, a frothy substance like saliva. The forbidding aspect of the toad has created him numberless enemies, as well as a very bad, though very unjust, character. Wherever he appears, he is persecuted, maltreated, and murdered, by children, and even by adults, on the supposition, that, because he is an ugly animal, he must therefore be venomous; but, notwithstanding his unseemly appearance, he is inoffensive, and perfectly destitute of poison. The same remark applies both to our water and land *lizards*, of which we have very few species that are natives of Britain. Still, however, though their aspect is by no means so disgusting as that of the toad, a ridiculous opinion is generally entertained that they are venomous, and they, accordingly, suffer the same persecution as that innocent animal.

Of venomous animals, I have looked, but looked in vain, for a final cause. What could be the intention of creating *reptiles*, both abhorrent to the sight, and, by their bites or stings, fatal to men and other animals, I cannot even form a conjecture. Their poison, it has been said, is given to them as a personal protection. That I deny; for, even of the *serpent* tribes, though the form of their bodies, and their mode of life be nearly the same, not one in ten of them are provided with this supposed defence. A man, when walking, either for health or amusement, on a grassy turf, accidentally tramples upon a viper; the abominable reptile bites him, instils a poison into the wound, and, if proper remedies are not timely applied, a cruel and inevitable death is the consequence. He will be more than an intelligent man who can demonstrate a *final*, or, which is the same thing, a *good* cause, for such a *consequence*. Serpents have, in all ages and countries, had the reputation of extraordinary *agacily*,



*sagacity, or rather cunning, for what reason I could never discover. Their aspect, their movements, the idea of their venom, in a word, their whole frame, excite horror. When these circumstances are taken into consideration, what, in the name of wonder, should have induced MOSES to represent this vile, this abhorrent animal, as a proper object of temptation to what, we must suppose, to have been the finest woman that ever existed? Yet such things are!*

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*Conclusion of the PHILOSOPHY OF NATURAL HISTORY.*

I HAVE now finished my original plan; with what success I know not. I shall only say, what every intelligent reader will easily perceive, that my labours have been great. Before I began the work, had I known the numerous authors which it was necessary to peruse and consult, I should probably have shrunk back, and given up the attempt as impracticable, especially for a man so early engaged in the business of life, and the cares resulting from a family of no less than *thirteen* children, *nine* of whom are still in life.

In the first and second volumes, I have endeavoured to unfold the general as well as distinctive properties of the vegetable and animal kingdoms. Occasionally, I have done more. I have sometimes given pretty full characters both of the figure, dispositions, and manners of animals. In these descriptive discursions, MAN has not been neglected. Being the principal animal in this planet, he, of course, deserved particular attention, and it has not been

with-held. The varieties of the human species, in every region of the globe, have been collected and described from the most authentic resources both antient and modern. Even in the most uncultivated, and, to us, deplorable situation of the human race, evident traces of goodness, of genius, and of heroism, are to be found. These amiable qualities, it must be confessed, are too often sullied by cruelty, irascible passions, and every species of vice. But these qualities are universal, in whatever situation men, whether in a civilized or barbarous state, are placed. The strangest and most unaccountable part of the history of mankind is that of their eating one another; and yet, from the numerous evidences I have produced, it is impossible not to give credit to the shocking fact. The reality of *human sacrifices* is equally certain as the existence of *cannibals*. The diversity of dispositions, the versatility of genius, the great differences of taste and of pursuits, are strong characters of *Man*, and distinguish him eminently from all the other inhabitants of this earth.

# I N D E X.

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**Artedi**, (Petrus) a Swede and fellow student of Linnaeus, who published, at Leyden, in 1738, his posthumous papers on fishes, 48. His arrangement, 49.

**Afs** sleeps less than the horse, 402.

**Astiniboils** large, robust, and well proportioned;—swarthy;—scarcely any hair on their bodies;—fleet and indefatigable, bold and hardy, like the oriental Tartars, 230.

**Augustus Cæsar** sacrificed at the altar erected to Julius, his uncle, 400 senators and knights, who had espoused the part of Antony, 332.

**Authority of great names** a cloak for indolence, weakness, and credulity, 150.

**Authors who have treated of Natural History**—Aristotle, Pliny, Ælian, Oppian, Gesner, Wetton, Belonius, Rondeletius, Salvianus, Aldrovandus, Jonston, Willoughby, Ray, Artedi, Klein, Linnaeus, Buffon and Daubenton, Brisson, Pennant, &c.

- Baboons**, apes, and monkeys, robbing orchards or corn-fields, appoint a sentinel, who gives the alarm by a shrill, 425.
- Badgers** sleep the whole night and three-fourths of the day, 402. Are subject to a lethargic or benumbed state during the winter, *ibid.* Much sleep makes them very fat, though they eat little, *ibid.*
- Ball**, inhibition, an account of, 179;—by Mandelslo and others, *ibid.*
- Bambara** Negroes, but all thieves, 217.
- Banda** islands, inhabitants of, noted for longevity. Men of, indolent; the women laborious, 179.
- Banians** will not eat any thing that has been animated;—deprive nothing of life;—prevent, as far as lies in their power, those that would, 188.
- Barbary**, inhabitants of the mountains white, of the plains and sea coasts brown and tawny, 198, 199.
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- Bats** sleep during the winter, 407. Fix themselves by their feet, *ibid.*
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- Bedas**, in the north of Ceylon, inhabit only a small district. Complexion fair, sometimes red. Their language differs from those peculiar to India. Their sole arms bows and arrows. Do not dress their meat, but season it with honey, 189. Seem to be of European extraction, 190.
- Bees**, language of, 433.
- Being*, or *body*, no one with qualities and powers entirely peculiar to itself, 3.
- Belonius** (Petrus) published, in 1552 at Paris, a vol. De Aquatilibus, under which class he includes amphibious animals. His method. In 1555, he published another vol. upon *birds*. Method of arrangement, 28.
- Bengal**, the natives of, more yellow than the Moguls, 187. Women of, lascivious, *ibid.* Beautiful and handsome. Mild in disposition. A trade in slaves, male and female, carried on, *ibid.*
- Birds**, account of, by Aristotle, 11.—Wotton, 26.—Belonius, 28.—Aldrovandus, 32.—Jenston, 35.—Willoughby, 36.—Ray, 44.—Klein, 51.—Buffon, 67. Birds intermix more frequently than quadrupeds,—are more libidinous,—more prolific, 68; Brisson, 69; Pennant, 74. Harvey remarks, that the situation of the anus and vulva

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- Bonnet's theory of generation, 117. His experiments on the section and reproduction of the parts of earth worms, 123,—125. On fresh water worms, 125, 126.
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- ...the female goes in quest of the male ;—her cry for admittance, when turned out, similar to that she utters when desirous of food, *ibid.*
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- Chacrelas, in Java, white and fair, with weak eyes that cannot bear the rays of the Sun, 178.
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- Chicken, one of four or five days old, is able to express sounds of complacency, of disapprobation, or of a sense of danger, 430.
- Children, sources of exquisite pleasure, or pain, to their parents, 454.
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