

## MISCELLANEOUS.

From the Companion to the British Almanack for 1833.

INFORMATION CONNECTED WITH THE CALENDAR AND THE NATURAL PHENOMENA OF THE YEAR; AND WITH NATURAL HISTORY AND PUBLIC HEALTH.

### ON COMETS.

THE year which has just passed away has been distinguished by the predicted appearance of two comets, the most remarkable which have yet fallen under the notice of astronomers. These are what are commonly called the comets of Encke and Biela. The latter has been an object of fear to many on account of the nearness with which it has approached, not the earth, but a point of the earth's path. As public attention has thus been turned on this subject to an unusual degree, we seize this opportunity of laying before our readers a slight account of the present state of cometary astronomy, distinguishing that which we really know of these bodies from the many surmises to which they have given rise.

The signification of the word comet has varied, as new bodies have appeared which analogy has led astronomers to include under that name. It was first given, as the word denotes, to bodies which appeared in the heavens with a train of light, or tail, and thus included some of the meteors which belong to our own atmosphere. We now apply the word to those heavenly bodies, without the limits of our own atmosphere, which are nebulous in their appearance, and with or without a tail. We may divide all which have been observed into three classes: 1. Those whose returns have been predicted, and the prediction verified by the fact. These are three in number, viz., the celebrated comet of Halley, observed by him in 1682, which returned, according to his conjecture (for it could then hardly be called more) in 1759, and will appear again in 1835; its time of revolution is about seventy-six years. The other two are those above mentioned, of Encke and Biela, which perform their revolutions respectively in about three years, fifteen weeks, and six years, thirty-eight weeks. 2. Comets whose return has been predicted unsuccessfully. Of these there is only one of any note, viz., that which appeared in 1770. This, it was found, should have returned in five years and a-half, if the observations made of it were correct; however it never could be found again. This phenomenon threw doubt upon the return of comets, until the success of Laplace in devising methods for the calculation of the effects arising from the mutual attractions of our system recalled the attention of astronomers to this almost forgotten failure. It had been found that the comet of 1770, in its approach to the Sun, had passed so near to Jupiter, that, on the theory of gravitation, the attraction of the latter was 200 times as great as that of the former. On applying the methods of Laplace to this case, it was found that, in 1767, while the comet was describing an orbit of more than 50 years, its motion was changed by the action of Jupiter so that it described the orbit observed in 1770; and that in 1779, it came again so near to Jupiter that the preceding effect was reversed, and the orbit was again changed into one of long duration. 3. Comets which have been observed, the predicted return of which is yet to be expected. The most remarkable of these is the one observed by Olbers in 1815, which we may now safely say will return in 1837. 4. Comets which were observed at a time when neither theory nor observation was in a state sufficiently perfect to enable the observers to say whether they would return or not; and others, the orbits of which are uncertain, owing to the weather or other accidents not permitting them to be sufficiently well observed. Of these there are a great many, some of which may yet be recovered. For, long before the time of revolution of a comet could be found, astronomers knew how to determine, 1. The magnitude and position of its least distance from the sun. 2. Where its orbit cut the ecliptic. 3. The inclination of its orbit to the ecliptic. If a future comet should strongly resemble any one already observed in these particulars, and if its time of revolution as hereafter determined, should permit of its having been seen about the time of the former comet, we shall have sufficient reason to conclude that the two are one and the same. We must not, however, expect that the accounts of ancient writers on this subject with regard to the form of comets will ever be verified; such for example, as those which describe comets in the shape of a sword, or surrounded with a shaggy mane. To say nothing of our never having observed such appearances in the course of the last century and a-half, we must recollect the well-known fact, that comets were formerly considered as warnings of impending evils, or, at least, of remarkable changes. Thus Bodin, who died in 1596, gives it as his opinion that they are the souls of illustrious men, who have remained many ages upon the earth in the capacity of guardian angels, (for so the context must be interpreted) are called to heaven in the shape of flaming stars. He attributes the plagues, famines, &c., which are supposed to follow, to the want of the prayers of these superannuated intercessors. Pope Calixtus III., in the fifteenth century, directed the thunders of the church, not only

ly against the Turks, who had gained some successes, but also against a comet, which was supposed to have had some hand in, or at least to have foretold them. When such impressions prevailed it was natural that the appearance of the warning body should be somewhat exaggerated.

