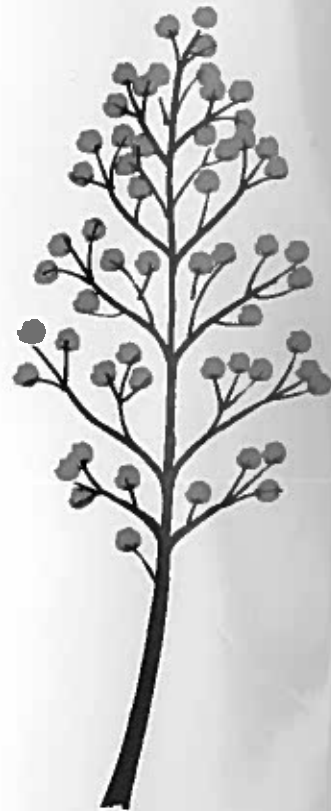
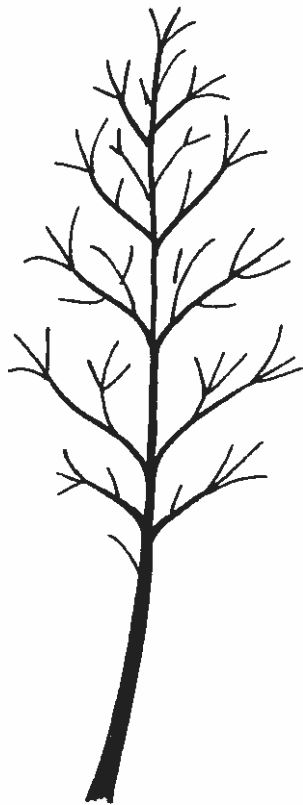


drawing a tree

One of my very old friends from the country, a certain Leonardo, born in a small village near Florence, Vinci (postal code 50059), was a very curious fellow. He would spend hours observing the plants...

WORKSHOP

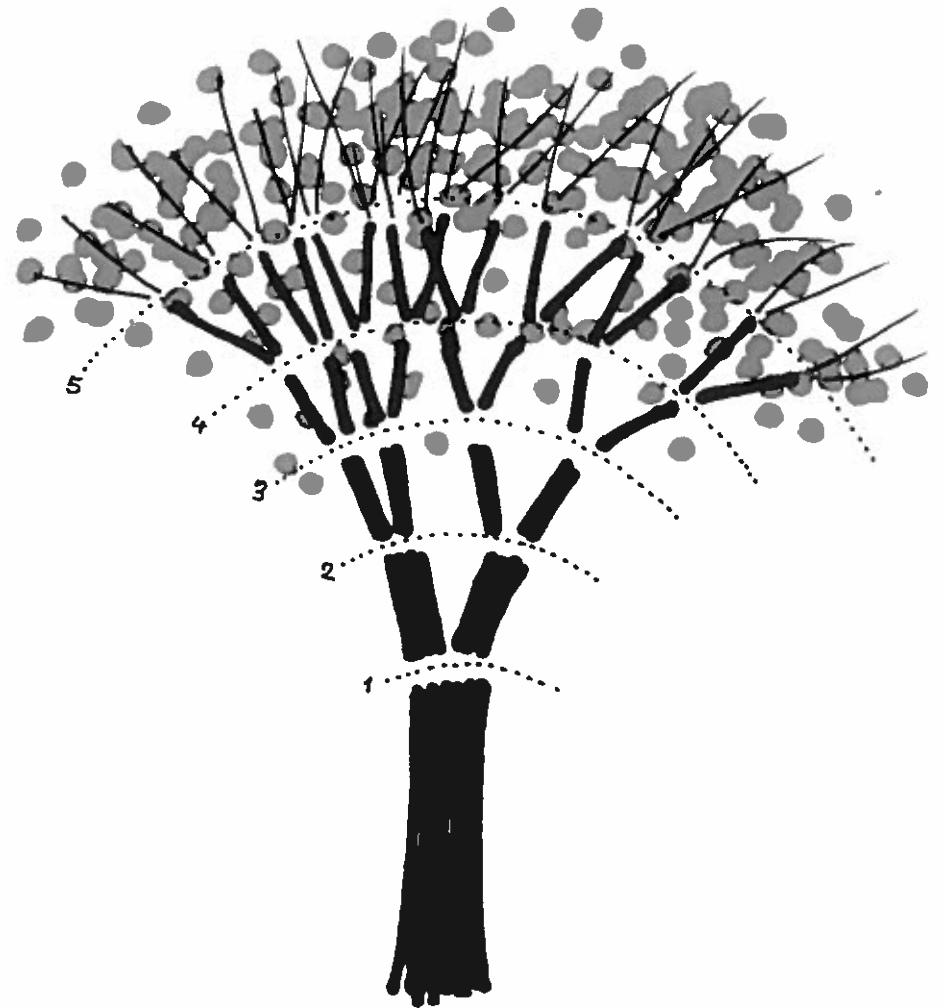
The books in the new Workshop series describe different working techniques, from educational to explanatory pamphlets and "poetic" play... With basic explanations and plenty of stimuli, suggestions and maps to get adults and children, teachers and students working together. Workshop starts with 4 classic books dedicated to Bruno Munari's workshops.



