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The true lover of Nature will take a delight in her at all times, in her anger and storms, in her cloud and rain, or in her sun and warmth. He will not be one of the record breakers who hikes for mileage only, and makes the end his goal, he will see the road as he goes and will look into the by-ways for even greater beauty. There he will learn about rocks and plants, about insects and animals, he will see color feel warmth, hear sounds, and store up memories of hills, waters and woods. But he will have all this wisdom much sooner if he has been taught as a child that nature is there, and is his to explore.

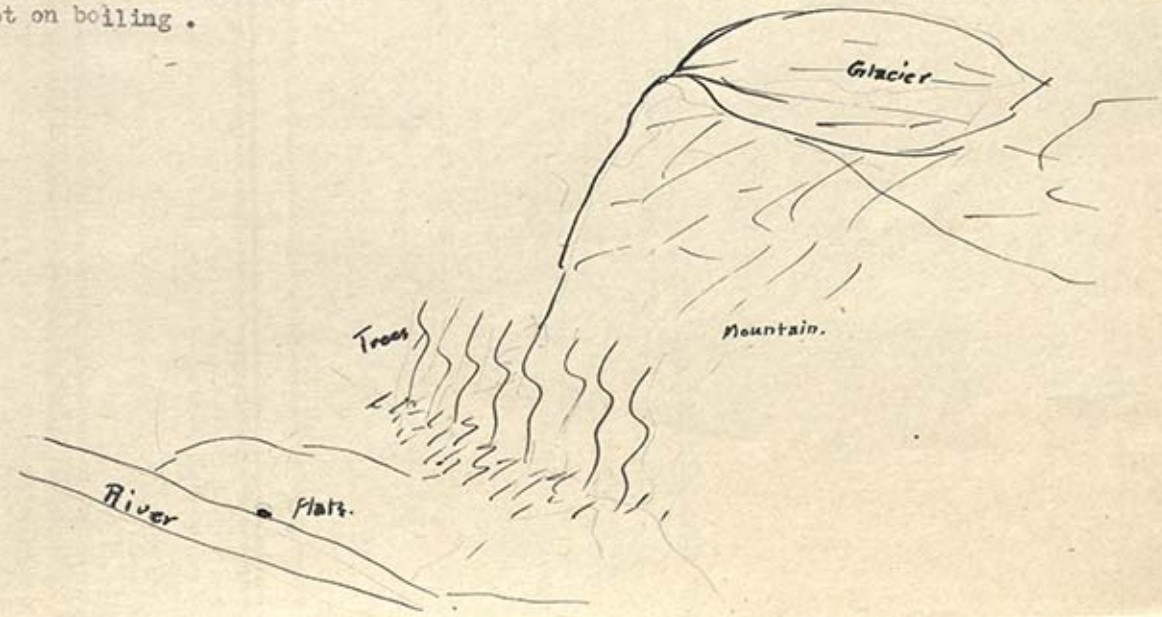
The following comments are from observations made by the writer at some time during tramps in the woods or fields. They have not all been made this year but they are representative of many observations that could be used very readily in the classroom. Teach the child by simple personal experiences that both pleasure and knowledge are abundant in Nature.

Creeks and rivers swollen by early rains and melting snows are ~~are~~ at once interesting and terrifying. Water that rushes and swirls along, that carries all kinds of trees and roots, that eats the sides of the banks has a fascination for any small boy or girl. There is a Creek near Banff called Carrot Creek and in the Spring it is very lovely for this reason. All winter and most of the summer there is only a little water in it running in a nice orderly manner, but in the Spring when the snows melt it turns into a rushing river in a few hours. The stony bottom is soon covered and the river channel fills, then any kind of tree may come down from the mountains above. Soon it is very dirty and the bottom cannot be seen then it starts to eat away the banks, and every year it eats more and more and widens the river bed. Sometimes only little grains of earth fall off, and others great pieces of the bank fall in at once with a large splash.

Slides also have that same quality of mystery and fear whether they are snow or rock. Perhaps the snow is more terrifying for it looks so cool and still, then in a minute or less it is moving with a terrible sound and a spray of snow that covers everything in its path. I saw such an avalanche when the big slide on Norquay came down in the spring. The second before there was not a sound and the place was very still, then a sudden wind and ~~then~~ a rumbling sound and all at once the valley was filled with snow, and the slide began to move with speed and noise of thunder. It was all over in such a short time that one wondered if it had really happened, but the actual evidence was there, the lower slopes that had been skiied on that afternoon were all covered and the bushes were buried under feet of snow. The flying snow added to the beauty of it all, Such slides

