

News and Views.

PRESENT-DAY physics is in a state of flux. Rival theories have been advanced with startling rapidity to explain the ultimate structure of the atom—in so far as such an explanation may ever be possible. In their present state, such theories are of a professedly mathematical complexion and unfitted for universal consumption; some old conceptions are being discarded and others are being resuscitated. In a supplement to our issue this week, Prof. H. S. Allen gives a sketch of the rise of the quantum theory and in general terms its present position. To many who desire a clear statement of the case, such a summary will be interesting, but in a measure disappointing. As Prof. Allen points out, the position is as yet by no means cleared up. Are we to regard light as corpuscular or undulatory, or both? Has the electron an objective existence? Are the ultimate processes of Nature reversible or not? These are some of the questions to which an answer is eagerly awaited. We are in the position of a man standing before a locked safe which contains the answers to all the riddles of the universe. Around him are uncountable stacks of keys. By patient trial he has found some which nearly fit the lock. Perhaps the right key is among those which he has chosen and the non-success of his efforts to open the safe is due to faulty manipulation of the key. Perhaps, after all, the right key has yet to be tried.

THE situation in physics is certainly promising. It must be borne in mind that the application of mathematics to actual phenomena is of a two-fold nature. A suitable mathematical clothing has to be found. The rules of mathematical reasoning are applied to the symbols used, and equations are deduced or numbers calculated. This is the province of mathematics proper. The crux arises when these results are to be interpreted in connexion with the events to which they are to be related. The physicist points a finger and demands 'What does this mean?' And the answer given is not always to his liking. Possibly the interpretation is unsuitable, possibly it appears to contradict notions long established, or possibly the clothing is a misfit. The quantum theory has appeared in strange garbs, but the fact that they are mathematically reconcilable seems to rule out the last possibility and leaves us hopefully expectant of what the future may bring forth.

ONE of the professed objects of the British Science Guild, founded twenty-three years ago by the late Sir Norman Lockyer, is to educate public opinion by spreading the knowledge of scientific achievements and the results of scientific contemplation. With the view of furthering this particular aim, there was recently instituted the Norman Lockyer Lecture, and the fourth of this annual series was delivered in London on Nov. 28 by Prof. J. Arthur Thomson, of the University of Aberdeen. The subject of the address, "The Cultural Value of Natural History," touches a theme upon which natural historians have been too reticent, for the tendency in recent years has been to lay stress upon the economic and practical aspects, and to allow to drift into the background the mental and

spiritual aspects, which perhaps appeal more strongly to the man of general education. It is clear, from Prof. Thomson's analysis, that the knowledge and study of living things, not necessarily in a profound, but in a contemplative fashion, possesses a cultural value which cannot be altogether matched by any other branch of knowledge.

IN neat phrases and with a wealth of example, taken largely from recent investigations, the seven contributions of natural history to human culture were driven home by Prof. Arthur Thomson. Power is added to our vision of the world—"the eye sees what it brings with it the power of seeing; and well-informed vision is richest and clearest." The æsthetic sense is cultivated—"there is no risk of the cold light of science hurting the æsthetic emotion, for the more we know of a beautiful thing the greater is our enjoyment." Interest is stimulated—"natural history gives us glimpses of a dramatic world." Big ideas, such as evolution and the interrelations of living things, of world-wide significance, are its progeny. Its problems present infinite variety of mental discipline and resolute thinking; and the deep impressions made by even superficial contact with Nature are of fundamental value in moulding outlook. Finally, there is guidance in human affairs to be found in a rational study of animate Nature—"a society that dispenses with sifting is working its own doom"; "success attends the small families among animals well-equipped in body and mind"; "in bygone days we heard much about original sin, we need to hear more about original righteousness," and so on. This interesting address has been printed by the British Science Guild and may be obtained from the offices, 6 John Street, Adelphi, W.C.2 (Price 1s.). The Guild requires financial support to enable it to carry on and extend its useful work for the public good, and we heartily endorse its appeal for new members.