drawing a tree

Bruno Munari

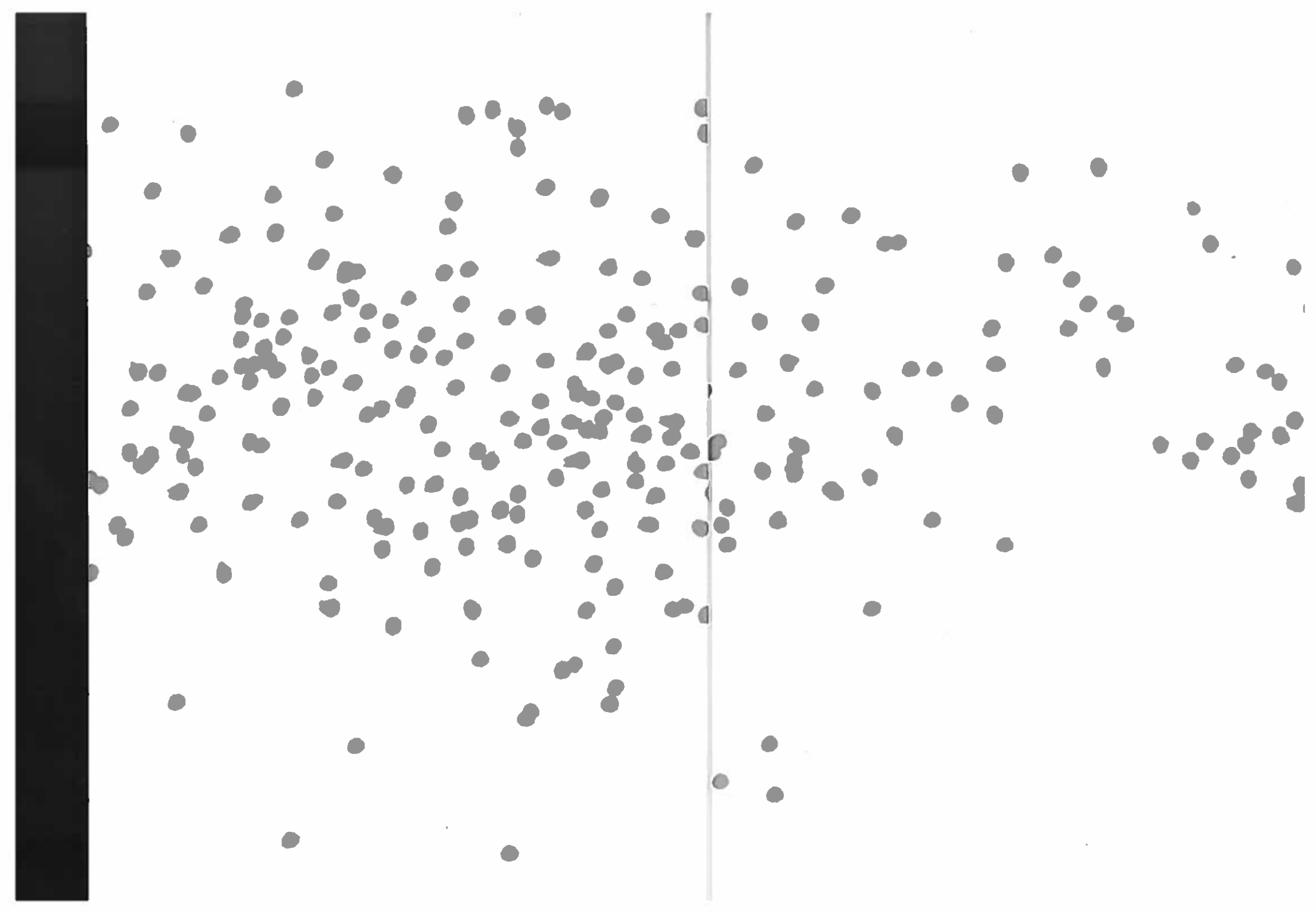
Bruno Munari drawing a tree



ISBN 978-88-87942-76-7

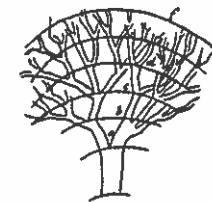
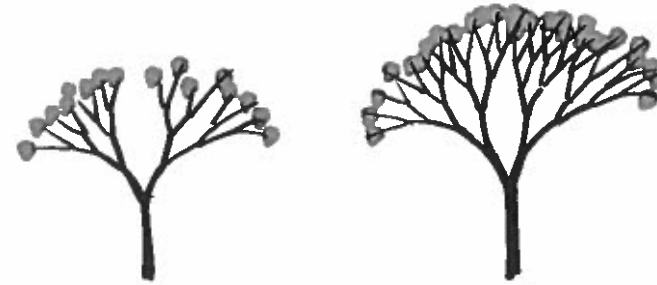


Edizioni Corraini





At last winter is finished and, from the ground where a seed has dropped, a vertical green blade appears. The sun starts to make itself felt and the green shoots grow. It is a tree, but so small no one recognizes it yet. Little by little it grows though. It begins to branch, buds germinate on its branches, other branches spring from the buds, other leaves from the branches, and so on. A few years later, that green blade will have become a fine trunk covered in boughs. Later still, it will have produced wide branches which will produce leaves, blossoms and fruit. In autumn it will spread its seeds around, and some will fall beneath it while others will be carried far away by the wind. Almost everywhere a seed falls, a new tree will grow.



One of my very old friends from the country, a certain Leonardo, born in a small village near Florence, Vinci (postal code 50059), was a very curious fellow. He would spend hours observing the plants, and then he would draw them and note down everything he could about how they branch and other things. Above this passage you will find one of his drawings showing how branching works.