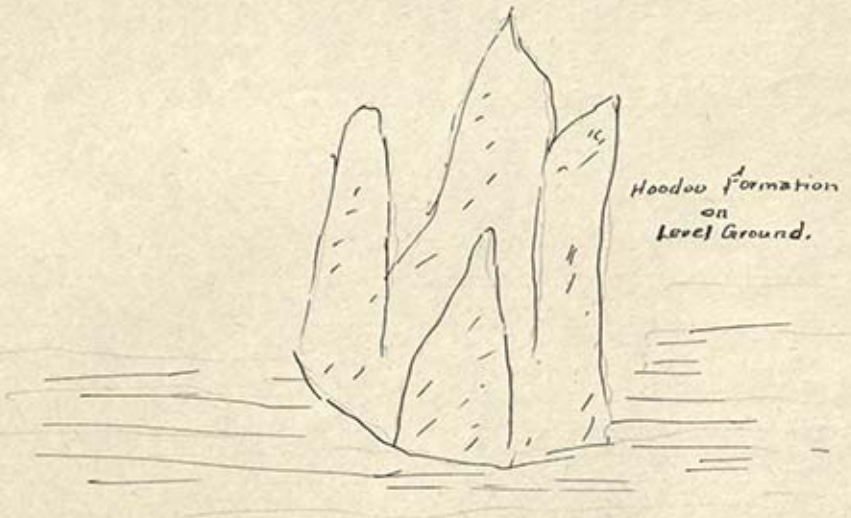
can block up highways for several months and sometimes tunnels have to be made through them Such a case was seen on the Yoho Road a number of years ago, when the snow had to be tunneled through for the road, and cars could then drive through caves of ice and snow. Land and rock slides at the time seem to leave more desolation it is more obvious than the snow for it does not cover everything up with a smooth coat, they leave torn and jagged rocks, trees pulled out by the roots, branches and bushes all in disorddr, where there was nice ground and flowers before. Such slides are very common on the Mount Edith Trail one day the person can go over the trail and see everything in its perfection, the next day everything will be blotted out and there will not seem to be any way to go but over huge boulders, or through the rushing waters of the creek.

Glaciers of course are always there for observation and they are interesting for they do so much. They feed the streams and waterfalls from them, or even for miles away. When it is cold at night the water falls seem to have been turned off just as if some giant had turned a tap, then as the sun comes around the flow of water grows and grows until it is tremendous. This is very clearly demonstrated at the Yoho where the falls depend entirely on the glaciers above them for the water supply, they are a thin veil in the morning and at night; about noon and the mid afternoon they are at their fullest. Glaciers also seem to cause pressure which is not often observed. This spring when near a glacier such pressure was observed. It was at the base of the mountain and many streams were coming down the sides but they seemed to disappear at the base, a short distance away there was a river flowing along. Between the river and the mountain there were clay flats and bushes. At several places in the flats small bubbles kept coming and going, as they got nearer to the water there was water came up in them, and when the places where just bubbles were seen were dug it was found that water was in them. It seemed that the preasure of the water from above was great enough to almost come to the surface but it could not quite do so. In the little pools near the river the earth still kept on boiling .



Canyons are interesting for they show a river when it is just starting to cut away the earth, and the rock walls are often very high and seem to have just been forced apart. Such an illustration is seen at Marble Canyon where the walls would fit almost perfectly if they could be drawn together again. At the bottom however they would not fit, for the water has eaten away little crevices and great ones and often the round pot holes may be seen where the water has whirled around and around. In the early spring before the snow has all gone one can see how the frost tears down the walls, for there are large rocks and earth through the snow and ice and these are carried along when the snow melts.

The erosion due to water is seen in many case but perhaps the most outstanding case is where the formations known as Hoodoos have been left standing. There are a great many of these in the mountains along river beds or even on the hills far from the water. These great masses of earth and stone are so hard the rain has very little effect on them, and while the surrounding country is worn away they remain standing tall and often grotesque. The material they are made of seems to be a very hard mixture of rocks and earth held together by some process of mixing and pressure. Though not the tallest or largest there is a group near Canmore that is of interest for they stand right up where the ground is very level, and nothing seems to diminish their size.

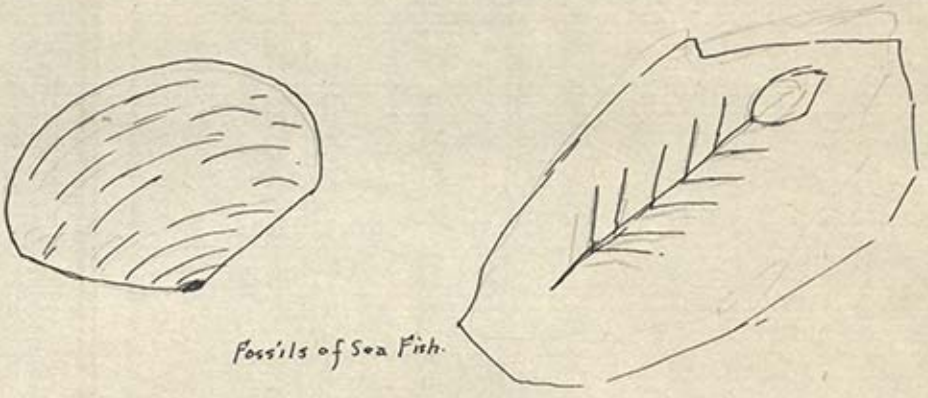


Hoodoo formation on Level Ground.

Children are always fond of colored things and it will please them to know that there are natural paint beds. The Ochre beds near Marble Canyon are both interesting and beautiful, in the first place the walk to them is worth while for along it many kinds of wild animals may be seen, and plenty of flowers. But when one arrives at the beds the beauty of it is almost unreal. The rock is soft and is in two lakes which are not very large, but the deposit is deep. These lakes are colored from very vivid yellow to a rusty red and the water covering them is not very deep so the

bottoms may be seen all the time. The trees and bushes grow right down into the water around the edges, and the bright green of these with the red and yellow of the ground makes a picture worth seeing. The rock itself is taken from the beds in sacks and then it is sent to the paint factory where it is burned and made ready for use for houses. In the early days the Indians used this paint for themselves and they would paint their faces and bodies with it when they were going to war, they will still use it today if they are able to get it. Sometimes they paint their teepees with it and color it many colors with different herbs.