If from all that has been said upon comets, we take that which we certainly know, we shall have left a mass of conjectures of every grade of probability, from the one which may be considered as nearly proved, to those which, in point of evidence, might be placed side by side with the opinions of Bodin or Calixtus. We shall try to give some notion of the manner in which we come to know that which we do know, and some reasons for the most probable among the conjectures. Those who would read more of the history of surmises on this point, are recommended to consult the *Annuaire de la French Board of Longitude* for 1831, in which will be found a most amusing, as well as instructive, article on this subject, by M. Arago; an English version of which appeared in the *Times* newspaper some months ago.

That a comet is a material body is proved by the same sort of reasoning which is applied to the planets. Firstly, it either reflects the light of the sun, or shines by its own light; which of the two has never been distinctly proved; perhaps both suppositions may be true. Matter is always present where light is either emitted or reflected, at least on our globe. Secondly, comets are found to be acted upon by the laws of gravitation exactly as all other material bodies are, they are attracted by the sun, and move [so far, at least, as we can make out] in ellipses, or other conic sections, and this motion is disturbed, or, technically speaking, perturbed by the attraction of the planets, especially by the larger planets, Jupiter or Saturn. In this manner they have furnished one of the most decisive proofs of the Newtonian theory of gravitation. We have already mentioned the comet of 1770; but this, it may be said by those who cannot examine the calculations for themselves, was a trick of the astronomers, to account for their own failure. We will therefore cite another instance, in which the effects of planetary perturbation were very great, were predicted before the event, and verified by it. The comet of 1682, or of Halley, it is well known, was predicted by him as likely to appear in 1757. This he concluded from observing that a comet with a similar orbit had appeared in 1531 and 1697. He however remarked, that as the comet would, if his supposition were true, pass near to Jupiter and Saturn, some alteration might be expected from the attractions of these planets. In 1757, while astronomers were beginning to look for the expected body, with no very great hopes of its reappearance, Lalande proposed to Clairaut to undertake the computation of the effect of the planets upon the comet. These names may not be so well known to our readers as to mathematicians and astronomers; we will, therefore, inform them, that Lalande was a practical astronomer of great eminence, and that Clairaut was a mathematician and natural philosopher of even greater celebrity. So little wedded were these men to the system of gravitation, that the first discarded, or, at least, threw doubt upon, the theory of the return of comets, on account of the non-appearance of that of 1770, already mentioned; while the second, on account of some unexplained phenomena, imagined that Newton had mistaken the law according to which the mutual attractions of planets depend upon their distance. The two undertook the enormous labour above mentioned; and the result was, that Clairaut announced, in the year 1758, that the revolution which was actually taking place, would be 618 days longer than the preceding one, that is, the one which took place between 1697 and 1682. At the same time, he observed, that the methods of calculation were yet so incomplete, that the result could not be depended upon within thirty days. If his conclusion had been quite correct, the comet would have come to its perihelion, or nearest point to the sun, about the middle of April, 1759; and it did arrive there on the 13th of March of the same year, within the thirty days which had been allowed for errors. We may further remark, that the comets of 1832, of which that of Encke has once before appeared, according to prediction, and that of Biela\* has been already observed by Sir J. Herschel, both very near their predicted places, could not have had their tables constructed without a strict attention to the planetary perturbations. From such facts we are justified in assuming that comets are material bodies, subject, like the planets, to the attraction of the sun and other bodies of our system, and describing an elliptic orbit round the sun nearly, the difference being attributable to the action of the planets, or, perhaps in some degree, to a resisting medium.

The next question is, comets being material, what is their quantity of matter, that is, if brought to the earth without alteration of their dimensions, would they be light or heavy in proportion to their size. On this point we have sufficient evidence, not as to the actual quantity of matter in any comet, but as to limits below which it must fall, at least in all the comets of which the times of revolution are known. It results from the theory of gravitation, that of two bodies, the first cannot effect the second, without being itself more or less affected by the second. And of two bodies, one of which is

