Campanula sepunculoides (light violet), the *Prismatocarpus speculum* (crimson violet), and the bright red *Pisum sativum*.

There is no doubt that a great difference exists in the chemical reaction of red and blue blossoms, but from the above it appears to be erroneous to attribute an acid reaction to red and an alkaline reaction to blue blossoms. The majority of all blossoms show an acid reaction.—*Chemisches Centralblatt.*

A New Coloring Matter.

Mr. T. L. Phipson, according to a note recently presented by him to the French Academy of Sciences, has succeeded in extracting from the little blood-red alga (*Palmella cruenta*) found at the base of damp walls, a new rose-red coloring matter, which exhibits very curious properties. Mr. Phipson proposes for it the name of *Palmelline*. Its color resembles no known color except the coloring matter of the blood—the hæmoglobine of modern chemists. Like the latter, palmelline is insoluble in alcohol, ether, benzine, bisulphide of carbon, etc., but dissolves in water. Like the coloring matter of blood, palmelline is dichromic, consisting of a red matter united with an albuminous substance, and being coagulated by alcohol, heat, and acetic acid added to its aqueous solution. Like hæmoglobine, too, palmelline gives rise to absorption bands in the yellow of the spectrum; but these bands did not seem to Mr. Phipson to occupy exactly the same position as those given by blood. Palmelline in solution, like the coloring matter of blood in solution, readily undergoes putrefaction at summer heat, giving out a strong ammoniacal odor and a smell of rotton cheese. Finally, like the coloring matter of blood, palmelline contains iron. This new coloring substance cannot be extracted from the moist plant, for the vitality of the latter is such that it will not part with its color by the action of water, it has to be first dried in a current of air At the end of from twenty-four to thirty-six hours the pellicles are usually pretty dry, for the plant and the matters upon which it grows dry quite rapidly in the air. It must not be dried on paper, for the cells would adhere thereto. On leaving the dried plant in a small quantity of water in a covered porcelain capsule, the coloring matter dissolves out, and, on the following day, the clear liquid may be decanted from it. The coloring matter is of a magnificent rose-red by transmitted light, and of an orange-yellow by reflected light.

From the properties above noted, it will be seen that palmelline appears to exhibit considerable analogy with the hæmoglobine of the blood; and, as Mr. Phipson says, it is the first time that a substance of this nature has been met with in the vegetable kingdom.

Colors of Plants.

At the last meeting of the Philadelphia Academy of Sciences the discussions were mostly confined to botanical matters.

Mr. Martindale stated that in a collection of over twenty selected specimens of Habenaria from the vicinity of Newfield, N. J., he had found all shades of color, from the bright buff to the pure white. He had found no difficulty in assigning all the tinted specimens to the species Ciliaris, while the white ones were undoubtedly Blephariglottis, the petals in the former being linear, and in the latter spatulate, or widened toward the tip about one-sixth of their diameter. The tendency of certain flowers to albinism was considered.

Dr. Hunt remarked that the causes of color variation in flowers was entirely unknown to botanists. It could not yet be explained why the same species in different localities were of different color, or why even the same flower presented varying tints at different parts of the twenty-four hours. He was firmly convinced after further studies of habenaria that the distinctions between the two forms mentioned were not specific, as he had actually found both forms on the same spike. Referring to the variation of color in plants, Mr. Meehan called attention to the case of *Gilia aggregata* of the Rocky Mountain region. Toward the north all these plants, which form a striking feature of the landscape, are white. As the traveler proceeds southward he observes that they assume a pink tint, which gradually deepens, until, when found three or four hundred miles farther south, the same species is of a deep crimson color. He believed that the two forms of habenaria were probably of the same species.

Mr. Redfield was of opinion that, had it not been for the difference of color, the two species of habenaria would probably never have been defined. The distinguishing characters having been pointed out, however, he believed that they were sufficiently permanent to constitute valid species.

The discussion was continued by Mr. Martindale, who believed that the two forms were distinct, although the differences, apart from the color, were undoubtedly very slight.

The Proper Diet for Children.

Here is another case of disease of the cornea. This baby is twenty months old. There is a white spot over the center of this little girl's pupil. It is soft-looking, and I therefore know that it is recent. The child has nasal catarrh. It was weaned when six months old, and it is now just cutting its eye teeth. The mother says it is being fed with whatever there is upon the table; that it receives a little tea and coffee, and that it it allowed to suck pieces of meat, all of which is wrong. Do not allow it among your patients, gentlemen. If the good Lord had wished us to eat meat at the age of twenty months, he would have given us a full set of teeth ready for use at that time.