Children are interested in strange looking rocks and they will like fossils of any kind. The writer has had no chance to find any large ones, but there are places on Tunnel Mountain in Banff where fossils of shell fish may be found in very good condition, also there are the fossil beds near Yoho where better specimens of sea fish are found. It will seem very strange to the children that these fossils are found on the tops of mountains when the sea is not anywhere near.



Fossils of Sea Fish.

The sky is always there for observation and there are many times when one may look at it for beauty or for warning. Just the other night the Northern Lights were very strong and it seemed that they should not be so in the summer, they were not colored but they could dance across the sky just as well as the green and blue ones could. Again the clouds make all sorts of queer shapes and children might look at these for pleasure and later they will learn what kind of cloud makes fluffy shapes and what kind brings the rain. When there is rain, and then the sun comes out look for a rainbow and often the children will see two or more of the beautiful arches. One evening at home there had been a heavy shower and then the sun came out just before setting and there were four rainbows. Another time the writer was on Tunnel Mountain at night and looking toward the river, the moon was very bright and there was a rainbow though th had been no rain at all. When enquiring later as to the reason it was found to be due to the water and the refraction of the light rays. Certainly this is not as commonly found but if children have reached the problems of physics a practical demonstration is possible.

Children should be encouraged to look at the sunsets and to observe the changing colors, how they are vivid and then gradually the softer shades come and finally the blues and purples of the sunset blend into the surrounding sky. The sunsets of the prairie are more colorful than those of the mountains, the colors are brighter and there is more seen; the winter sunsets of the mountains are bright and the reflections of the colors on the snowy peaks are beautiful and more like the ones of the prairie. The children will want to know what makes such a lovely color and they will learn that there is always something in the air, or later that it is due to some principle of physics.

Frost is very beautiful in the winter and if it is a district where hoar frost is common the attention of the children should be drawn to it. There could be a comparison with the usual frosts which cut down the plants, how it looks on the ground and what makes them both. Sometimes when one has been out in the evening and the street lights have just come on one can see the frost falling, this was observed very easily one night in Edmonton. The weather had been damp though it was winter, and the frost seemed to be steam rising from the lamps, but looking closer we saw that it was really a shower of frost and it sparkled and fell so evenly. It lasted only a short time but the next morning the trees and ground and walks were covered with the hoar frost, and nothing was more beautiful.

The child may learn very young that the birds are plenty of fun and that watching them is never tiresome, for they are nearly always very certain of what they want and that they are going to have it. This spring one of the nests we have on the garage was in great demand by a pair of swallows , a pair of bluebirds, and a pair of sparrows. There were three other nests close by but that was the only one with a sloping roof a short distance away and they seemed to like that one better than all the rest. The bluebirds were the first to arrive and take up housekeeping seriously, they were very nicely started when the swallows came and the dispute started, then the sparrows decided to come into the battle too. The sparrows held out for two days then gave up and took the nest next door. But the swallows and bluebirds kept on for four days, the bluebird lady would sit in the doorway and say terrible things to the swallow who perched near-by on a wire. Then the male bluebird would come and there would be a terrible to do about the whole thing, but Mrs. Bluebird stayed in the nest and would not be induced to leave t it. However she did leave it for a minute on the fourth day and Mrs. Swallow was in it in an instant, then the battle was over for that time. The family of swallows were safely raised and the bluebirds took another nest near at hand. However after the first family were raised the battle started all over again, this time the female bluebird went into the swallow nest and took out feathers and grass and carried them to another nest, I was unable to understand why for she certainly did not use that nest at all. The Swallows by the way, kept the nest and the bluebirds used their first home. But when they were arguing they made a terrible noise and they used to start as soon as it was daylight

and keep right on until dark, and with the exception of the female bluebird they would all fly around until they were exhausted then they would sit on the wire in a row and look at each other.

We were at Morley this summer and were having lunch near a poplar bluff, it was a hot day and things had been fairly still, all of a sudden there was a shrill 'caw' and then another and two crows circled around. We looked and surely enough we found the nest with the four youngsters in it. They were pretty well grown, and one of them was so curious he fell out and we had to put him back after examining him. The next week we went back and they were gone, I dare say they left the next couple of d days for they were really too big for the nest when we saw them. What seemed to me very strange was that the older birds certainly gave away the secret, we never thought of looking for a nest until they started to get so excited, I think they were away looking for food when we arrived and perhaps we startled them when they came back and saw us there. The parents must have been young for the nest was very badly made and was small, it did not look as though it had housed many families yet, nor did it seem to be added to for years as most crows' nests are.

Robins seem to be fairly easy to get along with though at times they certainly show very little sense. The other day when I was out in the woods there was a sudden swish of wings and I looked up to see a robin flying swiftly away, the next thing a small hawk came into view and it was certainly chasing the robin, the trees were dense and tall and the birds did not get clear of them, the robin came down and then went up again and the hawk followed, by that time I must admit I threw a stick at the hawk and that made him hesitate and the robin got away. The robin seemed to be a young bird for it flew very badly. There was a pair of robins who decided to nest under a roof at home this year, on a very narrow ledge they started to build and of course there was not room; we waited to see how often they would try, and every day for three days they did carry mud and it would fall down, finally we decided that they deserved better and we put a stick under it for a shelf, needless to say they raised their family and the young ones were seen around the yard. The young seem to be very obedient, the mother would put one u under a plant and tell it to stay there and it would, regardless of how close or how long I would watch it, only its eyes would blink not a muscle would move.

