150 years. CQ had its minimum value of μ about 1911; it will reach the mean value in 1949 and the maximum value in 1986. Its phase in this libration appears to be nearly opposite to that of Patroclus, so that the two planets are on opposite sides of their librational ellipse.

A FAINT STAR WITH LARGE PROPER MOTION.—In the *Ast. Nach.*, No. 4944, Dr. Max Wolf announces the discovery that a 13th magnitude star, about 2° west of χ Leonis, has the exceptionally large proper motion of nearly 5″ per annum. The star appears on plates taken with the Bruce telescope at an interval of 17·055 years, and the following co-ordinates for 1875·0 have been determined from neighbouring comparison stars:—

	R.A.	Decl.
	h. m. s.	° ′ ″
1901·146	10 50 24·40	+7 45 21·8
1918·201	10 50 20·00	+7 44 36·7

These measures give the proper motion as 4·66″ in the direction 235·4°, in close agreement with 4·84″ in the direction 232° determined by the stereo-comparator. In the period covered by the observations the total motion of the star was 1·4′.

THE YOUNG MOON SEEN AS A CIRCLE.—Miss E. A. Stevenson has directed attention to the interesting appearance which the moon occasionally presents when about two days old (Journ. Brit. Ast. Assoc., vol. xxviii., p. 223). Besides the familiar earth-shine effect, the "dark" limb of the moon then appears as a ring of silver light, in continuation of the illuminated crescent. When observed by Miss Stevenson, the circle has always been complete, but never of uniform brilliance, and its whiteness was in striking contrast with the pink or ashy hue of the earth-shine. Mr. W. Goodacre points out that the ring is best seen when the earth-shine is most marked, and attributes the appearance to the greater brightness of the moon's surface near the eastern limb as compared with the adjacent regions. The presence or absence of a similar effect along the western limb just before new moon does not appear to have been noted.

PARALLAX OF THE BARNARD STAR.—A new determination of the parallax of this star has been made at the Dearborn Observatory (*Ast. Journ.*, No. 734). The value found is 0·557″ ± 0·016″, which is somewhat larger than the other photographic determinations.

A JAPANESE METEORITE.—Mr. Kuni Niinomi, writing from the South Manchurian Middle School at Mukden, China, sends us particulars of a meteoric stone which was observed to fall on January 25 last, at 2.28 p.m., in Central Japan, the locality being near the village of Tané, in the prefecture of Shiga, on the east side of Lake Biwa, province Omi. There was an explosion and something was heard to fall, and through a hole in the snow the stone was found at a depth of a foot in the ground. It is irregularly wedge-shaped, and covered with a black crust with the usual "thumb-markings." The greatest dimension is 86 mm., and the weight 311·16 grams, specific gravity 3·55. On the fractured surface the stone is grey, with brown spots and minute spangles of metal. In character the new stone is very similar to those of the shower which fell on July 24, 1909, near the town of Gifu, in province Mino (adjoining province Omi). The latter consist of olivine and bronzite, with very little nickel-iron, and were classed as a "white chondrite." These two falls are to be added to the list of sixteen falls of meteorites, mostly stones, recognised by K. Jimbō in 1906 in his "General Notes on Japanese Meteorites."

THE NEW STAR IN AQUILA.

THE following estimates of magnitude of Nova Aquilæ have been communicated by Mr. Harold Thomson, who independently detected the star on June 8:—

Date	G.M.T.	Mag.	Date	G.M.T.	Mag.
June 8	11.45	0·74	June 19	11.15	2·10*
	13.30	0·74	20	11. 0	2·35*
9	9.50	−0·42	22	9.59	3·01*
	10.30	−0·26		10.47	2·87
	11. 0	−0·50		11.30	2·84
10	9.40	0·07*	23	10. 5	3·12
	12.10	−0·25		10.21	3·21
	12.45	+0·07	24	10. 0	3·1
11	10. 8	0·30	25	9.25	3·04
	10.50	0·55		11. 0	3·09
	11.45	0·43		11.20	3·10
14	13.30	1·04		12.15	3·24
15	9.38	1·55		12.35	2·99
	10.56	1·60	26	10.10	3·4
16	11.25	1·80*		11.20	3·3
18	11.10	1·90		12.30	3·4

The magnitudes marked with an asterisk were not considered very satisfactory on account of clouds or twilight. Making due allowance for these, the decline of the star does not appear to have been accompanied by any marked fluctuations.

