

living animals is but an infinitesimally small application of the licence which common life claims for itself in regard of animals; and I would challenge such men to examine, with strict impartiality, what are their own responsibilities, direct and indirect, in regard of the infliction of pain on living animals.

I protest against any man's applying to this extremely important question a purely arbitrary standard of right or wrong. Those who pronounce judgment on their neighbours must be prepared to state the principle on which they judge. "Compound for sins you are inclined to, by damning those you have no mind to," is the Pharisee's easy-going formula. Where would life be if that were generally accepted? Suppose a *genus* of action; let men draw an arbitrary line across it—a line prescribed by no better rule than that which governed the lady's dislike to Dr. Fell; let them affix a nickname of praise to all on one side of the line, and a nickname of dispraise to all on the other: truly we should thus have the ready t of royal roads to unlimited mutual persecution.

And I protest against a standard of right and wrong being fixed for us on grounds which are merely sentimental. In certain circles of society, at the present time, æsthetics count for all in all; and an emotion against what they are pleased to call "vivisection" answers their purpose of the moment as well as any other little emotion. With such sections of society, our profession cannot seriously argue. Our own verb of life is *ἐπιζῆσθαι*, not *αἰσθάνεσθαι*. We have to think of usefulness to man. And to us, according to our standard of right and wrong, perhaps those lackadaisical æsthetics may seem but a feeble form of sensuality.

Of the mere screamers and agitation-mongers who, happy in their hysterics or their hire, go about day by day calumniating our profession and trying to stir up against it the prejudices and passions of the ignorant, I have only to express my contempt.

I regret to have had to speak at so much length of the heavy cloud which at present hangs over the study of scientific medicine in England, and which, in my opinion, is likely to be of specially disastrous effect on the progress of preventive medicine. As a very old public servant in that cause, I should indeed grieve to see it brought to a stand-still for want of the scientific nurture which, in truth, is its very basis of life; and, speaking publicly of the danger on this occasion, I have hoped that the occasion may give importance to what I say.

And now, gentlemen, from contemplating that cloud, which happily is but local, and which perhaps may be but temporary, I gladly turn to skies which have no cloud. If there exist in the social organism any function whatsoever for which development and eventual triumph may be foretold, surely it is that of State Medicine. Of the two great factors concerned in it—the two strong powers which within our own time have converged to make it the reality which it is—the growth of science on the one hand, and the growing stress of common humanity on the other, neither one is likely to fail. Of our science it is needless to say that it will grow. To the science of nature indeed is allotted that one incomparable human day which knows no sunset. In the pure light of its ever-present daybreak, individual workers will pass away, generations will change, but the studies of Nature, and, above all, the gathering of such knowledge as can lessen man's physical difficulties and sufferings, will surely grow from age to age, and, as on Proserpina's sacred tree, one golden fruit will follow another: "simili frondescent virga metallo." And no less also in the other direction, the auguries are wholly for our cause. Popular education is gradually making its way, and it will grow to be a force on our side. Masses of mankind that now have to be humbly pleaded for by others, will then be strong to speak for themselves. Physical interests, now but little understood, will then be within grasp of all men's apprehension. Not only will health be recognised at its true value, and its elementary requirements be regarded, but also the frauds and villainies which are now committed against it will have become intelligible to the common mind; and the workman of the future will strike against being cheated in health as he would now strike against being cheated in wages. As such times come to the world, the science and the profession which care for man as man will get to be better appreciated than now. And in proportion as an educated people grows to become Body-Politic, State Medicine will be seen to represent the true ideal of Government-action which sets its standard of success in the "greatest happiness of the greatest number."

OUR ASTRONOMICAL COLUMN

THE GREAT COMET OF 1881.—The observations of this body in both hemispheres from its discovery on May 22 by Mr. Tebbutt at Windsor, N.S.W., to the end of last month, are closely represented by a parabolic orbit. The intensity of light is now rapidly going off, and if any decided deviation from the parabola is established it can only be through the later observations in these latitudes. It is therefore important for the theory of the comet that the larger instruments in our observatories should be brought to bear upon the accurate determinations of position, and that this should be continued as long as practicable. The following ephemeris for Greenwich midnight is calculated from elements, which are likely to give the comet's places pretty closely:—

	Right Ascension.	Declination.	Log. Distance from Earth.	Distance from Sun.
	h. m. s.	°		
August 20 ...	14 31 0	+77 19'6	0'1206	0'1501
22 ...	38 10	77 3'0		
24 ...	45 22	76 47'1	0'1376	0'1672
26 ...	52 36	76 31'9		
28 ...	14 59 52	76 17'2	0'1532	0'1837
30 ...	15 7 10	76 3'2		
Sept. 1 ...	14 31	75 49'2	0'1676	0'1995
3 ...	21 54	75 35'7		
5 ...	29 18	75 22'4	0'1810	0'2148
7 ...	36 46	75 9'3		
9 ...	44 16	74 56'3	0'1934	0'2295
11 ...	51 51	74 43'4		
13 ...	15 59 29	74 30'8	0'2050	0'2436
15 ...	16 7 11	74 18'1		
17 ...	14 57	74 5'4	0'2160	0'2572
19 ...	22 47	73 52'6		
21 ...	30 42	73 39'7	0'2264	0'2704
23 ...	16 38 41	+73 26'7		

The intensity of light on September 23 will be only one-third of that on August 20.

Dr. B. A. Gould has published in pamphlet-form an account of the Cordoba observations of this comet, with particular reference to his observations of June 11, to which we referred last week. We give his conclusions respecting the object seen that evening in his own words:—"La latitud considerable presta poca probabilidad á la hipótesis de que esta estrella haya sido un planeta interior. El movimiento relativo en declinacion, y la falta de cualquier objeto visible de la misma clase en la vecindad del cometa el dia siguiente, no parecen admitir la suposicion que el cometa se hubiera dividido como el de Biela. El brillo que se necesitaba, para que fuese visible la estrella en aquel momento y aquella posicion, indica una magnitud no inferior á la tercera.

"Esta observacion tambien tiene que esperar su solucion en lo futuro, y tal vez solo despues de muchos años."

SCHÄBERLE'S COMET.—According to M. Bigourdan's elements, the position of this comet at Berlin midnight on August 23 will be in R.A. 11h. 42'5m., Decl. +40° 34', and at the same hour on August 25 in R.A. 12h. 16'0m., Decl. +34° 14', and the intensity of light will be at a maximum between these dates. It may be observable in the other hemisphere for some weeks after perihelion passage.

THE COMPANION OF SIRIUS.—Prof. Colbert of the Dearborn Observatory, Chicago, has calculated the following orbit of the companion to Sirius:—Apastron passage, 1867'0, position of node, 42°4; node to periastron in the direction of the star's (retrograde) motion, 133°; inclination, 57°1; eccentricity, 0'58; semi-axis major, 8"41; period, 49'6 years. These elements give, for 1881'2: angle of position, 45°6; distance, 9"9; and for 1882'2, position 43°1; distance, 9"5. For 1890'2 the position is 322°2; distance, 2"2; and the distance is near its minimum.

SCIENTIFIC SERIALS

The *Journal of Anatomy and Physiology*, vol. xv. Part IV. July, 1881, contains: On the ovary in incipient cystic disease, by Dr. V. D. Harris and A. Doran (Plate 23).—The anatomy of the Koala (*Phascolarctos cinereus*), by Dr. A. H. Young.—On the lymphatics of the pancreas, by Drs. George and F. Elizabeth Hoggan (Plate 24).—A case of primary cancer of the femur, by R. Maguire (Plate 25).—A case of chronic lobar pneumonia, by