Perhaps the most fascinating little bird we have is the humming bird, he is such a small bundle of energy, there are two different ones at home the Rufus and the Ruby Throat. The Rufus is larger than the Ruby Throat and seems to have a more quarrelsome nature. Twice I observed this, once when the honeysuckle was in bloom and he was having his breakfast the Ruby Throat came along, there was plenty of it for them both but Rufus would not let the other one have any at all, he drove him right away. Another time I was coming t hrough the gate and Rufus nearly flew into me, he just stayed there in the middle of the entrance and his wings were going so fast I could only see a blur, but strange to say he did not fly off, after a second or so he came through the gate, I do not know whether he was so startled he could not fly or if he was only

trying to impress upon me that the gate belonged to him. I looked for a long time before I found the nest of these birds but I finally did, in some gooseberry bushes. I do not know which humming bird it belonged to as it was later in the fall and they had gone, but it was so small and such a marvel of workmanship.

Last winter we had a family of birds that came regularly for their meals, the snow was exceptionally deep and it was hard to find enough to eat so they became fairly tame. We had a feeding tray on the side fence and there would always be a feathered flock there in the morning, if we were late putting the food out they would call and call until we did, they would scarcely wait until we had it out before they were eating. The Clark's Crows had another idea, when we put food out for them if only one came and found it he would call and call until the others heard and came too, then he would start in to eat, I do not think this was generosity for more than once I have seen him fly at another who tried to take some food off the dish and he would always put any other bird off if he finished eating his piece first and wanted another. The crows would carry all their food away, they would work and work until there was none left, they did not eat it at once however but hid it in the pine trees; it seemed to me that they did remember and eat it later, for I would see them in the trees very busily picking at something. These birds will not let anything interfere with their eating if they can help it, often when they would be at the dish I would go out and they would fly around very indignantly and caw excitedly but nothing would drive them far from the dish.

These observations have been briefly outlined though they have not all been here because I feel that they are such things as children might see and understand. There has been no attempt to try and describe the beauty of them, for many of them were marvelous, that was not the aim, instead they were given as referances to Nature and are a few of the things that one might tell children when the right time came. When there is the opportunity take it, I remember once when I was at school one day there was a mirage. These are common on the prairie but in the Mountains they are rare and the children all went out to look at it. Due to a teacher taking the opportunity I knew exactly what a mirage meant, otherwise how could I have understood that it was only a picture and that the space between Tunnel and Rundle Mountains was not actually filled with rocks and earth but only appeared to be, due to some strange condition of the air. The following observations have been made this summer term and have more to do with this district than the ones already mentioned.

I cannot say that I have learned as much as I might have about insects and bugs but I have come to know that they are different, and that they are worth looking at. When I have been working in the room at night and the light has been on, the moths and the flies have come in, they would come and fly about the light and around the books and then they would go out again. If I had been collecting them I would have had several varieties of moths, also some little things that would hop all over the paper and get in the way in a most annoying fashion. If I would keep perfectly still they would come down and I could see the markings very well, also the colors. This seemed an advantage for it meant observation without actually killing them.

When I was out walking one day I picked a plant and it was on an ant hill. In picking it I did some damage to the hill and caused the ants some anxiety. I stopped to watch them and saw that they were carrying large white things which at the time I thought were eggs, however later I learned that they were the Larvae. The ants were very much disturbed but they did seem to have one thing in view and that was to get the larvae underground as quickly as possible. Indeed they worked so fast another person looking at the hill in a few minutes would never have realized that it had been disturbed

From the various reports given in class and the lectures, I have learned the names and habits of many insects that I did not know existed before, and I h havelearned much about the ones that I did know about, in a vague sort of way.

The field trips have helped me to observe flowers and trees with more care than ever before. I have observed the shape of the leaves, and the color and shape of the flowers, and the arrangement of leaves and flowers of seventy-one different plants. I feel reasonnably certain that I can recognize these now and that they are actually part of my knowledge. Some of these plants are the same as the ones found at home and again they are only a little different, close observation has helped me to connect many of them, or to contrast them and wonder why they are of different color and size here. Children always like pretty things though they sometimes do not know how to appreciate them and they will unknowingly destroy a great beauty , if one can help them to look at plants without destroying them or if one can make them see that they should always leave some for the next time that will be a beginning. If they can learn to get specimens and press and mount them then they will like it even better for they will be doing something with their hands, and surely children like to do things themselves. The few specimens that I mounted were useful for they helped me to see how I could help the children to do it easier, how they should place them, and press them, how they could put the glue on and how they could arrange them on the mounting paper. All these things have come from personal experience and observation.

The trees here are similar to those at home but I had never seen the larch when it was green. At home it grows just below the rock line and I did not happen to be up there when it was green though I had been when it had changed to the glorious yellow for autumn. AtLake Louise in the fall before the leaves have fallen it is worth while to climb up to the Lake of the Clouds, particularly if it is a sunny day for then the larch will be golden and the whole country around seems so light and beautiful. It is interesting to notice how differently the leaves are placed on the stems of the larch and the pine and the spruce. The spruce here is different from the one at home as in Banff the needles are usually in clusters of two only, and here they aremore. The Alder was a new tree and its small cones are very interesting, the birch also was new though the bark had been seen often enough . Children should learn that trees are useful

as well as beautiful, they may be used as protection for smaller plants, they are wind breaks and frost breaks, they are homes for countless birds and land may be made lovely with some of the woody plants and trees.