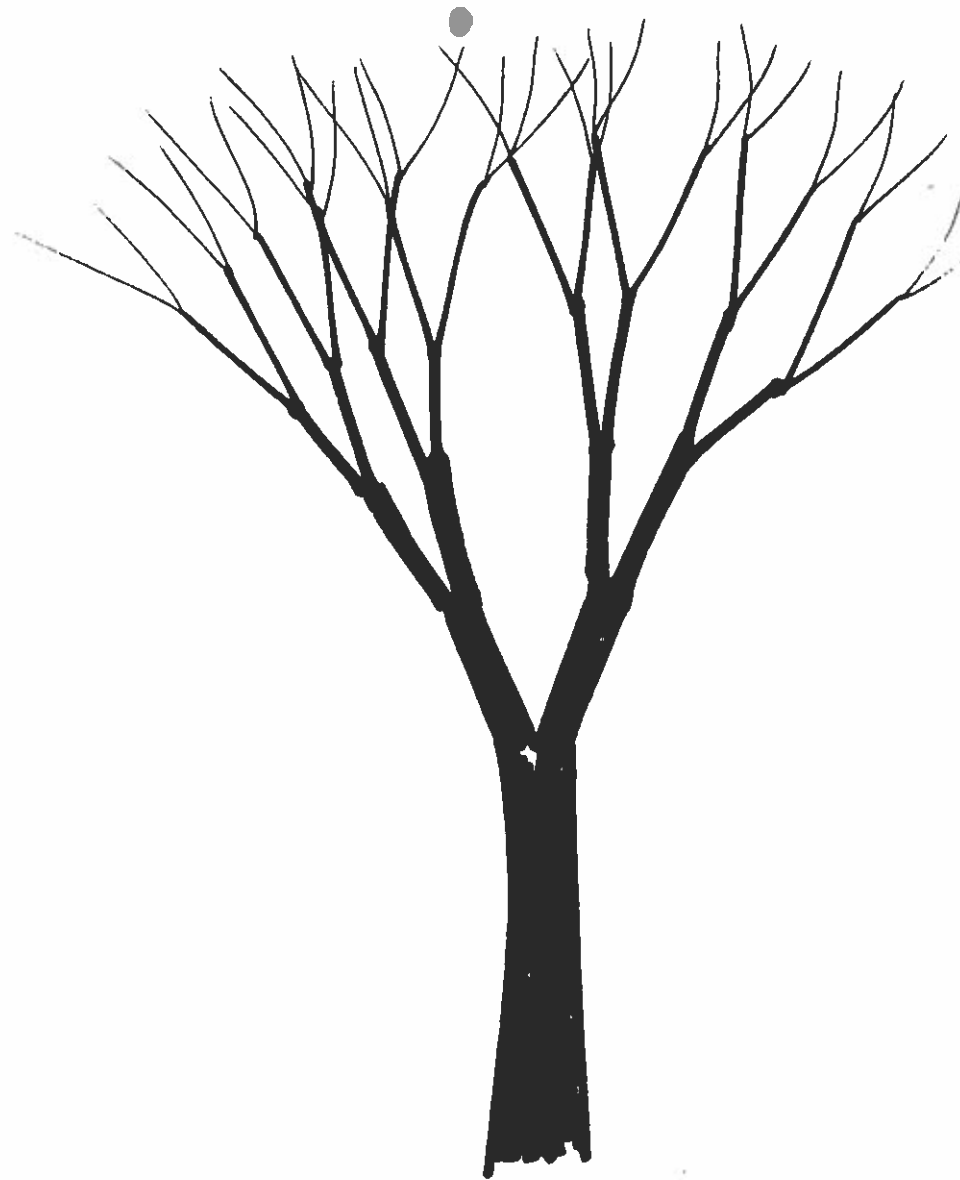
This Leonardo knew lots of things not only about plants but about everything that surrounded him, in fact he even invented things that didn't surround him such as the helicopter. He knew how to change the course of a river, how the organs of the human body work. He even knew how to draw: one of his paintings, small but famous, is in a big museum in Paris.

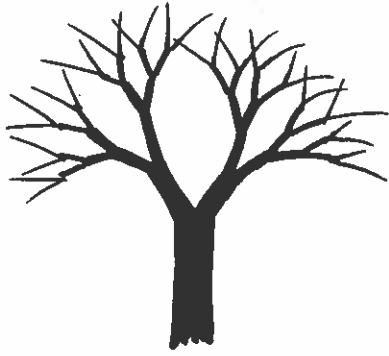
The tree spreads its branches and, as the years go by, its trunk gets bigger and bigger and the branches more and more numerous. Every leaf at the top of the branches has a tube that goes through the trunk which keeps it in contact with the ground. It uses the tube to suck up its nourishment. The trunk is where all these tubes are grouped together, which is why it is larger than the other branches. As the branches grow higher they get slenderer and slenderer.

The last one is very, very slender and carries only a few leaves.

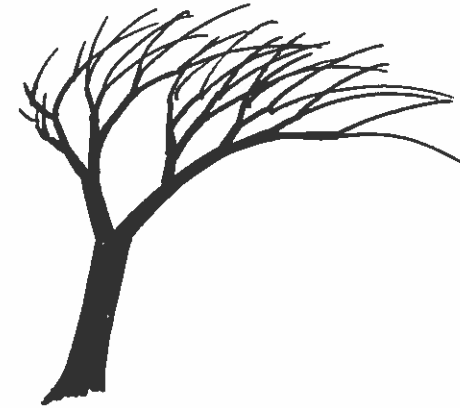
We can establish a rule of growth: the branch that follows is always more slender than the one that precedes it.

The tree can separate in various different ways, into two, three or more branches. Let's see if we can make a growth chart of a tree with two branches. It will always be a double growth: the trunk divides into two limbs, each limb will continue to divide into two, getting smaller and smaller.

