

omitted from the table; if it had been inserted the 20 years and 2 months period would have counted as two 10 year periods.)

December 1860 to January 1841, interval 10 years 2 months.  
 ,, 1870 ,, 1881, ,, 10 ,, 2 ,,

Thus at least four periods (out of a possible seven) do not require much "screwing" to make them approximate to 11-year epochs; while if we were to add in the *long* frost of 1850 we should have no less than six periods, showing a distinct recurrence.

It may not be quite clear why the remaining dates are inserted; but if they are analysed in the following manner they are not uninteresting.

December 1813 to January 1838, interval 22 years 2 months.  
 ,, 1837 ,, 1857, ,, 19 ,, 2 ,,

These periods, like the one 1840 to 1861, tend to show that the intervals approximate nearer to 22 years. How does F. M. S. obtain the intervals he quotes? As regards the last paragraph of the letter of F. M. S. respecting the "abnormal heat, cold, rain, &c.," it is only necessary to say that he would have considerable difficulty to prove to Norman Lockyer, Meldrum, and others, that 11-year cycles do not exist, even if F. M. S. "screwed" his figures, as he seems to have done in his letter above.

H. W. C.

#### Butterflies in Winter

A COUNTRYMAN has shown me to-day two fine specimens of *Vanessa urtica* in a lively condition caught on the 4th inst. in an empty room on the border of the New Forest, exposed to the severity of the late frost. THOMAS W. SHORE  
 Southampton, February 8

#### JOHN GOULD, F.R.S.

THE grave has recently closed over the remains of a very remarkable man, and although the annals of science, we are proud to think, afford many instances of indomitable energy and unceasing perseverance rewarded, they have no greater record of success than is to be found in the life of John Gould. No one can regard the series of works written and illustrated by him without acknowledging that they are a monument of human energy, and the story of his life makes the fulfilment of these large enterprises the more interesting. In the character of the man we must look for the secret of his success, because it is well known that he possessed neither the advantages of wealth nor education at the commencement of his career, and yet he has left behind him a series of works the like of which will probably never be seen again; and this because it is rare to find the qualities of a naturalist, an artist, and a man of business combined in one and the same person. John Gould was all these in an eminent degree: he knew the characters of birds as well as any man living, and although it has often been said that he made too many species—and latterly it has been the fashion with certain writers to sink a good many of them—yet the monographer, travelling over the ground again, generally finds that the critic, and not Gould himself, was at fault. As an artist he possessed talent combined with the greatest taste, and this, added to the knowledge of botany, acquired in his early days, enabled him to give to the world the most beautiful series of pictures of animal life which have yet been produced. Certain special works, where the pencils of Wolf or Keulemans have been employed, many vie with those of Gould, but taken in a collective sense, his splendid folios, full of coloured plates, are as yet without a rival. That he was a good man of business the fact that his writings were not only self-supporting, but further realised him a considerable fortune, is the best proof. Though in outward seeming he was stern and even somewhat brusque in manner, those who knew him well can vouch for the goodness of his heart, and can tell of many an act of kindness and charity, concealed from the world under a bluff exterior, and no one ever heard him speak unkindly of any of his contemporaries. Straightforwardness was one of his especial characteristics, as well as an exact manner of doing business, paying for everything

the moment the work was done; and this probably accounts for the way in which his artists, lithographers and colourers, worked for him for long periods of years.

Mr. Gould at his death was in his seventy-seventh year, having been born in September, 1804. He was a native of Lyme in Dorsetshire, but when quite an infant his parents moved to the neighbourhood of Guildford. When he was fourteen years of age his father was appointed a foreman in the Royal Gardens at Windsor, under Mr. J. T. Aiton, and here the lad had a grand opportunity of studying British birds in a state of nature; in his collection are still to be seen two magpies shot by himself and stuffed at the age of fourteen, which are even now most creditable specimens of taxidermy, and foreshadowed the excellence which he afterwards attained to in that art. Till the year 1827, when he came to London, he was still employed in active gardening, having left Windsor for a post at Sir William Ingleby's at Ripley Castle in Yorkshire. Immediately after coming to town he was appointed curator to the Zoological Society's Museum, at that time in its infancy, and he enjoyed the intimate friendship of Mr. N. A. Vigors, then one of the leading English naturalists, and through him John Gould received his first opportunity of appearing as an author. So rare were Himalayan birds in those days that a small collection was thought worthy of description by Mr. Vigors in the *Proceedings* of the Zoological Society, and the figuring of these specimens was commenced by Mr. Gould under the title of "A Century of Birds from the Himalayan Mountains." By this time however an event had taken place which had an influence on the whole of his later life, viz., his marriage with Miss Coxen, the daughter of Mr. Nicholas Coxen of Kent. Besides her other accomplishments Mrs. Gould was an admirable draughtswoman, and, from her husband's sketches, she transferred to stone the figures of the above-named work. Its success was so great that in 1832 the "Birds of Europe" was commenced, and finished in five large folio volumes in 1837, while simultaneously, in 1834, he issued a Monograph of the Rhamphastidæ or family of Toucans, and in 1838 a Monograph of the Trogonidæ or family of Trogons. To the last he maintained his love for these birds, and one of his most recently finished works was a second edition of the last-mentioned Monograph. It is a curious fact that when John Gould proposed to publish his first work, he applied to several of the leading firms in London, and not one of them would undertake to bring it out, so that it was only with reluctance that he began to issue the work on his own account. Besides these larger publications he had described the birds collected during the voyage of the *Beagle* by his friend Mr. Darwin, and had contributed papers on other subjects to the Zoological Society's publications.

We now come to what we consider the most striking incident in Mr. Gould's life, one unsurpassed in its effects in the annals of ornithology. Beyond a few scattered descriptions by some of the older authors and an account of the Australian birds in the museum of the Linnean Society, by Messrs. Vigors and Horsfield, the birds of Australasia were very little known at the date we speak of. Accompanied therefore by his devoted wife, Mr. Gould proceeded in 1838 to study Australian birds in their own home, and he personally explored Tasmania, the islands in Bass's Straits, South Australia, and New South Wales, travelling 400 miles into the interior of the latter country. This voyage, specially undertaken for the purpose of obtaining an exact knowledge of Australian birds, must ever be reckoned as a distinct scientific achievement, and the accounts of the habits of some of the more remarkable species, such as the mound-building Megapodes and the Bower birds were quite triumphs in the way of field ornithology. Nests and eggs were collected as well as an excellent series of skins, both of mammals and birds, and here Mr. Gould's beautiful method of