Leaves in clusters on Larch.

Leaves singly on The Pine -

Spruce in pairs of leaves.

The trip through the orchards was both interesting and instructive. What seemed the most interesting to me was that Budding and grafting do not change the character of the plant, and that the qualities of the two plants do not mix. It also seems so strange that the seeds will not necessarily carry the qualities of the parent plant. While the actual operation of budding and grafting is too difficult for the school child yet it is interesting, and in a district where it could be done then the children could be told about it, and they would probably understand a part of it. Of course in higher grades when the children have become familiar with the parts of the plant it would be interesting to try it as an experiment.

Pollination was observed pretty carefully due to the fact that I happened to be with people when they were doing it, and were looking at various specimens under magnifying glasses. The structure of the flower is so different under a magnifying glass it seems like another thing altogether. The tiny petals and sepals, the pollen sacks and the pistil are all so important when viewed in a collective state, but they are so much more interesting and beautiful when looked at through the glass. The head of the Prairie clover looks very lovely collectively, but when each little floret is looked at then the real beauty is seen and the working parts are noticed. It is interesting to look at the self pollinated flowers, the wind pollinated, and the insect pollinated and to see how each part is arranged so that there will be no difficulty in carrying out the processes. The final results are also very surprising, for the most enormous seed pods will come fom the tiniest flowers, at the moment I have in mind the milk weed and the spreading dog bane, the tumbling mustard.

Insect Galls have been a new thing to observe, often these unnatural formations have been seen on plants and trees but they have not been carefully looked at nor has their cause been looked up. Now there is sufficient interest to look at them and see what kind they are, or if ~~it is~~ they are due to a fungus growth. These would be of

interest to children for they can see them and cut them open with a knife to see the insect inside. The children will not remember the names but they will remember how they were made, and they will be pleased to know that it is a little house for some insect.

John Cowper Powys could have been thinking of the man who has seen Nature when he wrote:

"Let any man stand under any sort of tree upon any bare patch of earth or uncut grass and leth him remember. He will remember certain street corners where the evening light has fallen in certain ways. He will remember how he once came up the slope of a far-off hill, following some half forgotten road; and there will come to him vague memories of bare tree trunks, of glittering sun-paths on river-waters, or of remote gates overgrown with bushes and tall nettles."

Collection of Lichens and Hard Fungi

Polyporus.

1 Found on a stump with bush growing through it
2 Found on a stump in many layers
3 Single piece found on a log
4 Found on an old decayed tree stump
5 Found on a log growing all over it in layers
6 Found growing on the moss on a stump
7 Shell shape found on a log
8 Found growing on decayed leaves
9 Found on a tree
10 Found on a small tree
11 Found growing on a tree
12 Found growing on a tree

These with the exception of No. 12 were found here in the woods, that one was found near High River, some time ago this spring

Lichens

1 Found hanging from the trees
2 Found on the stick
3 Found on a log
4 Found growing in the moss
5 Found on an old tree stump
6 Found nearly covering the dead tree
7 Found growing in the moss

Fungi and Ferns.

Two specimens of plant fungi
One small specimen of red fungus growth found on tree stump
Two small specimens of ferns

Mushrooms and Lichens.

The study of mushrooms and lichens would take a great amount of time to do it with any thoroughness, for there are ever so many that are only a little different. Such a study would be interesting and no doubt of benefit to any person interested in such a hobby, but for the school child it would not be useful. In the first place the names are too hard for any child to remember, and to be certain about a mushroom it is necessary to put it in its own class. Then there are so many different ones that at a hasty glance look alike, but they are all different and there may be a harmless one and a poisonous one that should not be confused. The average child would not be able to tell which to eat and which to leave, he would not be able to say that the gills were attached or that they were not, he would not notice whether the stem was continuous with the cap or not. All these things while of no value to the child are of some value to the teacher, for without such a knowledge the teacher cannot help the child It is like all other things in that the teacher needs a wide knowledge to teach it, and even then unless an expert, it is wiser to leave any but the very common types of mushroom strictly alone.

There are certain things however, that the child can see and remember. There is no place in the Course of Studies for Fungi but if a child did bring a mushroom to school that is the time to give a lesson on it. Let us suppose that one of the children did bring a mushroom of the common field type to school. The teacher would have the specimen to show the class as attention was drawn to certain parts of it.

First of all the general shape would be noticed that it is convex , then their attention would be called to the fact that it is dry not sticky, and that the color is a pale brown. The underside with its gills will be looked at and the color of them noticed, if it is a fresh specimen these will be a delicate pink or flesh if it is older they will be a blackish brown. Then the mushroom will be cut in half and the flesh examined, they will notice that it is firm, white, and has a pleasant odor. The stem willbe found to befirm, solid, white and usually fairly short. They must be told about the ring, how it was once attached to the cap and then as the mushroom grew it broke and left the ring on the stem, and perhaps there will be a little of it left around the edges to show them.

