after crossing it that a few miles—say ten, fifteen, or twenty—bring him to another independent water-shed, which is still flooded, and the tedious task of waiting commences again. As a rule, therefore, a.l business in the Carpentaria district must be transacted during the dry season, and then the settler shuts himself up, and if he has nothing better to do, watches the grass grow at the rate of about an inch per day after the first fall of rain. Towards the end of January the roads become passible again, and the bushman begins to be tormented by must putces and dies, which tease him day and night.

But in spite of these drawbacks, the writer states that no healthy man or woman need be deterred from living in the country, for "people who live according to reason may remain on the Gulf as free from disease as in most parts of Northern Queensland." The rain and the heat are undoubtedly troublesome : but there is a season which the writer describes as being very fine. He says, "by the time we have arrived at the end of April the sun is a long way north. The days and nights are pretty equal in duration; blankets are in demand for the nights, and thick Crimean shirts for the days. The flies are becoming less troublesome, the mosquitoes have been driven back to their native swamps; king ague is leaving the bones, the bushman grasps his axe, and feels himself every inch a man, and flatters himself he can do as good a day's work as ever. The meat is young and tender, and his appetite is excellent, and if not he takes a little quinine, which puts all to rights. The flocks and herds are increasing in numbers, and are in splendid condition; the squatter looks forward to a good lambing, and consequently is in excellent spirits, and so all goes merry as a marriage-bell.

As regards the industry and resources of the district, it is stated that shearers, shepherds, and bushmen can obtain the highest wages there that are paid in the Australian colonies; that stockholders on the look-out for a grazing country may find it to an enormous extent and of excellent quality; that the country is by no means badly watered, and that the wet seasons are always wet. But as regards agriculture, it is admitted that in the neighbourhood of the Gulf "the district does not come out very strongly. The country along the shores of the Gulf that is open to the agriculture; two-thirds of the belt of land is unavailable for any purpose, even grazing, being nothing but low mud-flats, inundated by the sea during the summer months, and being intersected by a complete network of saltwater inlets. The remaining third, though suitable enough for grazing purposes, is totally unfit for agriculture, being for the most part open plains, with a stiff clay soil."

But the mining prospects of Carpentaria seem to be very promising. It is said that the Great Australian Copper Mine, lately opened by Messrs. Sheaffe & Henry on the head of the Cloncurry River, is the richest copper-mine in Australia. The whole of the ranges at the head of the Cloncurry are said to be more or less copper bearing, and the ranges on the Gregory River are described as being rich in copper ore.....

These particulars relative to the country which lies adjacent to our own Northern territory, are at all events encouraging as to the resources of the place; and then, instead of there being so much disorder and drunkenness as spoken of by former writers, it is said that "it would be a difficulty to find in any part of the colony (Queensland) a more orderly and decent population."

-- Adelaide Observer.

SCIENCE.

The Eyesight and the Miscroscope.

BY HENRY J. SLACK, F.G.S., SEC. R.M.S.

I have lately heard of several cases of persons purchasing microscopes, and soon becoming afraid to use them, lest they should permanently injure their sight. Now, it the instruments they used were of even moderate merit, the fault of not seeing objects comfortably lay entirely with themselves. It often happens that a beginner with a microscope operates chiefly with transparent objects, and floods the field with excess of light. Any of the paraffin lamps in ordinary use for microscopical purposes, of such excellent oil lamps as those which Mr. Pillischer supplies, give an immense deal more light than is wanted to exhibit any ordinary objects properly, either by transmitted or reflected illumination, and when this light is concentrated by a bull's-eye, and reflected by the stage mirror in full blaze, it is by no means wonderful that the eye is speedily fatigued. A few objects may be advantageously shown under brilliant illumination, for the display of remarkable beauty in the variety of colours they present. The wing case of the diamond beetle and iridiscent minerals belong to this class, and they should be viewed as we look at flashing fireworks, or the lustre of jewels, for a brief space only, and not in a prolonged stare. As soon as it is desired to make out details of their structure, the light should be reduced to a moderate pitch.