very great compared with the other, the effect which the smaller produces upon the greater is small, compared with that which the greater produces upon the less. This is analogous [though the two phenomena must not be confounded] to a fact of every day observation, that a light body striking against a heavy one, though with great velocity, produces, nevertheless, but a small change in the velocity of the greater one, and vice versa. For example, in the motion of Jupiter and Saturn it is observed, that the average velocity of Jupiter is accelerated, while that of Saturn is retarded more than twice as much. And it is shown, by a process independent of this observation, that Jupiter contains more than twice the quantity of matter of Saturn. After some ages, the motion of Jupiter will cease to be accelerated, and that of Saturn to be retarded. After which, that of Jupiter will begin to be retarded, while that of Saturn will begin to be accelerated. Hence, if a comet so large, or rather so heavy, as to bear an appreciable proportion to the mass of a planet, were to be disturbed by the latter in any considerable degree, the comet itself would produce a degree of disturbance in the motion of the planet, which would be perceptible to our instruments. Thus, if Halley's comet, which was retarded between 1682 and 1759, more than 500 days by the action of Jupiter, had been only the twenty thousandth part of the mass of Jupiter, its effect upon the latter would have been even then most distinctly perceptible by good instruments. The same thing would take place now if the mass of that comet were very much less, and yet, in the former case, it would be less than one sixtieth part of the earth. But there are two much more conclusive arguments. Laplace found, that if the comet of 1770 had only been the five thousandth part of the earth, it would have lengthened our year by three seconds. No such alteration has taken place, and the comet must, therefore have been less than the five-thousandth part of the earth. The same body passed between the satellites of Jupiter in 1779 without producing any effect; a very little quantity of matter, much less than the five thousandth part of the earth, would have been sufficient to derange that system perceptibly.

But it may be asked, are we certain that we know the length of the year with such accuracy, that a difference of three seconds would be of sufficient magnitude to be discoverable by our instruments?—to give an idea of the possibility of this, we will state the following fact. Some years ago, Professor Airy of Cambridge, proposed a method of determining the moon's mass, which required accurate observations of Venus near her conjunction. An ephemeris of this planet was accordingly prepared, containing the computed time at which the planet should pass the meridian daily, for that part of the year 1830, in which the conjunction of Venus happened; this was forwarded to different astronomers, English and continental, with a request that they would observe the real time of the meridian passage at their various observatories. Among the observations which were made in consequence, those of Professor Santini, of Padua, were so arranged as to show how much they differed from the ephemeris. The difference was, in only a very few instances, so great as one second, and was, for the most part, nearer to half a second. And this result is not considered as anything remarkable.

(Continued in our next.)

**SUICIDE OF A WEST-INDIA MERCHANT.**—Thursday an inquest was held at the Blue Posts, Charlotte-street, Fitzroy-square, on the body of Duncan Browne, Esq., a West-India merchant. Mr. Brown, who was about 50 years of age, had recently arrived in England, and engaged apartments on the 22nd instant, at Mr. Pittman's house, 23, Upper Charlotte-street. His wife, four children, and two servants were with him. Mr. Brown slept alone, and on Tuesday morning his youngest son, aged eight, went into his room to ask how his papa did, and on receiving no answer, he pulled the clothes aside, and found his father bleeding; an alarm was given, and it then appeared that the deceased was in a dying state. He had inflicted a deep wound in his left arm, about an inch above the elbow, and then held it over a basin, which contained 5lbs of blood. Mr. Ellis surgeon, of Charlotte-street, was called in, and the deceased, who was unable to speak, died in an hour, after his arrival. It appeared that the deceased applied to Mr. Langley, chemist, No. 36, Tottenham Court Road, for an ounce of laudanum or Poiny Root. Mr. Langley very properly refused to sell him so large a quantity.

Mr. Peter Cosgrave, surgeon, of 14, Surry-street, Strand, deposed that the deceased was under his care about four or five years ago, when he came home from the West Indies in ill health from Dropsy; when he returned home this last time he sent for witness to attend him; witness observed a great difference in his mental faculties from what he had observed formerly; he was labouring under a very severe form of universal dropsy, but such was the state of his mind, that witness could scarcely fix his attention to his disease; he was continually reverting to the state of his affairs, and spoke almost incessantly upon the West India question [alluding to the measures recently brought forward by his Majesty's ministers,] which he said would be the utter ruin of him, as he was a large proprietor. It will perhaps, be considered merely conjectural on my part (continued Mr. Cosgrave); but I should say that from his mind being in so agitated a state, and his disease so extensive, he was unable to withstand the shock which such a letter as the one that was

found in his desk from his agent at Glasgow (Mr. Thompson) must have produced upon him. That letter stated that he (Mr. Thompson) had stopped the sailing of one of his (deceased's) ships. It also contained a refusal to make some remittances which it appeared were expected by the deceased.

By the jury—I saw the deceased on the day before his death, and he was constantly dwelling on the West India question, observing, 'What will become of us? It will be utter ruin—the government have treated us badly.'

Mr. Langley—I heard him say in the conversation I had with him, that he was a great sufferer from the proposed measures of government, on the West India question, which he said were as much a robbery upon the holders of property in that part of the world, as it would be if a man were forcibly deprived of his estate in this country.