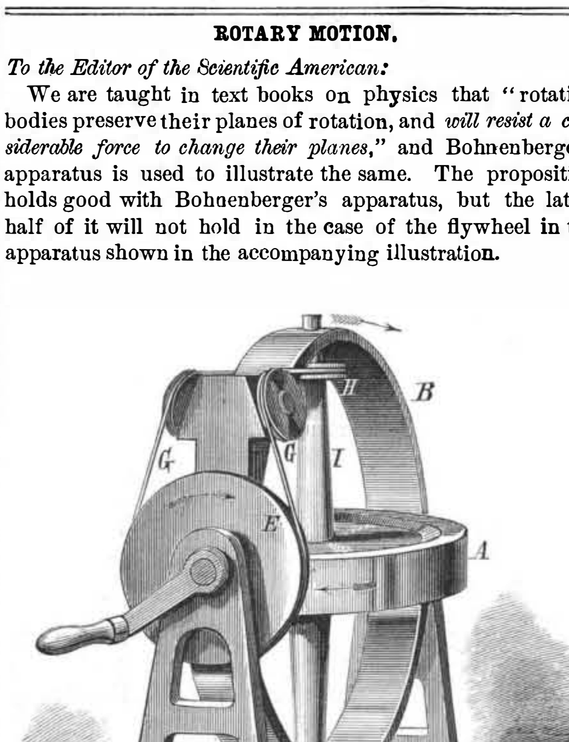
Dr. Leaming, of this city, whom you should all know, has for some years had charge of an asylum in which large numbers of children are received and cared for, and he does not allow one of them to have anything except milk, and substances which can be dissolved in milk, until they are seven years of age. I think your professor of materia medica is equally emphatic upon this question, and now your professor of ophthalmology comes to you and beseeches of you to use all possible influence in the direction of having children reared upon milk alone. Not upon tea, not upon coffee, not upon meat, not upon sweet cake and puddings, but upon milk. Every physician will, under rare circumstances, prescribe beef juice for infants, very much as brandy is prescribed upon rare occasions for small children, and I shall not quarrel with them upon that point. But I have a decided opinion that, under ordinary circumstances, no child should have anything except milk and farinaceous food until it has been provided with teeth with which to prepare other articles of diet for the stomach. Follow nature in your practice in ophthalmic as well as in every other kind of disease. I will engage, if this mother, who is anxious for her child, will listen to what I say about feeding it hereafter with milk, barley, farina, corn starch, hominy, with perhaps a small quantity of sugar, that the teething will be easier, the bowels will be more regular, and diseases of the cornea will be less liable to occur.—*Dr. D. B. St. John Roosa, in New York Medical Record.*

Correspondence.

ROTARY MOTION.

To the Editor of the Scientific American:

We are taught in text books on physics that "rotating bodies preserve their planes of rotation, and *will resist a considerable force to change their planes*," and Bohnenberger's apparatus is used to illustrate the same. The proposition holds good with Bohnenberger's apparatus, but the latter half of it will not hold in the case of the flywheel in the apparatus shown in the accompanying illustration.



APPARATUS FOR EXHIBITING ROTARY MOTION.

The flywheel, A, revolves with its axle, I, in journals in the ring, B. The latter revolves on bearings at right angles to the axle, I. A band, G, passes around the wheel, H, on the axle, I, over the pulleys journaled at the sides of the ring, B, and around the driving wheel, E. The driving wheel, E, is connected with the crank. When the band, G, is removed the ring, B, holding the flywheel is free to revolve on its pivots. If the band, G, is replaced and the crank is held stationary the ring, B, will revolve and cause the revolution of the flywheel; or if the ring, B, is held stationary, and the crank is turned, the flywheel will again be set in motion.

If rotating bodies always resist a force to change their planes of rotation, it will be seen that the fly wheel, A, would tend to hold the ring, B, stationary while the crank was turned, and the flywheel might thus be kept in motion, *provided the overcoming of the resistance of a rotating body to change its plane of rotation does not retard the revolutions of that body.* But there is no resistance whatever in changing the plane of the revolving flywheel, A, as can be seen by disconnecting the band, G, leaving the flywheel in motion. The ring, B, can be turned on its pivots without the slightest resistance, and when set in motion, the ring will continue to revolve the same when the flywheel is rotating as when at rest. When the flywheel is in motion and the band, G, disconnected, if the whole apparatus is revolved on a pivot or any other (the plane of revolution being parallel with the plane of the base of the apparatus, for instance), the rotating flywheel will instantly assume a position in which the plane of *its* rotation will be parallel with the plane of the revolution of the apparatus, that is, parallel with the base. Moreover, if the direction of the revolution of the entire apparatus on the pivot is a right hand motion, the flywheel will have a right hand motion parallel with it; and if the revolution of the apparatus is reversed so that the base has a left hand motion, the flywheel, A, will cause the rim, B, to make a semi-revolution so as to allow A to rotate parallel with the plane of D, and in the same direction, that is, a left hand motion.