There are microscopic difficulties which involve prolonged effort to decipher obscure markings, or indications, with which beginners should have nothing to do, and which experienced microscopists must cautiously deal with if they value their own natural optical apparatus. Men who will sit up night after night, poring for hours over vexatious diatoms, have no right to complain of the microscope if they experience a deterioration of vision. Had they spent the same time in attempting to read very small print in a strong blaze, they would have been equally successful in wearying their visual organs. Such practices are an abuse of the eye, to which, no doubt, a penalty is attached.

The perfection of microscope work consists in its imitation of na-tural vision. The instrument should extend the range of action of the eye upon small objects; but should not-except for brief purposes of display-materially alter its character. Now, the first thing to be attended to is to keep both eyes open, whether the microscope be used for single or binocular vision. It is unnatural for two-eyed people to shut one eye, and then make a prolonged observation. There are occasions on which it is very desirable to shut one eye for a few moments, as in taking an accurate aim with a rifle, but with the microscope, or telescope, all that is necessary is to acquire the habit of paying attention to the impressions made upon the eye which looks through the instrument, and to disregard what the other may see. Some people have no difficulty in so doing, while others can only suc-ceed if assisted by a little contrivance which many observers have long employed. I mean a shade covered with black cotton velvet, of which several forms have been devised. The simplest, which I have used for many years, is made of a piece of thin cardboard about as big as a small quarto page, covered with black cotton velvet, and pierced with a hole through which the tube of the microscope, just below the eye-piece, is introduced. 1 have found that everyone upon whom I have experimented, and who felt it difficult to keep both eyes open, and only look with one, could easily accomplish it by this means. There is no doubt that the eyes suffer considerably from the common practice of closing one, while looking through a microscope, or telescope, for any length of time, with the other, and it is, there-fore, well worth while to acquire the more prudent habit I have described.

The next point to be considered is the method of modifying the light, and diffusing it agreeably through the field. When artificial light is employed to show transparent objects, it is rarely advisable to throw it as it comes from the lamp, or the bull's-eye, direct upon the object. For low powers and large objects, the best contrivance I know is one which Mr. Browning made by my direction a few years ago. It consists of two discs of glass, ground on one side only. The two ground sides are placed in contact, and the edges cemented, to keep them in position and exclude dust. A freshly ground surface of good glass is remarkably pleasant to the eye; the cool dead white appearance it gives to transmitted light is very agreeable, but its performance is deteriorated by handling the ground surface, or by impact of dust. To keep the surface in a fresh state I adopted the method just described, which works excellently with 4-inch, 3-inch, 2-inch, and 14-inch powers. For two-thirds and half-inch powers, and smaller objects, I take an ordinary slide, and place in the middle of it, on one side, a piece of white foreign post paper, as wide as the slide, and place in the middle of it, on one side, and about an inch long, saturated with spermaceti, and covered with a piece of thin glass, to keep it clean. A few thin chips of spermaceti are placed upon the paper, and melted into it over a lamp. When this spermaceti-paper slide is employed, the side bearing the paper is turned downwards, and the slide carrying the object placed on the uppermost side. By this means the texture of the paper is kept out of focus.

Those who have an achromatic condenser should use the small stops to moderate the light, as well as to obtain sharper vision. I have recently been in the habit of placing below the condenser a modification of Mr. Rainy's light moderator, which Mr. Browning made to my pattern with some excellent grey glass in his possession. This apparatus consists in a short tube fitting into the sub-stage of my microscope, and capable of going under the condenser, or of being used without it. The bottom of this tube is covered by a brass plate, with a round hole in the middle. Two brass arms, moving upon a pivot, carry two discs of the grey glass, and one or both can be turned so as to cover the round hole, and moderate all the light thrown up by the stage mirror. This contrivance is very effective in reducing glare.

Mr. Collins makes a good moderating diaphragm, by which the