If possible the teacher should try to secure any other edible mushrooms in the vicinity and bring them to the classroom to show the children and follow up the first lesson. The Shaggy Mane is another common edible mushroom and the children should be familiar with its shape and color, the color of the gills and the stem. The shape could be contrasted with the common field mushroom's shape, also the color of the gills when fresh and when old. The stem of the shaggy mane is hollow and that of the other solid.

Then there are the Pore mushrooms of which there is the edible Boletus, The shape is similar to that of the ordinary mushroom, the color of the cap is the reddish or yellowish brown, and the flesh is yellow. The tubes take the place of the gill and look yellow though they will get darker if rubbed. The top is often cracked and the cracks look red, the stem is usually yellowish color and is solid and tough.

The last group of edible mushrooms is the puff ball and the children cannot make any mistakes about these. The shapes may differ but there are no gills and there are no pores, the flesh is solid and white and they may have a thick short stem or no stem at all. Sometimes the stem is very think and is long , the head being very small. The children will notice the differences of this and the others studied in the main points already mentioned.

The teacher should make it very clear to all the children that they should never eat any mushrooms that they are not positively certain are harmless, and that are not very fresh. A mushroom to be good must be fresh and this is as important a point as identification. The teacher, after the mushrooms have been examined, could then arouse the interest of the children further by placing the caps on different colored papers and taking the spore prints, it would be a way to show the children one more point of identification, and also to show them how mushrooms are produced. If a child is told that it is not a seed but not sown then he will forget, but if the child sees all the fine dust like particles he may remember that it has a different way to grow. To tell the younger ones about the mycelium would be no use, the older ones however could understand it and the differences of mushrooms and lichens from other plants could be mentioned.

The same treatment could be given any lichens that are found on rocks or trees or stumps or plants. The children would learn that they do not make their own food and that is why they grow on some other plant or tree, they would also learn that they do not have the same green coloring as the ordinary plants do. Again only the older ones would understand about the chlorophyl, but they should be told. It does not ever hurt to tell children more than they will remember, even if they only start to remember some things it is a beginning. In fact some one of them might become interested in collecting mushrooms and then he could be shown how to make spore prints for himself and how to save them, he would be learning to use his hands carefully and also he would learn that there were different colored spores, gradually he would begin to learn names and the common parts of the fungi. The idea of doing something however small is a good one to give to children for it helps them to observe other things and to notice points for themselves

The following notes on the mushrooms have been made from the specimens themselves and often the description is inadequate or the spore print poor but the two together have enabled the collector to identify most of the mushrooms gathered. That does not mean that they are given their own name, it only is a class identification, partly due to the fact that the books used did not always have the particular mushroom in them

and partly due to the fact that the collector could not always find the necessary points of identification from the specimen obtained. The last page ~~or so~~ of descriptions and names come from various books that have been read and they are only used as references by the teacher. For them I used Gussow and Odell "Mushrooms and Toadstools". The rest of the work is entirely independent of books except for naming.

Points to Remember.

Fungi is closely related to alhae and lichens. These plants have no vascular system, no chlorophyl, and they depend on food manufactured by otherplants for their growth and development. Rusts and smut are parasites, but mushrooms are sapprophytes and depend on dead organic matter for food.

They have no roots, only a mycelium or spawn, which is a dense network of minute partitioned hair like tubes. The mycelium has regenerative powers, but the true reproductive organs are the spores. These are not as well developed as seeds, and they a are very minute, in fact a great many could be placed on a single hair, side by side.

A mature spore finds a place to grow and it absorbs moisture and increases its size. Eventually the cell wall is broken and a germ tube comes out, this later branches and does so until it has made a network of mycelium. This absorbs nutriments and the work goes on. Gradually the mycelium unites and form small nodules the size of a pea, these increase in size and reach the button stage, then they grow to the mushroom.

There are millions of spores fmm one mushroom. The two main methods of spore production are as follows;

1. Spores usually fou in number are produced by special cells forming a dense layer called the fruiting layer. This cell is minute and cannot be seen with the naked eye, it is usually club shaped, colorless, and has a number of fine delicate points at the apex corresponding to the number of spores produced at the tips. These are called Basidio Spores being borne by a basidium or spore cell. This gives the Basidio Fungi.

2. Entirely different. The spores are singly or in odd or even numbers usually eigh in a special pore sack, this sack is called Ascus and the group is called theAsco Fungi.

The Basidiomycetes are divided into the following sub groups:

1. Hymenomycetes with the fruiting layer naked, and a cap and stalk; or with pores, a cap and stalk.

The main divisions of this group are:

Gill Fungi either smooth or rough and teeth like.
Pore Fungi
Coral Fungi
Jelly Fungi
Leathery Fungi

2. Gasteromycetes stem fruitin body, cone or bell shaped cap. All rise from definite egg stage composed of several layers of which the centre one is gelatinous.

The Ascomycetes have the following divisions:

Plants with pitted or gnarled cap
Plants with saddle shaped lobed caps
Plants, saucer, cup or goblet shaped.

I. Russula.

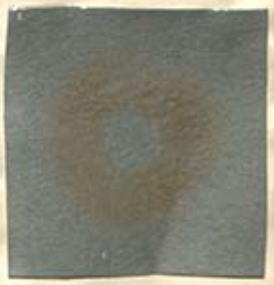
Top = Brown black – Smooth. Edges down.
Flesh = White, tender when young
tough when old.
Gills = Pale cream to yellow with age.
Spores = Yellow.
Found in Open Woods.