IN a progress report submitted by the Distemper Research Committee to the *Field* Distemper Council and the Medical Research Council, Dr. P. P. Laidlaw and Mr. G. W. Dunkin describe the present position of the research work carried out since 1923 on canine distemper and the various steps by which the results obtained have been achieved; an account of this work was given in the *Times* of Nov. 29. The investigation has reached the stage at which vaccination against distemper becomes a practical proposition on a large scale, although improvement in methods is certain to occur in the future. The method at present in use, which has been found very successful in the field, consists of a double inoculation. The first is made with a vaccine which is, in fact, the inactivated virus of the disease; the second, ten days later, with an attenuated strain of the living virus; the dose of the latter is about a hundredfold that necessary to infect a dog not previously treated with the vaccine, but it produces no upset, or only a slight disturbance, in the general health. Complete resistance to the disease is thus produced, both to injection of infective material and to exposure to contact with an infected animal.

THAT this work on dog distemper has not yet reached finality is shown by the fact that among other lines of investigation being pursued, two lead to the hope of improvement in the method of protection, and also of throwing light on the nature of virus disease in general as it affects both man and animals. There is a possibility that a potent antiserum may be available in the future: this would act as a curative agent for dogs already suffering from distemper, and also, by combination with living virus, as an agent for producing complete protection with only one inoculation; the serum would prevent the animal from having more than a mild attack of fever, whilst the virus would confer a lasting immunity. Finally, the problem of cultivating the virus outside the body is still being actively pursued. Absence of a suitable method makes the preparation of the vaccine a laborious task: the discovery of such a method would undoubtedly advance enormously our knowledge of the other virus diseases and bring nearer the time when satisfactory methods of prevention and cure would be generally available. We understand that the Wellcome Foundation is undertaking the conversion of the laboratory processes into large-scale production of vaccines suitable for the general inoculation of dogs against distemper.

It is announced in the *Times* of Nov. 30 that Sir Otto Beit has offered £50,000 to King Edward's Hospital Fund for London for the purchase of radium for use in the hospitals. In a letter to the honorary secretaries of the Fund, Sir Otto Beit refers to the fact that the hospitals of London, speaking generally, are not adequately provided with this method of treatment and that he seeks to remedy this state of affairs. The Distribution Committee of the Fund, assisted if necessary by members of the medical profession co-opted *ad hoc*, will decide upon the proportion and the manner in which the gift shall be applied, but the donor especially desires the Committee to secure that the hospitals thus to be provided on loan with radium should be preferably those in which the cure of disease or the alleviation of suffering is associated with a keen interest in the furtherance of the knowledge "for the relief of man's estate." This gift is one more example of Sir Otto Beit's extraordinary generosity in assisting medical work. Readers of NATURE will not need to be reminded of the institution of the Beit Memorial Fellowships for medical research in 1910, or of the way in which they have been supplemented since. It will be noticed that, in the letter of Sir Otto Beit making the offer of this gift, which, it is needless to say, has been gratefully accepted, no mention is made of the diseases which are to be treated with the new supply of radium. There can be little doubt, however, that a big fraction of it will be used in the treatment of cancer. This whole question has now become a national one, and this great gift, which is an expression of public confidence in the utility of radium as a therapeutic agent, will help any national scheme which is launched under the right auspices.

THE first reports on the Chilean earthquake of Dec. 1 show that it must have been one of great

violence, and it is to be feared that the losses of life and property have been under-estimated. The shock, which occurred between 5 and 7 minutes after midnight, seems to have caused most damage at Talca, a town about 50 miles from the coast. Here, it is said, 85 per cent. of the houses are destroyed, including most of the important buildings. The area of damage is of great size. It extends from Teniente on the north to Chillan on the south, a distance of 200 miles, and it includes Constitucion on the coast due west of Talca. As there is no mention of any sea-waves, it is probable that the epicentre in this case lies on land. From Valdivia and Concepcion northwards, the whole of Chile is subject to violent earthquakes. In the neighbourhood of Talca there are several earthquake-centres, but none of the importance of those that lie near Concepcion to the south, and Valparaiso to the north, of Talca. During the present century there have been two great earthquakes in Chile, the Valparaiso earthquake of Aug. 17, 1906, with its submarine origin between Valparaiso and Coquimbo, and the Coquimbo earthquake of Nov. 10, 1922, with its origin also submarine, and extending northwards from Coquimbo for one or two hundred miles towards Chanaral. The recent earthquake thus points to a migration of the seat of activity several hundred miles to the south.