Several early observations of the new star, made on June 8 and 9, are reported in the ephemeris circular of the *Ast. Nach.*, 1918, No. 548. The first information received by the Centralstelle was from Prof. L. Courvoisier, who had observed the star at Babelsberg on June 8 at 12h. 38m. G.M.T.; the magnitude at 13h. 30m. was given as 1·1, and the spectrum was stated to show bright and dark lines. Prof. Schorr states that a photograph taken with the reflector at Bergedorf on June 10 showed no trace of nebulosity in the vicinity of the nova. According to a telegram from Dr. Gautier, *via* Copenhagen, the new star was observed by Prof. Laskovski at Geneva on the evening of June 7, but no mention is made of its magnitude.

The spectrum of the new star has undergone considerable changes as compared with the observations previously reported in NATURE. On June 29, when the star had diminished in brightness to about magnitude 4, Prof. Fowler observed that while the bright hydrogen lines were still the predominant feature, they had become very broad, and each appeared to have a central dark line, as if reversed or doubled. In the case of H_α, there was no marked difference in the intensities of the two components, but the less refrangible component of H_β was distinctly the brighter. The total breadth of the bright H_β was estimated at not much less than 40 A. The band about λ 464 was broad and bright, but not so strong as H_β. Of the group of lines less refrangible than H_β, 492, 517, and 532 had considerably diminished in intensity, but 502 had not faded at the same rate, and was the brightest of the four. All these were very broad, and possibly double or reversed like H_β. The dark bands and the adjacent bright bands about 560 and D were still visible, and the bright D band was divided centrally by a dark line. There was also a broad, faint band about λ 600, and a narrower band about λ 631. The relative brightening of 502 may possibly indicate the incoming of the adjacent nebular line 5007.

Father Cortie informs us that further photographs of the spectrum were obtained at Stonyhurst on June 29 and 30. The chief features on these plates are the broad bright bands of hydrogen and the band about λ 464. Other bright bands are also present, but no

dark lines were apparent in the preliminary examination. The band at λ 464 appears double, and is fringed by a band of lower intensity on its less refrangible side. On June 30 the nova was considered to be visually equal to β Scuti, which is of magnitude 4·5. The colour of the star was brick-red.

THE METEOROLOGICAL UNIT OF PRESSURE.

A MEMORANDUM recently circulated by Prof. C. F. Marvin, Chief of the U.S. Weather Bureau, raises the question of an appropriate unit of pressure, especially for meteorological usage. The measure of pressure by a barometric height, in millimetres or inches of mercury, even when reduced to standard temperature, is not an absolute statement at all, for its meaning depends on the local value of gravity. On the other hand, the C.G.S. measure of one megadyne per square centimetre, besides being absolute, happens to express quite closely the mean atmospheric pressure at about 100 metres above sea-level. The advantage that could be taken of this fact has long been obvious; it is referred to in early editions of Everett's "C.G.S. Units," and so long ago as 1888 the adoption of the unit of pressure as one dyne per square centimetre, under the name of a *barad*, was recommended by a committee of the British Association. But nothing very definite followed; and Prof. Marvin gives the history, which is not without its moral, of the way in which the natural appropriateness and utility of this unit re-noticed, reported upon, or brought into partial use upon inconsistent systems by Guillaume, Bjerknes, and various others, including international committees.

All this most people will be content to forget, if possible, but two or three simple cardinal points remain, and an appeal is made that we should assess them and settle down to uniformity of practice for the future. The first of these is: Can one unit be adopted for the whole range of physical, including meteorological, pressures, from high vacua to extreme compression, with the help only of the familiar C.G.S. prefixes of *mega-*, *milli-*, *micro-*, and convenient numerical factors? Secondly: What is this unit? Is it a dyne or a megadyne per square centimetre? Thirdly: How far, up to the present, has actual practice gone to fix and ratify the answers to these two questions? Finally: What is the name to be?