Mr. Patrick Cruikshank, of No. 8, Cornwall-terrace, sworn—I am a West India merchant. I saw the deceased on Saturday last, and he was then perfectly collected, but very low and desponding when he touched upon West India matters; my mercantile house in the city have been the London agents of deceased for four or five years; on the subject of the West India question he was greatly depressed, appearing to dread the effects of the impending measures which government had brought forward—in fact, in consequence of those measures, his agent at Glasgow had suddenly made demands which he was not prepared to meet. In a letter to me, dated this day week (the 22d,) he said, the demand from the Glasgow agent was so unexpected, that it was impossible for him to bear up against it; it was a demand, he said, which he had never contemplated, and which he was, therefore, unprepared to pay, and there could be no doubt that the demands were made by the Glasgow firm in order to save themselves from the general ruin which the measures alluded to would bring down.

The evidence terminated here; and the jury after viewing the body, returned a verdict—'That the deceased destroyed himself while in a state of temporary derangement.'—*London 1st June.*

TO THE EDITOR OF THE LONDON GLOBE.

**AN UNPRECEDENTED AND MYSTERIOUS OCCURRENCE.**—Sir, the following most extraordinary occurrence took place on board one of my fishing vessels last week, for the accuracy of which I pledge myself, although the most credulous would scarcely believe its authenticity. The crew of the vessel, consisting of nine men, will be willing at any time to come forward upon their oaths, if required, and attest the truth of this singular affair. If you Mr. Editor, consider the narrative deserving a place in your paper, it may ultimately throw some light upon the hidden transaction, and will greatly oblige

Your obedient servant,

G. S. GOWING.

**Lowestoff, May 27, 1833.**  
On Monday last, the 20th inst., a fishing vessel belonging to Lowestoff, Robert Gowing master, engaged in the mackerel fishery, was lying at sea, about nine leagues eastward of Lowestoff, in 26 fathoms water; the crew during the day cast their fishing lines into the sea for the purpose of catching codfish and haddock (the produce of which is a privilege the crew have exclusively to themselves.) Upon hauling up their lines they had caught several cod and other fish; one of the former was of unusual size, and the master proposed it should be brought on shore for sale; but being detained at sea until the following day, it was agreed that the large codfish should be cleaned and dressed for the ensuing morning. Upon opening the fish the belly was observed to be of unusual size, which induced them to be particular in ascertaining its contents,—when upon slitting it open, to the utter astonishment of the master and part of the crew (the remaining part of them being in the cabin,) a new born infant, in a perfect state, presented itself to their almost unbelieving eyes. The master immediately summoned that part of the crew which were below, upon deck, that the whole of them, nine in number, should witness this unprecedented phenomenon, and bear their united testimony to the fact.

They immediately began to examine the little innocent, which they describe as a very fine full grown male child, perfectly formed, with toe and finger nails complete, and having dark brown hair on the back part of its little head; nor was it at all disfigured or decomposed, and from its appearance could not have been taken by the fish but a few hours before it was caught.

The master is a married man, with a family, a distant relation of mine, and one in whom I place the greatest confidence; but I have no doubt he would have been the last man to believe in such an occurrence had he not been the very person who witnessed it.

\* It is a pity that the child was not found alive, as that would much enhance the merit of the story. We recollect in one of Mr. Crofton Croker's clever fairy tales, an old woman lamenting when she sees her son and heir going off to be married to a mermaid, that she should be destined to be a grandmother to a cod.

Some matron on the east coast of England will now have to make the same complaint. In the common parlance of Norfolk, Lowestoff is pronounced *Lie stuff*, and there would seem to be some foundation for the name.—*St. James's Chronicle.*

The Gazette Medical calculates that four-fifths of the population of Paris (that is 665,000 persons) are, at the present moment, more or less affected by the grippes [influenza].