"MAN'S Mental Aptitudes" is the title of an amusing and significant article by Sir Arthur Keith in the *Rationalist Annual* for 1929. On the assumption that the editors of newspapers publish what people wish to read, he has analysed the space allotted to various interests in the columns of a few papers representative of different classes of readers. In the 'superior' London and northern England papers the results are wonderfully consistent. They indicate that business interests come first in the Englishman's mind, with just one-third of the total space of the 'superior' London daily. Then follow, in descending importance, politics, which Sir Arthur takes as showing the scale of patriotism, intellectuality, sport, artistic and scientific interests, sensational news, and, last, religion. The popular London daily gives the same order, except that sport precedes intellectuality and sensational news precedes art and science. The "most widely read Sunday newspaper," taken to represent the mental fare of 'cottagers,' stands in quite a different category. Here interests are topsy-turvy; sensational news leads with a quarter of the total space, and is followed by sport, intellectuality, business, politics, art, and science. The low percentage of scientific news, from 4 to less than 0.5 per cent, is remarkable, but this and other anomalies may be due to the limitation of the investigation to a few issues, so that a fair average was not available. Some newspapers reserve their special scientific articles for a definite day of the week. Sir Arthur's summing up is a very reasonable conclusion from this original study. "A survey of man's nature, as reflected in the columns of the newspapers he buys and consumes, shows that it is not the intellectual side of his brain which dominates his nature, but the emotional and passionate. Man is essentially an animal of the 'heart,' rather than of the 'head,'

and in all our speculations as to his future, this aspect of him must be ever borne in mind."

A WIRELESS beacon installation built at Start Point by Marconi's Wireless Telegraph Co., Ltd., for the Corporation of Trinity House has just been completed. This installation is the seventh of its kind now established round the British coasts. The completion of the Start Point transmitter means that very effective cross bearings can now be taken by ships, for there are now three Channel stations which can be used as fixed points, and they can thus obtain a sequence of bearings and be sure of their position right up the Channel. The transmitter of the type fitted in the British Isles has a power of 500 watts and is operated on a wavelength of 1000 metres, which is the specified wavelength for wireless beacon stations, and the whole equipment is automatically controlled by a master clock for transmitting groups of interrupted continuous wave (I.C.W.) signals at pre-arranged intervals. The call sign of the Start Point station is GSM and accurate direction-finding bearings may be expected up to about 100 nautical miles under normal atmospheric conditions. One of the advantages of the system of position finding in which a wireless beacon station of the Marconi type at a known position is used in conjunction with a direction finder on board ship is that the signals are broadcast in all directions and a direct bearing can therefore be taken on the transmitter from any direction at every signal sent out by it.

It has been decided that the eighty-eighth annual general meeting and the anniversary dinner of the Chemical Society shall be held in Leeds on Thursday, Mar. 21, 1929. It is the desire of the Council to make this a special occasion for a general gathering of chemists and those associated with chemistry in the north of England, and in order that these meetings may be representative of all branches of chemistry and chemical industry, the local sections of the Society of Public Analysts, the Institute of Chemistry, the Society of Chemical Industry, the Society of Dyers and Colourists, and the Coke Oven Managers' Association are co-operating. The annual general meeting will be held in the University of Leeds on Thursday, Mar. 21, at 4 P.M., and the anniversary dinner will take place in the Town Hall, Leeds, the same evening. The Railway Clearing House has granted facilities by which those attending the meetings will be able to travel from all parts of Great Britain to Leeds at the reduced rate of an ordinary fare and one-third for the double journey.

THE British Boot, Shoe, and Allied Trades Research Association held its first annual president's reception and dinner on Wednesday, Nov. 28, at the Hall of the Worshipful Company of Cutlers, Warwick Lane, E.C.4. Sir William Bragg was the principal guest, while Prof. H. C. H. Carpenter and Mr. A. L. Hetherington attended, representing the Department of Scientific and Industrial Research. In proposing the toast of the Association, Sir William gave an inspiring address, and Prof. Carpenter, as chairman of the Industrial Grant Committee of the D.S.I.R., responding to the toast of

the Department, announced the new conditions under which the Department would continue grant aid to the Association. This Research Association was one of the first to be formed, so that much credit is due to the small nucleus of far-seeing boot manufacturers who constituted its initial small membership. Unfortunately, the enthusiasm of the few did not rapidly spread, and although in recent years the membership and influence of the Association have steadily grown, it still remains the smallest industrial research association in Great Britain. This dinner is the first the Association has held, and it is gratifying to find that there are many signs that the footwear industry as a whole is now rapidly awakening to a realisation of the immense possibilities that lie in close co-operation between specialised scientific research and industrial processes.