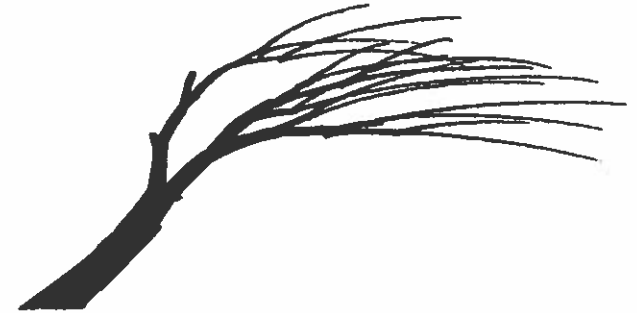




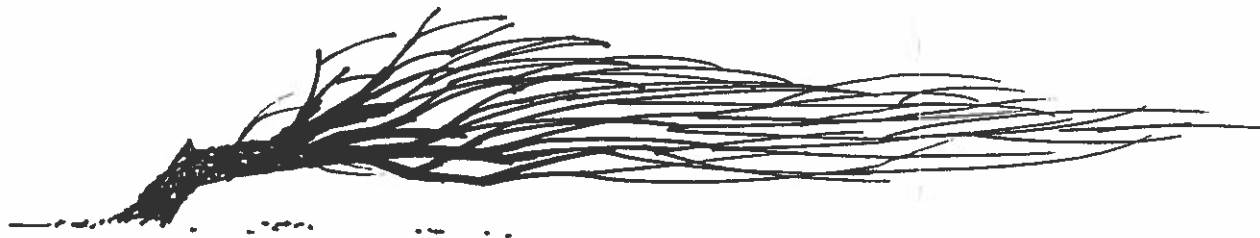
This growth pattern is so simple that anyone can draw it. Let's draw it then, even though we know it's a pattern and that it will be difficult to find such a perfectly drawn tree in nature. To grow so precisely, a tree would have to live in a place where there was no wind and with the sun always high in the sky, with the rain always the same and with constant nourishment from the ground all the time. There would have to be no lightning flashes, nor even any sharp changes in temperature, no snow or frost, never too hot or dry... But in reality we know that these weather conditions do not exist, so our pattern changes, it adapts and looks different. But if you look carefully you can still see it.



If it's windy the tree grows like this.

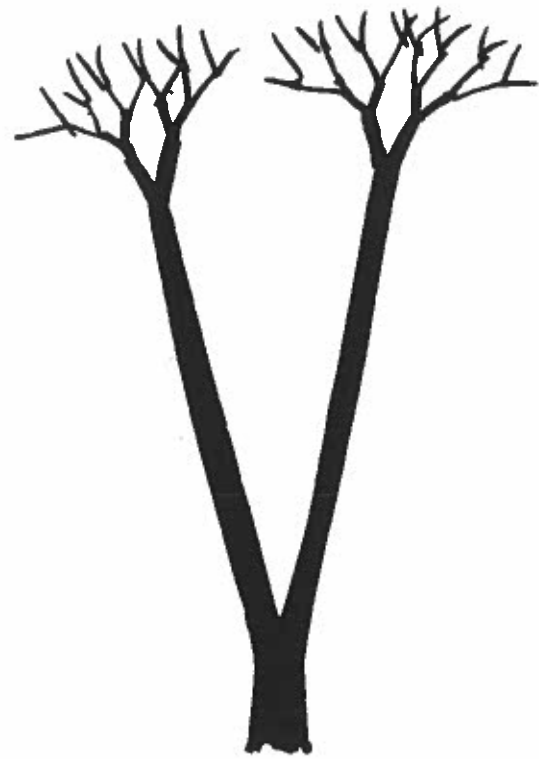
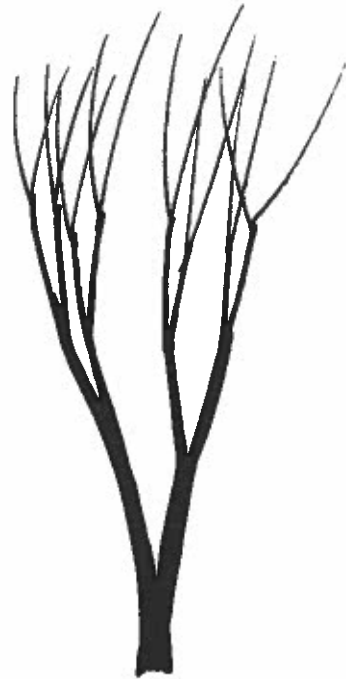


If there's a strong wind, it often grows like this.