As stated before, when the base is at rest and the flywheel in motion (the band, G, being disconnected) there is no resistance against changing the plane of the rotating flywheel; but *if the base, D, is revolving at the same time, there is a very decided resistance offered against changing the plane of the flywheel.* So strong is this resistance that if the band, G, is connected, the flywheel may be kept continually in motion by turning the crank, showing that *the overcoming of the resistance of a revolving body against changing its plane of rotation does not retard the motion of that revolving body.*

I do not know that this fact has ever before been demonstrated.

By oscillating the base upon a pivot while the flywheel is in motion the ring, B, can be made to revolve; and if the crank is fastened so that the driving wheel is held stationary, the velocity of the flywheel can be accelerated or retarded and kept in continuous rotation. Motion may thus be imparted to the flywheel still better by rotating the base on a pivot eccentric to its axis, no matter how slight the eccentricity, the base remaining comparatively still; or still better, by keeping a point at the center of the wheel stationary, and oscillating the pivots of the ring, B, in opposite directions, in both cases the crank remaining unmoved.

H. J. M. MATTIS.

The Durion.

To the Editor of the Scientific American:

In the July, 1879, EXPORT EDITION of the SCIENTIFIC AMERICAN, I find, at page 49, the views of a writer in the *Gardener's Chronicle* on "A Tropical Fruit," the durion. The article concludes thus: "It does not succeed well in India, and cannot be grown in the West Indies." This assertion, as regards India, I am not in a position to disprove; but it is decidedly erroneous in respect to the West Indies, as the durion grows most luxuriantly in this island, in proof of which I had purposed by this opportunity sending you one but have been disappointed in its receipt. You may, however, rely on my so doing at an early date.

GEORGE LEVY.

Kingston, Jamaica, September 4, 1879.

Bitten by a Skunk, but Still Alive.

To the Editor of the Scientific American:

I notice in your issue of September 20 an article on skunk bites, in which the writer says that the bite is *always* fatal, sooner or later. Permit me to say that when a youth of 19 I was badly mangled by a skunk which I seized in the dark, believing it to be a rabbit. I am now 55, hale and hearty. I have personal knowledge of two similar cases, and have heard of others, and have yet to learn of the first case of death attributable directly to the bite, or causes arising therefrom.

I am inclined to think that the fatal cases are of the same order as those of the centenarians who die from the use of tobacco (?).

JAMES L. HOWSON.

Washington, D. C., September 12, 1879.

The Spot on Jupiter.

To the Editor of the Scientific American:

In your issue of September 12 I noticed a communication from F. S. Davenport, describing a spot seen on the planet Jupiter; and on the same evening turned my instrument (a six inch achromatic) to the disk and had the pleasure of seeing the spot.

When first seen, at 6¾ o'clock P.M., it was nearly central, and occupied nearly 1-3 the breadth of disk from east to west, and with a width from north to south about the same as represented by Mr. D., and passed off to the right in line of the planet's rotation.

The above observation was made with a terrestrial eyepiece. There seem to be some mighty changes going on on the planet, especially in the vicinity of the belts, the nature of which it is impossible to conjecture with any probability of accuracy.

R. L. ALLEN.

Providence, R. I.

Note on a Peculiar Case of Corrosion of the Metal Tin.

BY J. W. OSBORNE, OF WASHINGTON, D. C.

The writer exhibited before the American Association a block tin tube, which had been used in the construction of a filter for household purposes, large quantities of water having passed over it for 20 months.

The tube formed one leg of a siphon. It passed through a stratum of charcoal and one of pure sand, the water to be filtered rising high above the latter. The outside of the tube, in that part of it only which corresponded in position to that of the sand, was deeply pitted, oxide of tin having been formed. The difficulty was to explain in what manner the sand determined the oxidation.

An interesting discussion followed the reading of this paper, many members of the section taking part, but no satisfactory solution of the problem was reached.

Action of Aqua Regia on Platinum.

Mr. Edison finds that platinum, after it has been rendered homogeneous under the vacuum treatment, is dissolved with great difficulty in boiling aqua regia. He subjected a specimen of the vacuum-treated platinum to the action of boiling aqua regia for five days without dissolving it.