At the meeting of the Institute of Fuel on Nov. 21, Lord Melchett delivered a presidential address mainly on the economic condition of the British coal industry. The reorganisation of industry now in progress was likened to the industrial revolution following the introduction of coal and iron. Modern technical advances tend to reduce coal consumption for all purposes, and this, combined with the over-development of world production, has brought about the severe depression and unemployment in Great Britain. In the first place, commercial organisation is essential to avoid the ruinous competition, which ends in the folly of selling at unremunerative prices. The re-establishment of the coal trade necessitates reorganisation of its technology, commercial and labour relations, followed by international agreements with other exporting countries. Internal reorganisation should proceed without delay. That coal is a chemical raw material is now receiving fuller recognition, and a problem which follows naturally is the conversion of coal into oil. This problem will undoubtedly yield an economic solution in the next decade. The direct employment of coal for what it is, namely, a complicated chemical substance, is yet in its infancy. Any revival in the coal trade must have direct and immediate effects on the general prosperity of Britain.

SIR GEORGE SUTTON gave an interesting address on Nov. 7, to the Royal Society of Arts, on "Fifty Years of British Industry." In particular, his remarks on the early days of the cable-making industry and the formation of the Cable Makers' Association (C.M.A.) were very instructive. There is nothing in the appearance of a high-grade cable for carrying heavy electric currents to distinguish it from a low-grade cable. If unregulated competition were allowed, then price would be the sole consideration, and this would rapidly bring about a deterioration of their quality. The leading firms therefore came together and formed an association, primarily for the purpose of adopting standards of dimensions and fixing the quality of the metal and the insulation. These standards are now recognised all over the world. The high factor of safety adopted enabled the cables to carry tremendous overloads during the War. The C.M.A. also extended its activities to regulating the field of com-

petition. Going on the assumption that the field was large enough for the growing prosperity of all its members, it formed what is disparagingly known as a 'ring.' However, the C.M.A. has demonstrated that it is possible for a number of firms entirely independent of one another financially to compete in effective service to the consumer and not by ruinous price competition. The research laboratories of the various cable manufacturers now pool their mental and material resources, and the overlapping of researches which formerly took place is largely prevented. The help of the National Physical Laboratory has proved of great value to them. So far as recruits for the industry is concerned, the employers want a combination of higher education with practical experience. Some colleges give this. Of late years there has been a notable increase in the employment of public school boys in industry. Their training fits them admirably in many ways for positions of control.

THE November number of *Naturæ Novitates*, published by R. Friedländer und Sohn, of Berlin, is of special interest as commemorating the fiftieth year of that bibliography and also the centenary of the existence of a firm to whose whole-hearted labours in the publication and distribution of scientific books and periodicals we all owe so much. R. Friedländer opened a bookshop in the Königstrasse in Berlin in 1828. The interest taken by the scientific men of the day soon caused him to confine his attention to scientific literature. At that time the work of Linnæus and others had led to the publication of a great many books on botany and zoology, and these were often expensive and difficult to obtain. Friedländer's first general catalogue of scientific books was issued in April 1836; his seventh catalogue dealt with natural history, and his eighth catalogue, published in 1847, covered the whole field of zoology. The firm began as R. Friedländer, but in 1851, when Dr. Julius Friedländer joined, it became R. Friedländer und Sohn. Julius was proficient in mathematics and physics. His knowledge of these subjects was of great assistance to the firm, which soon began to publish catalogues of scientific books at regular intervals. In 1878 he began the publication of *Naturæ Novitates*, a bibliographical periodical cataloguing scientific works as they appear. On the death of Dr. J. Friedländer in 1882, his former assistants, Ernst Buschbeck and Otto Budy, continued the work. At the present time the heads of the firm are Paul Budy, Dr. Kurt Budy, and J. R. Loewe, who will have the best wishes of all scientific workers for a happy and prosperous new century for the firm of R. Friedländer und Sohn.