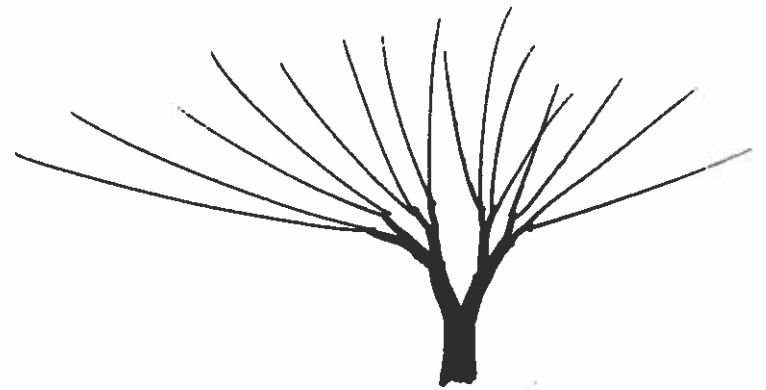


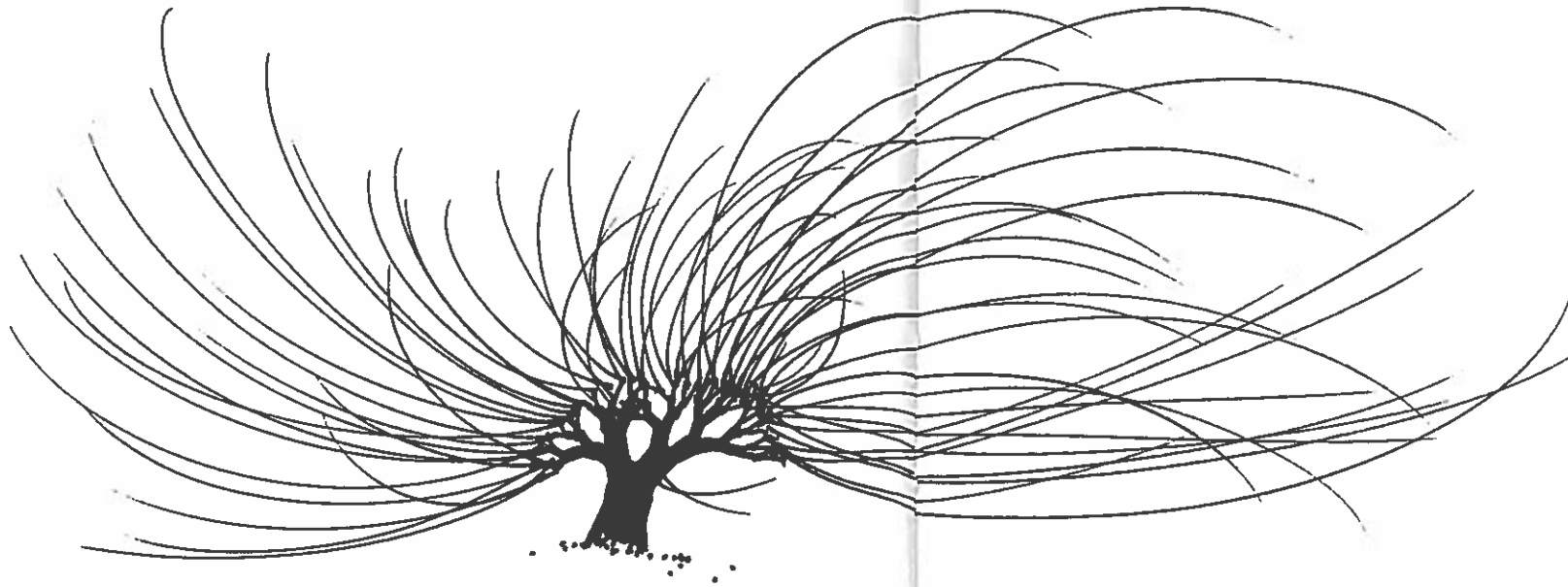
If there's always a lot of wind, like at the seaside,

the tree becomes like this. But the structure is always the same.

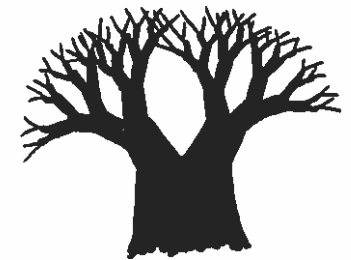


The same pattern can have a very long trunk and short branches. It can have a short trunk and long branches. It can have a short trunk with long second branches and short tertiary branches. It can be normal and only have long end branches.