On these points meteorologists, at any rate, may be said to have made up their minds. The *bar*, of 10^6 dynes per square centimetre, is to be the unit. One millibar is approximately equal to the pressure of 0·75 mm. of mercury, and the mean atmospheric pressure is approximately 1000 mb. or 1 bar. One-tenth of a millibar is not far from the accuracy with which the barometer can be read. The range of the barometer is included within 100 mb. In increasing degree in recent years the unit has been brought into use in the publications of the British, French, and United States meteorological services. One may say that it would now be very difficult to dislodge the millibar from meteorological use. In supplement, Prof. Marvin has prepared a table that shows that it is entirely convenient for expressing the range of physical pressures from very high vacua at 0·01 microbar to pressures of a megabar, at, say, the bottom of the ocean; while the dyne per square centimetre, which the C.G.S. system first offers, entails a much more cumbrous set of factors.

If there are any substantial objections to the bar of one megadyne per square centimetre as the unit of pressure—and there do not appear to be any—the wide acceptance it has already won in use should go far to outweigh them. If physicists could resolve to adopt it, it would seem pretty sure of general and complete acceptance, and therefore offer one more piece of the difficult and contentious "No Man's Land" of conflicting units won over for the right side.

R. A. SAMPSON.

DEEP-SEA NEMERTINES.

DURING the forty years which have elapsed since the first two deep-sea nemertines were taken by the *Challenger* Expedition, a few examples have been collected by various other expeditions, but deep-sea nemertines have never been other than rare. Prof. Brinkmann, whose monograph on pelagic nemertines has recently been issued (Bergens Museums Skrifter, Bd. iii., No. 1, 1917, 194 pp., 16 plates), has, however, had a rich collection at his disposal, chiefly from the *Michael Sars* Expedition, so that he has been able to investigate the structure of most of the species described. He has also subjected the previously known species to careful revision, and concludes that five of them are so imperfectly described that they must be labelled as "uncertain." The rule that the single type specimen of a species should be kept intact is, in the opinion of the author, unsound, for the external features often give little help to the systematist, and therefore investigation by means of serial sections is indispensable.

The known pelagic nemertines, all of which belong to the order Hoplonemertini, are referred to eighteen genera and thirty-seven species. Bathynemertes is the most primitive genus, and in its external features resembles the bottom-living forms. Among the pelagic nemertines two types have been evolved:—(1) By an increase in the size of the gut diverticula, and therefore of the body surface—without a corresponding increase of tissue—some became specially adapted to a floating life, and in these a marked reduction of the musculature of the body-wall took place; (2) from the floating forms arose the swimmers, in which a tail-fin was formed, with strengthening of the parts of the musculature necessary for swimming. Two specimens of *Nectonemertes mirabilis* were observed swimming by means of undulations of the body and energetic strokes of the tail. These are the first recorded observations on the swimming of pelagic nemertines.

We have not space to give an adequate summary of the account of the structure of these animals, but reference may be made to the general reduction of sense-organs, to the presence of penes in Phallonemertes, to the reduction in the number of eggs to three or four in each ovary, or in the more modified genera to two, or even one, and to the presence of cephalic tentacles in Balænanemertes in both sexes, and in Nectonemertes in the male only, in which they probably act as claspers.

The author discusses the horizontal and vertical distribution of pelagic nemertines, some of which certainly, and the rest probably, are bathypelagic. Most of the species will probably be found to have a wide distribution, *e.g. Nectonemertes mirabilis* occurs in the tropical parts of the Atlantic and Pacific Oceans and in Davis Strait, the conditions as to temperature, etc., being uniform over a wide area in deep water. In spite of the enormous mass of water transported by the Gulf Stream into the North Sea, no example of any Atlantic species of pelagic nemertines has been taken in the North Sea. There is also a total absence of records from the Mediterranean, explicable by the fact that the pelagic nemertines in the Atlantic live in deep water, while the entrance to the Mediterranean at Gibraltar is comparatively shallow.