THE inaugural series of Riddell Memorial Lectures, endowed anonymously in memory of the late Sir John Walker Buchanan-Riddell, was delivered before the University of Durham, by Prof. C. C. J. Webb, fellow of Oriel College, Oxford, and first Oriel professor of the philosophy of the Christian religion, on Nov. 28, 29, and 30 at Armstrong College, Newcastle-upon-Tyne. The general subject of the lectures was "Religion and the Thought of To-day." Modern European philosophy began with a criticism of a religious experience

of a Christian type. Movements emphasising one-sidedly the 'universal' and the 'individual' aspects of reality have been checked by the discovery that the resulting positions were unable to do justice to essential facts of Christian religious experience. The position of religion in social life has changed within the last century and a half; and the attempt to find the religious values *within* instead of *beyond* this world and the civilisation which has been developed within it was characteristic of the nineteenth century and was assisted both by the rise of the idea of evolution and by the disintegration by biblical criticism of a purely authoritative conception of the Christian religion. The War, by inducing a revulsion of feeling as to the sufficiency of civilisation to satisfy the spiritual needs of men, brought about a reaction from the immanentism so marked in the religious thought of the preceding age; the problem of the immediate future is to secure the gains of that immanentism while recognising the need of a genuinely transcendent object of religion. The Christian doctrine of the nature of God affords a hint of a way in which these two aims may be reconciled.

LORD RAYLEIGH has been appointed a trustee of the Beit Memorial Fellowships for Medical Research in succession to the late Lord Haldane, who died on Aug. 19 last.

DELEGATES from forty nations recently attended in Paris an International Conference for the Limitation of Exhibitions, when a convention was signed agreeing to limit the number of general long-period exhibitions which are officially recognised to once in ten years at the least in the same country and once in two years at least in all countries. Special exhibitions confined to one trade or industry are limited less strictly. The convention does not apply to any exhibitions which do not seek official recognition or to sample fairs such as that of Lyons or the British Industries Fair. Great Britain was represented by Sir Edward Crowe, the new Comptroller-General of the Department of Overseas Trade; Mr. J. R. Cahill, of the British Embassy; and Lieut.-Col. Cole, of the Department of Overseas Trade. The delegates were accompanied by Mr. Guy Locock, of the F.B.I.; Mr. R. B. Dunwood, of the Association of British Chambers of Commerce; and by Mr. L. A. de L. Meredith, of the Department of Overseas Trade.

REFERRING to a note in our issue of Nov. 3, p. 707, a correspondent reminds us that Prof. Cossar Ewart discussed the question of the fertility of mules in a letter in NATURE of Nov. 24, 1910, p. 106, pointing out that either the true mulishness of the mother or the maternity of the foal was always in some doubt. Such uncertainty, however, does not seem to apply to the cases mentioned in our recent note.

WE regret that in a paragraph in our issue of Dec. 1, p. 854, on electrical equipment for X-ray apparatus, the name of the author of the paper was wrongly quoted. Mr. L. G. H. Sarsfield, the author of the paper in question, also points out that he preceded his remark on the future use of the induction coil for the highest voltage X-ray work with the qualifying

remark "it may be"; the current rating of the small portable set mentioned is 10 milliamperes, not 10 microamperes.

THE leading article in last week's NATURE referred to a suggestion by Mr. J. B. S. Haldane that the Cabinet might contain at least one member with scientific knowledge. Mr. W. P. Dreaper reminds us that fifteen years ago, starting from the other end, he suggested that there should be a Science Committee in the House of Commons. As at present constituted, it would perhaps be difficult to form such a committee in the House, but as it has been stated that the time lag of all such changes is nineteen years, Mr. Dreaper hopes that his suggestion may come into effect in the next Parliament.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—An assistant master to teach mathematics in the Smethwick Junior Technical School—The Director of Education, 215 High Street, Smethwick (Dec. 10). A junior assistant under the Department of Scientific and Industrial Research, for work on plasters and other materials used for impressions and models in dentistry—The Secretary, Department of Scientific and Industrial Research, 16 Old Queen Street, S.W.1 (Dec. 13). A laboratory assistant in the biology department of King's College of Household and Social Science