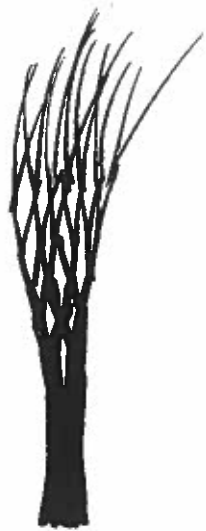
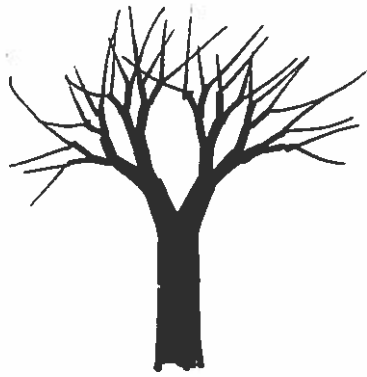




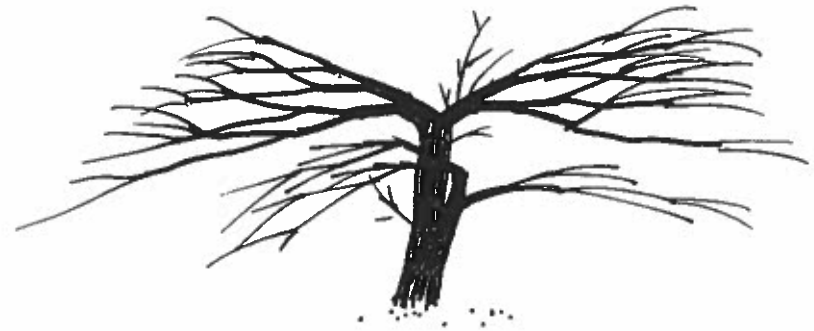
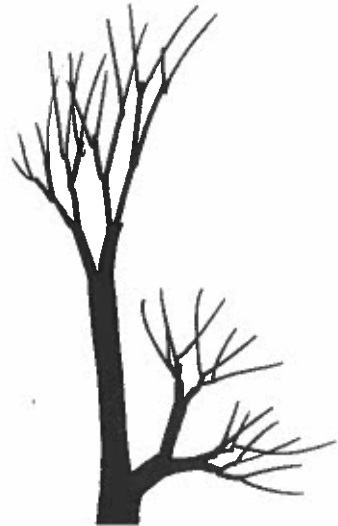
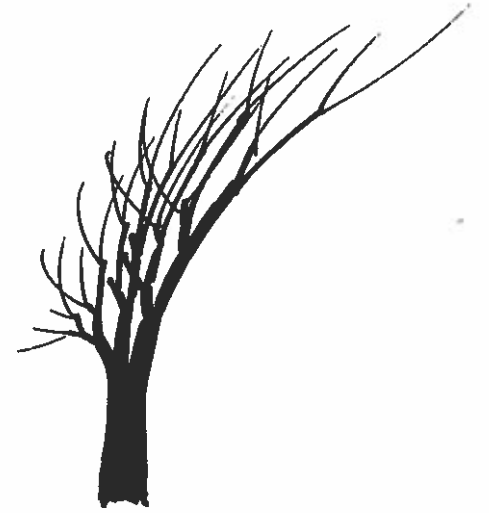
It can have only very long and curved end branches.