**SURPRISING HORSEMANSHIP.**—On the morning of the 20th Captain Parker, of the Royal Artillery, quartered at Charlemont, rode his bay horse, 'The Admiral,' from Charlemont Fort to Newry and back in two hours and twenty-five minutes—a distance of 53 English miles. The time allowed for the performance was 3 hours; but the Captain having got considerable odds that he would not do it in two hours and a-half, won all his bets by having five minutes to spare. Thus he did accomplish the astonishing distance of 21 miles an hour with one horse, which exceeds, by far, all feats of horsemanship ever performed in the sporting world.—*Dublin Evening Packet.*

**ROBBERY AT CONGASH.**—On Friday last the house of Captain John Congash, Congash, factor for the Earl of Seaford, in Strathpey, was entered into during the time the owner and servants were at Grantown market, and two bags of silver, containing about 1400 sterling, with about 50 guinea notes, were stolen, leaving another bag containing about fifty sovereigns and a parcel of 5000, which were lying in the same place, untouched. Great exertions have been made to discover the thieves, but without effect. Suspicion rests upon two itinerant bell-hangers who had been hanging bells in the house at a former period.—*Caledonian Mercury.*

PROSPECTUS OF A WEEKLY PAPER,

### TO BE ENTITLED THE CHRISTIAN REPORTER,

AND TEMPERANCE ADVOCATE.

THE present era is one marked by the transpiration of events connected with the diffusion of religious knowledge and the establishment of pious habits. Christians of various denominations, awaking from the deep and lethargic slumbers of spiritual supineness into which they had fallen, and for a length of time remained, are now combining their energies, and zealously employing their efforts in the promotion of the present and future happiness of their fellow men. At a period, then, like the present when so much activity of a beneficial nature is evinced in other portions of the world, it is thought, by many respectable and influential individuals, that the circulation of a Religious and Temperance Paper, throughout the Provinces of New-Brinswick and Nova-Scotia, would add its quota towards the suppression of vice and the advancement of piety. With the desire of contributing, in a greater or less degree, to the securing of an object, so laudable as the one mentioned, through the efficient instrumentality of the Press, the present periodical will be commenced.

The *Christian Reporter and Temperance Advocate* will be composed of original matter, and Extracts, selected with the greatest possible care from the most approved authors and standard works, on the subjects of Religion, Temperance, Morals, Arts, Science, Natural and Moral Philosophy, and on any other topic calculated to interest and improve.

To the subject of Temperance, or the total abstinence from the use of ardent spirits special attention will be paid; assured that intemperance presents a most formidable barrier to the extension of religion, and the enjoyments of personal, domestic and civil well-being, opening an actual floodgate to the overwhelming torrents of misery and vice by all their diversified shades and deplorable characters.

It may be also stated, that an abstract of passing events, of General Intelligence will be given.—The propriety of uniting in a condensed manner, general intelligence, with the more ostensible objects of the *Christian Reporter*, &c., is so evident as not to require, in the prospectus, a minute or particular illustration.

Of this the public may rest assured, that every exertion will be used, to render the *Christian Reporter and Temperance Advocate* worthy of their patronage—embracing in its pages all that variety of subjects which may have a tendency so to instruct and benefit them in things relating to their present and future existence.

As there is not, at present, a Provincial Periodical of a precisely similar character, the hope is indulged that the contemplated Paper, of which this is the Prospectus, will be favourably received by the friends of religion and temperance in both of the Provinces, and obtain from them such support as may ensure its establishment, perpetuity and prosperity.

**TERMS.**—The *Christian Reporter and Temperance Advocate* will be published Weekly, at the CITY GAZETTE OFFICE, Saint John, in folio form, on an Imperial sheet, at 12s. and 6d. per annum, exclusive of postage; one half payable in advance, the other in six months.—The Paper will appear as soon as a sufficient number of subscribers to cover the expense is obtained. All arrears must be paid before any subscription can be discontinued, except at the discretion of the Editor.

N. B.—A limited number of advertisements, not inconsistent with the avowed principles of the paper, will be admitted.

Saint John, June 6, 1833.

Subscriptions for the above Paper will be received at the City Gazette Office.

Blanks for Sale at this Office.

### THE ROYAL GAZETTE.

TERMS.—16s. per Annum, exclusive of Postage.

Advertisements not exceeding Twelve Lines will be inserted for Four Shillings and Sixpence the first and one Shilling and Sixpence for each succeeding Insertion. Advertisements must be accompanied with Cash and the Insertions will be regulated according to the amount received. Blanks, Handbills, &c. &c. can be struck off at the shortest notice.

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\* Mr. Henderson has observed Encke's comet at the Cape of Good Hope, and Sir John Herschel that of Biela. We mention these facts here as neither body is visible to the naked eye, and many of our readers may not be aware of their having been seen by any one.

† First discovered by M. Pons, November 26, 1818, but justly named by astronomers after Professor Encke, from his success in detecting its orbit, motion and perturbations.

‡ First discovered by M. Biela, an Austrian Officer, February 28th, 1826.