Mr. J. H. Stebbins, Jr., called the attention of the society to several new coloring materials that he had discovered among the di-amido compounds. They were yellow in color and suitable for silk, woolen and cotton dyeing, but especially desirable for the latter.

Dr. A. R. Leeds gave a short description of some new experiments on the action of hydrogen peroxide with ammonium hydrate.

A committee consisting of Mr. Casamajor and Dr. Alsberg were appointed to make arrangements for the annual dinner. M. B.

NEW YORK, *March* 9, 1881.

IMPROVED PORTABLE EQUATORIAL STANDS.

BY JAMES H. GARDINER.

The stand I use, and those which I have seen, have no levels and no means by which the telescope can be moved in azimuth without moving the whole stand. It seems to me that, with a very little trouble, these stands could be made not only a great deal more accurate, but also much more useful for amateur work by the following additions: Instead of having the equatorial mounting screwed firmly to the lower plate to which the legs are attached so the telescope cannot be moved in azimuth without moving the whole stand, a plate could be ground to touch, say, only ¼ of an inch, and revolved on the lower plate. This would give a steadier and easier motion, with less friction than if the two plates were ground to touch all over. A thread is to be cut in the side of this upper plate, so that with a tangent screw it can be moved in azimuth. On this upper plate that revolves on the lower plate, and to which the tangent screw is attached, should be placed two levels at right angles to each other, and then on this upper plate that revolves the usual equatorial mounting is to be firmly fastened. It will be seen that the above stand only differs from the usual stands on tripods, in having levels and means to move the telescope in azimuth without moving the whole stand. Such a stand would be of great use to amateurs, who have a poor horizon, and are obliged to move their stands about to command all parts of the heavens; or for those who may have a good horizon, but cannot afford the luxury of a fixed pillar and dome. The use of such a stand will appear from the following illustration; Suppose the observer has such a stand, and that he is at Washington, and on the 1st of March, 8 P. M., he desires to put his telescope in the meridian. He carefully levels the stand, and turns his telescope on *a Polaris* to come into the centre of the field. If it does not happen to come exactly in the centre of the field, he can raise or lower his polar axis, or move the telescope in azimuth by aid of the tangent screw. Here it is to be noted that with the old stands he would have to twist the whole stand around and throw it out of level, and by repeated trials get *a Polaris* in the centre of the field, and when he again levelled the stand *a Polaris* might not be in the centre of the field. Thus every movement of the old stand would throw it out of level. All these tedious trials are obviated by the new stand with azimuth motion. When once levelled it would stay so, and the telescope could be moved to the east or west without having to be continually bothered with levelling it. Thus in a few moments he would have *a Polaris* in the centre of the field, and the telescope approximately in the meridian. He now reads his R. A. circle, and turns his telescope on some well known star, as *a Leonis* or *Regulus*, for example, and then reads his R. A. circle again. Supposing the difference of these two readings of the R. A. circle to be 3h. 25m. 13s., this is the observed hour-angle of *Regulus*. The true hour-angle of *Regulus* is equal to the difference of the Sidereal time and the R. A. of *Regulus*, or 3h. 22m. 13s. This shows that the object-end of the telescope must be moved 3m. to the west to make the observed hour-angle agree with the true hour-angle. This can be done nicely by the targent screw that moves the telescope in azimuth without throwing it out of level, but with the old kind of stand it would be thrown out of level, and it would be a very tedious job, requiring time and patience to accomplish. Having got the telescope very nearly in the meridian, the declination circle can now be set to the δ of the star. With such a sand the careful amateur can put it near enough in the meridian to pick up a comet or any other object by its R. A and δ. The accuracy of the adjustments depends upon the levelling, the collimation, and an exact value of the local time. The levelling would generally be accurate enough, and most stands have screws in the saddle that carries the telescope for correcting the collimation. But the amateur should try to get the exact value of his local time, as this would probably introduce the greatest error. This can be done by equal altitudes of the sun or star. Or where the latitude of the place is well known the local time may be found by an altitude of the sun. With such a stand as has been described, if it should be necessary to move it to another place, it could easily be put in the meridian again, as described. Besides, many have stands with good circles which they seldom use, because they cannot afford a fixed pillar and dome, and do not care to put it in the meridian, as they are obliged each night to bring the telescope into the house. But if it could be put in the meridian easily, I am sure many would be pleased to use their circles.