II. Clitocybe

Top = Smooth - Cream.
Flesh = White, firm
Gills = cream
Spores = White
Found in Open Woods.

III Pholiota.

Top = Yellow, scales on top.
Flesh = firm, yellowish buff.
Gills = yellowish brown.
Spores = Brown.
Found on an old tree stump.



IV. Coprinus

Top = furrowed, yellowish brown
Flesh = white, fragile
Gills = pink young, old = black.
Spores = black
Found in a clump on an old stump.

V. Cortinárius.

Top = creamy buff.
Flesh = yellowish
Gills = reddish brown.
Spores = brown.
Found in shady damp woods.

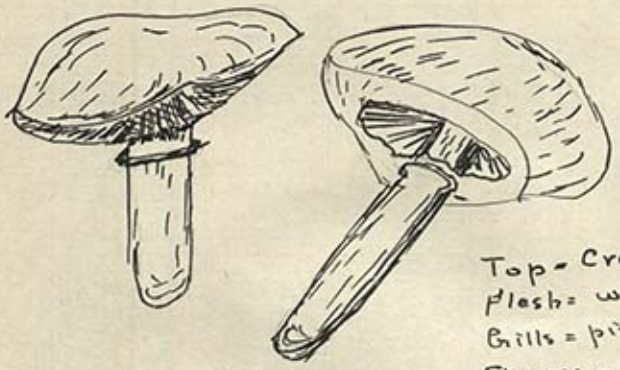
VI Cortinárius

Top = mauvy grey
Flesh = mauve
Gills = brownish
Spores = brown
Found in wet woods.

VII

Top = brownish, rough
Flesh = buff.
Gills = light brown.
Spores = brown.
Found in open woods.

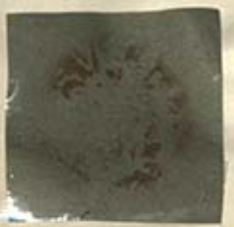
VIII. Common Mushroom.



Top - Creamy brown
Flesh = white, firm
Gills = pinkish to brown
Spores = brown
Found in open field.

IX

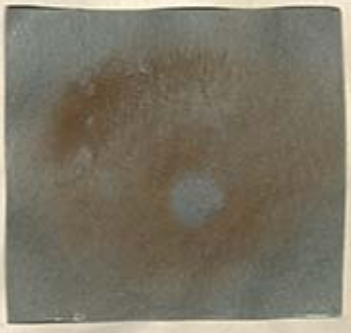
Top = badly cracked.
Dark brown.
Flesh = creamy
Gills = very dark brown
Spores = dark brown.
Found in woods -



X. Shaggy Mane.

Top = scales - white to buff.
Flesh = white - fragile
Gills = white young. black = old.
Spores = black.
Found at edge of garden.

XI. Naucoria

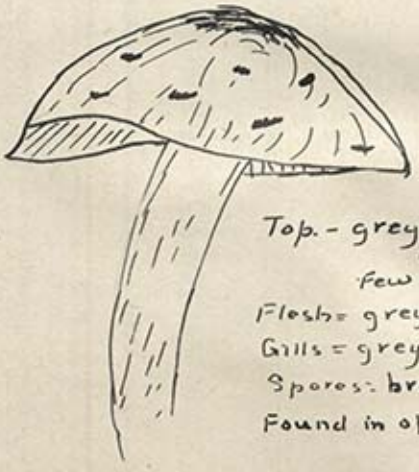


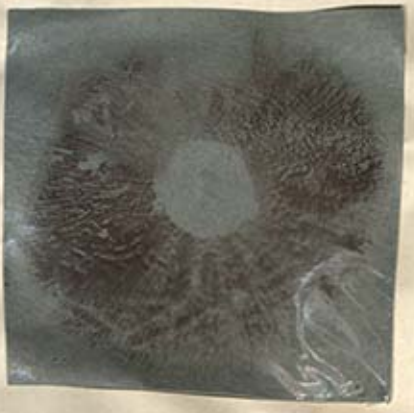
Top = reddish brown
Flesh = white
Gills = light buff
spores = brown.
Found on lawn.

XII Lactarius

Top = creamy white - Depression = brownish
Flesh = white
Gills = white
Spores = white
Found in open woods.

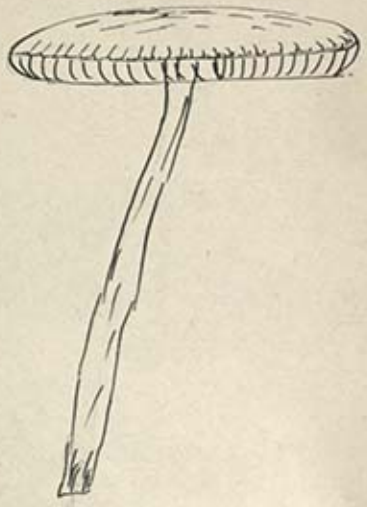
XIII.





Top. - grey - brownish in centre.
Few rough spots.
Flesh = greyish white, thin
Gills = grey
Spores = brown
Found in open woods.

XIV.