—The Secretary, King's College of Household and Social Science, 61 Campden Hill Road, W.8 (Dec. 15). A physicist under the Australian Council for Scientific and Industrial Research, to take charge of seismic investigations in connexion with the Imperial Geophysical Experimental Survey—Mr. F. L. McDougall, Australia House, Strand, W.C.2 (Dec. 19). A temporary junior chemist at an Admiralty Inspection Establishment—The Secretary of the Admiralty (C.E. Branch), Whitehall, S.W.1 (Dec. 22). Junior assistants at the National Physical Laboratory, with qualifications in physics, electrical engineering or mechanical engineering—The Director, National Physical Laboratory, Teddington (Dec. 22). An expert in cattle breeding under the Egyptian Government, Ministry of Agriculture—The Royal Egyptian Legation, 75 South Audley Street, W.1 (Jan. 1). A professor of medicine in the University of Hong Kong—The Chief Medical Officer, Ministry of Health, Whitehall, S.W.1 (Jan. 7). Research workers at the Rowett Research Institute on, respectively, the nutrition of poultry and the nutrition of sheep—The Secretary, The Rowett Research Institute, Bucksburn, Aberdeen. A male technical assistant with honours in chemistry or physics, under the Chemical Warfare Research Department—The Chief Superintendent, Chemical Warfare Research Department, 14 Grosvenor Gardens, S.W.1.

Our Astronomical Column.

PUBLICATIONS OF BERGEDORF OBSERVATORY.—Bergedorf Observatory deserves the thanks of astronomers for the useful series of reference volumes that it is publishing. The G.F.H. or history of the fixed stars has been proceeding in instalments for several years. But that work does not contain observations made later than 1900; as large numbers of more recent catalogues have now accumulated, two volumes containing references to meridian observations made in the present century have just been published, dealing respectively with north and south declinations. Each volume has about 300 pages. The arrangement of the *Durchmusterung* is followed. The stars are grouped in degree of declination, the reference number of each star according to the Bonn or Cordoba D.M.; then follow a pair of numbers; the first number is the index denoting a catalogue; 401 catalogues are listed at the end of each volume; the second number is that borne by the star in the catalogue referred to. There are a considerable number of stars not contained in the D.M.; these are given in separate lists, at the end of each degree of declination. Thus the material available for each star is shown at a glance.

Bergedorf has also produced a catalogue of its own, containing 4983 stars observed with the Repsold meridian-circle between the years 1913 and 1926. The classes of stars observed are those in Rumker's Hamburg catalogue that needed re-observation, stars with large proper motion, variable stars, comparison stars for planets or comets, etc.; for example, Barnard's proper-motion star and some of its neighbours were observed in 1919. The catalogue bears the name of Dr. F. Dolberg, who did the whole of the observation at the telescope and a large part of the reductions.

THE TOTAL SOLAR ECLIPSE OF OCT. 22, 1930.—This eclipse has a track across the Pacific Ocean, but there are two islands within the belt of totality: Nurakita

in the Ellice group, and Niuafoou, some 280 miles south of Samoa. *Popular Astronomy* for October contains an article on Niuafoou by Mr. Andrew Thomson, Director of the Apia Observatory. He was one of the observers from the United States of the eclipse of 1919 at Sobral, Brazil. Niuafoou is a volcanic island about 3 miles in diameter. Mr. Ramsey, a trader on the island, is quoted as saying that landing would generally be practicable for packing cases of moderate size. There are 1100 inhabitants, and a Catholic mission has been there for many years. It is 8 miles from the central line, and totality will last 83 seconds, the sun's altitude being 52°. The weather statistics for Apia indicate the cloud ratio at 9 A.M. in October as 4.8, this being the same as the average for the whole year. 10 A.M. is about the clearest time of the day at Apia; the local time of mid-eclipse is 9.9 A.M. Some expeditions to Niuafoou have already been vaguely planned, but no definite arrangements have yet been made.

Predecessors of this eclipse in the Saros cycle occurred in 1858 and 1912, both being total in Brazil. The first was observed by Liais; a Greenwich expedition went to the second but experienced cloudy weather.

NOVA IN MESSIER 33.—*I. A. U. Circular*, No. 211, announces the detection of a nova in this nebula by Dr. Baade at Bergedorf Observatory. It is 2' preceding and 8' south of the nucleus; it is thus comparatively near the centre of the nebula, the diameter of which is about 1°. The magnitude of the nova is 16.0, which on Hubble's value for the distance of the nebula (870,000 light years), gives an absolute magnitude of -6. Novæ in the spirals have been discovered in considerable numbers, there being 67 in the Andromeda nebula between 1909 and 1926. The discovery of the present nova was presumably effected with the large reflector at Bergedorf, which has proved so efficient in the detection of very faint comets.