ASTRONOMICAL MEMORANDA.

[Approximately computed for Washington, D. C., Monday, March 21, 1881.]

Sidereal time of mean noon, 23^h, 57^m, 24^s. Equation of time, 7^m, 8^s. Mean noon *preceding* apparent noon.

On the morning of March 20th, the sun crosses the equator and enters the constellation Aries, thus indicating the commencement of Spring. The violent actions upon the sun's surface have continued throughout the past month.

The *moon* reaches its last quarter on March 22, and is new again on the 29th. On March 21st, she crosses the meridian at 4 A. M. The moon will be in conjunction with Mercury on the 27th, and with Jupiter and Saturn on the morning of the 31st.

Mercury is morning star, crossing the meridian about an hour before the sun, nearly 6 degrees farther south. Mercury was in inferior conjunction with the sun on the 11th and is travelling towards the west.

Venus has been moving westward since her greatest eastern elongation on the 20th of February, and will continue to increase in brilliancy till March 27th. She crosses the meridian at about 2.40 P. M., about 20 degrees farther north than the sun.

Mars, crossing the meridian nearly 3 hours in advance of the sun, is coming towards us, and gradually increasing in brilliancy.

Jupiter crosses the meridian at about 1.15 P. M., and *Saturn* 15 minutes later. They are both becoming very unfavorably situated for observation, and must be looked for immediately after sun-set.

Uranus is in right ascension 10^h, 50^m, 47^s; declination 8° 14′ north, and was in opposition on March 1st.

Neptune, right ascension 2^h, 47^m, 17^s; declination 13° 56′ north. Neptune and Venus are in conjunction on the 23rd.

THE following is a list of the officers and council of the Royal Astronomical Society, elected February 11, 1881:—President: J. R. Hind; Vice-Presidents: Prof. Cayley, E. Dunkin, W. Huggins, E. J. Stone; Treasurer: F. Barrow; Secretaries: W. H. M. Christie, J. W. Glaisher; Foreign Secretary: the Earl of Crawford; Council: Prof. Adams,

Sir G. B. Airy, J, Campbell, A. A. Common, G. H. Darwin, Major J. Herschel, E. B. Knobel, G. Knott, A. Marth, E. Neison, A. C. Ranyard, Prof. H. J. S. Smith.

THE gold medal of the Royal Astronomical Society has been presented to Prof. Axel Möller, Director of the Observatory at Lund, in Sweden, for his investigations on the motion of Faye's comet. W. C. W.

WASHINGTON, March 18, 1881.

MICROSCOPY.

On looking over the Transactions of the New Zealand Institute for 1878, we notice that a Mr. A. Hamilton speaks of having discovered *Melicerta ringens*. It was found in great profusion,on the finely-divided leaves of the *Myriophyllum*. This adds another locality to the wide geographical distribution of this interesting Rotifer.

Mr. Hamilton states that after examining a number of specimens he found the description given by Gosse correct, except that the formation of the pellets was at a much slower rate than that stated by him.

In the same locality were also found organisms which Mr. Hamilton thought to be *Plumatella repens;* they were growing on dead thistles in a swamp in only a few inches of water.

The American Monthly Microscopical Journal for March editorially announces the immediate publication of Mr. F. Habirshaw's Catalogue of the Diatomaceæ, also by the editor, a small book based on Professor J. Leidy's "*Freshwater Rhizopods of North America.*" The editor's handbook on Adulteration is withdrawn.

In the same number Dr. F. S. Billings gives a long resumé of what is known about "*Trichenæ,*" but seems to offer no new facts; the illustration he offers of "*Fresh trichinous invasion*" (after Heller) is a wretched misrepresentation of free trichinæ.

Any reader desirous of examining living specimens of trichinæ in this condition can obtain them on calling at our office.

LETTERS TO THE EDITOR.