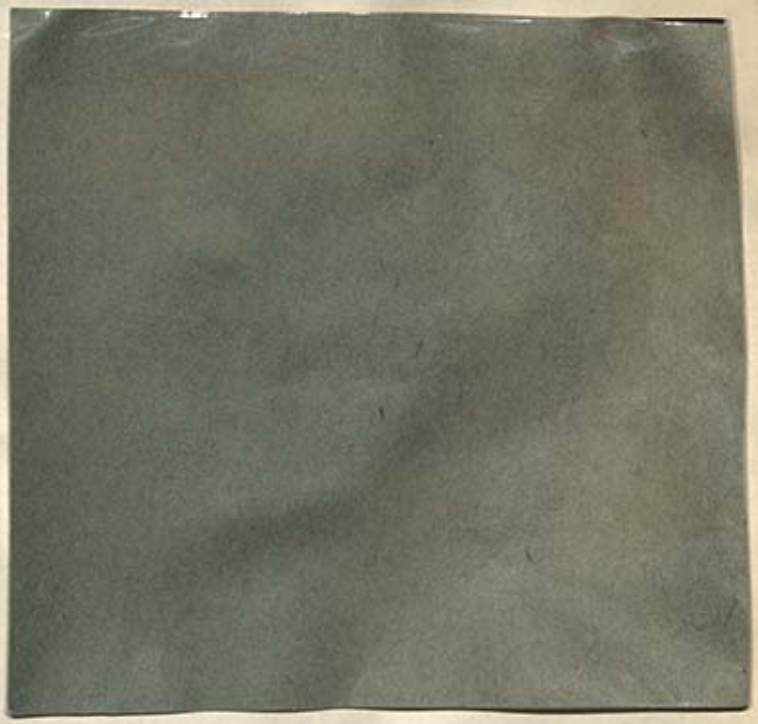
Top = very smooth - fragile
greyish white - edge = striate.
Flesh = buff.
Gills = dark brown.
Spores = brown.
Found in open woods.

XV.

Top = smooth brown
Flesh = white
Gills = creamy color
Spores = yellowish white
Found in open woods.

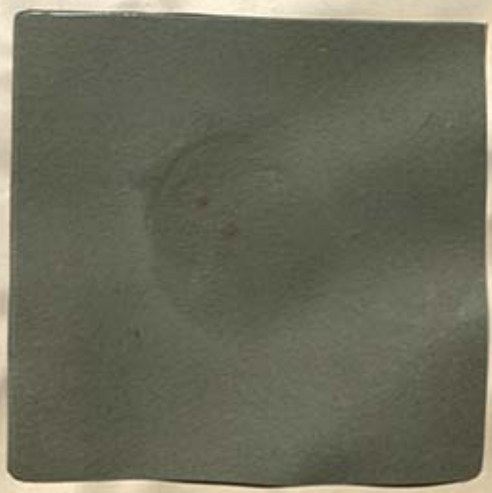
XVI. Lactarius.

Top = brownish orange.
Flesh = white
Grills = yellow
Spores = yellow
Found in open woods.

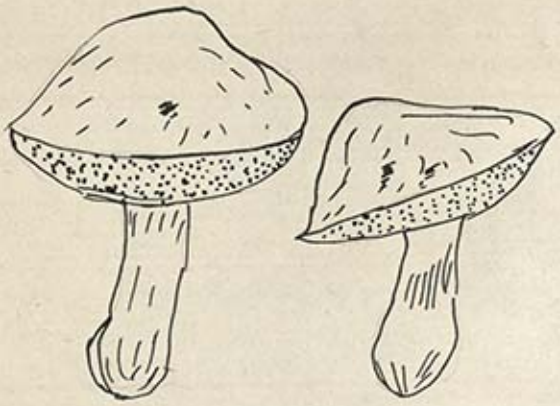


XVII. Fly Agaric.

Top = orange with whitish scales.
Flesh = white
Grills = creamy
Spores = white
Found in Open Woods.



XVIII. Boletus -

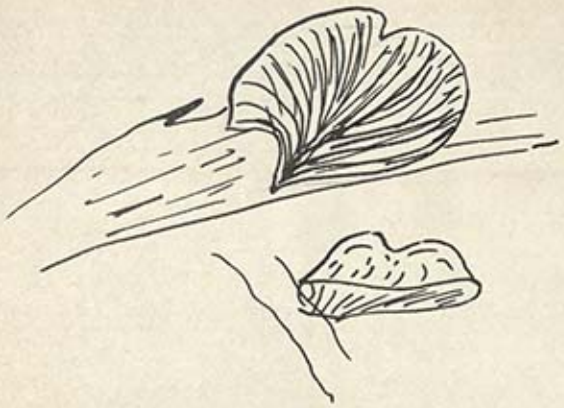


Top = Brownish-orange.
Flesh = yellowish.
Tubes = yellowish.
Spores = brown.
Found in open woods.

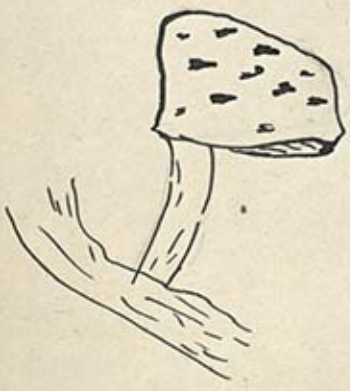
XIX Puff Ball.

Covering smooth white
Flesh - firm white
Spores - brown.

XX. Fungi on logs.



Top = brown.
Flesh = thin brown, tough.
Gills = brown.
Spores = brown.
Growing on log.



Top = cream, white spots like fly agaric
Flesh = white
Gills = brown
Spores = brown.
Growing on log.