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. No notice is taken of anonymous communications.*]

To the Editor of "SCIENCE:"

The development of a peculiar non-nervous tissue in connection with the rhomboid sinus of the lumbo-sacral intumescence in birds, and which is especially well marked at the embryonic period, is I think of some bearing on the recently agitated question of a so-called lumbar brain in the extinct sauranodon. In all amniote embryos that I have studied myself, and of which I can find illustrations in accessible works, it is remarkable that there is a distinct posterior enlargement before the cephalic enlargement is well marked, or the brachial intumescence is even indicated in the medullary tube. This fact may point to the potent influence of some, at one time, deeply engrafted ancestral trait. It is not, I think, necessary or warrantable to go beyond this fact, and the established one of the existence of a non-nervous enlargement at the same region in allied sauropsidæ in endeavoring to account for the peculiarity found in the spinal canal of an extinct saurian genus. The supposition of the existence of anything meriting the designation of a brain elsewhere than in the cranial cavity in any amniote animal would be so fundamentally out of harmony with what we have learned to consider as the normal type of structure, that much stronger evidence than the size of a bony receptacle must be adduced before it can even be taken into consideration. That the size of a cavity and that of the contained organ are not neecssarily in close correspondence, has been alluded to by another correspondent under the initials of B. G. W. I have been struck, in this connection, with the discrepancy between the size of the brain cavity and the brain itself in a two year old hippopotamus, though they corresponded in a young elephant.

Respectfully,

E. C. SPITZKA, M. D.

N. Y. 130 E. 50th Street.

To the Editor of SCIENCE:

PARIS, March 5th, 1881.

In bringing before your notice various points which are both novel and interesting, it seems to be my fate constantly to struggle with an *embarras de richesse* represented by a vast combination of phenomena which is forever appearing upon the scientific horizon.

Condensing therefore as much as possible the matter at my command, I will begin with a very trite and commonplace observation; petroleum is a most excellent thing in its way. It is inexpensive and it gives forth a beautiful light. But these advantages, as many know to their sorrow, are more than counterbalanced by the disagreeable habit it sometimes has of exploding. Accidents thus occasioned, frequently prove fatal, as the violence and intensity of the explosion prevent, in most cases, speedy relief being administered to the victims. Besides this, the methods employed are inefficient and usually unsatisfactory.

M. Ichlumberger, whose mind for some time has been occupied with this subject, finally proposes a mode of extinction which is exceedingly simple, and at the same time instantaneous. So confident is he of the efficacy of his plan, that he would like to make a law compelling every one to adopt it who has petroleum in any quantity.

This is his method; Upon every keg or barrel of petroleum, place a moderately large bottle filled with aqua ammoniæ. Should an explosion occur, the shock will shatter the bottle, spread the fumes of the ammonia in the atmosphere, and produce an automatic and infallible extinction of the flames.

This plan can well be recommended to those who make use of petroleum, or who are obliged to superintend the distillation of the liquid. It is only necessary to have within easy access one or several bottles of aqua ammoniæ, whose contents should instantly be scattered upon the petroleum in case it catches fire.

M. Ichlumberger also thinks that this mode of extinction could be effectively utilized in mines where fire-damp is imminent. The ammonia should be put in reservoirs, and so placed that it will be overturned immediately when the explosion occurs. This agent would undoubtedly be more powerful than water, and M. Ichlumberger's idea is worthy of serious attention.

A very peculiar case of poisoning occurred a short time ago at *Puy l'Evêque*, an account of which was sent to the *Académie de Médicine* by Dr. Demeaux. It seems that a family composed of five persons was taken violently ill after having eaten some mushrooms. One of the mushrooms left from dinner was sent by Dr. Demeaux to the *Académie* as a specimen, and upon being examined by M. Chatin, was found to belong to one of the numerous varieties of the *oronge-ciguë* species called the *Amanita bulbosa*. Nine-tenths of the mushroom poisoning we hear about is due to this *Amanita* which, on account of its white color is frequently mistaken by the inexperienced and unsuspecting for the harmless mushroom. It is certainly the height of folly for people to run about the woods and fields mushroom hunting, unless they are perfectly familiar with the different species.