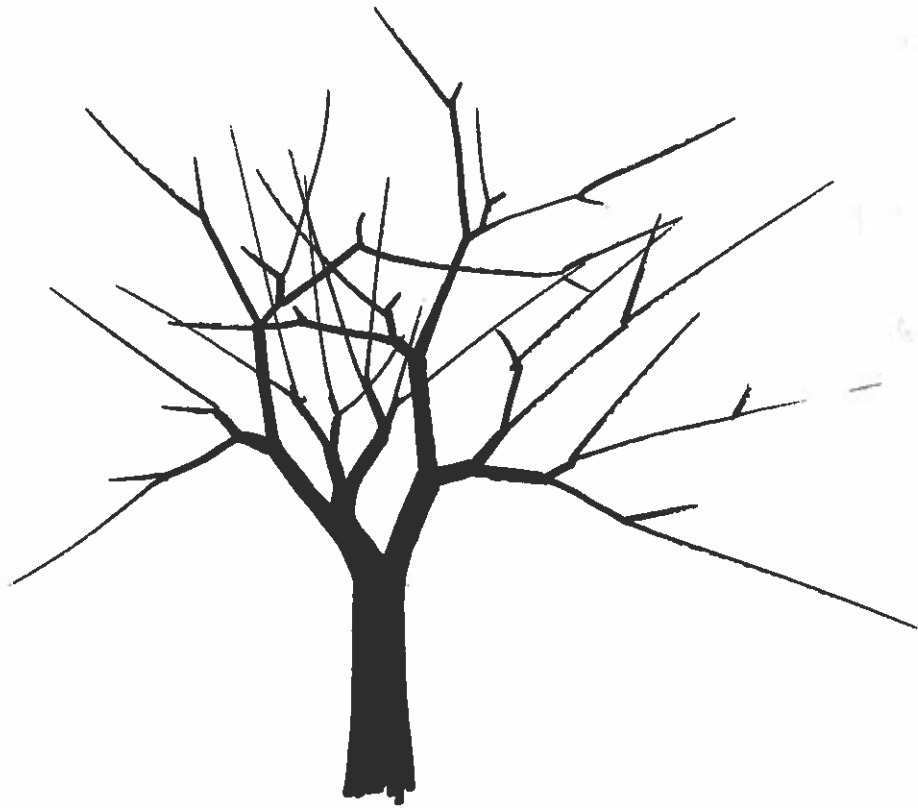


It can be very slender or very wide, but the growth pattern is always the same, with two branches.

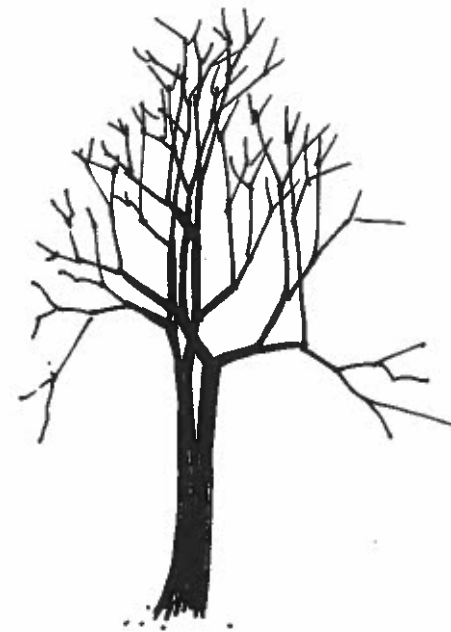
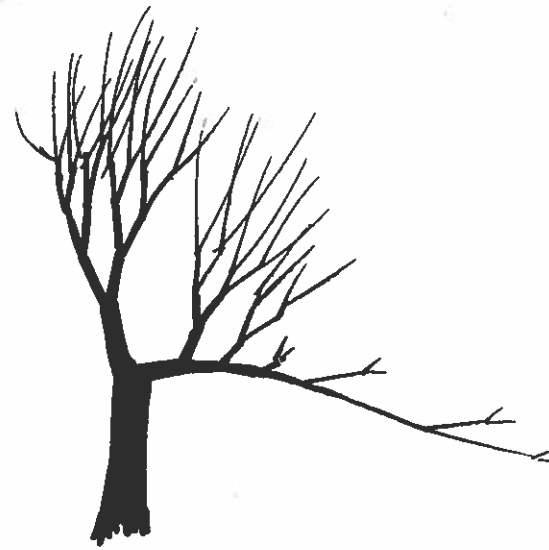


We can also say that the branches do not always grow in a fan shape. Sometimes they all point straight up, other times they are very open. Sometimes some of the branches go straight up and others go where they want. But the pattern is always the same.

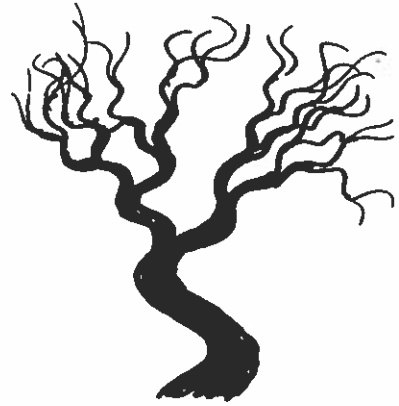


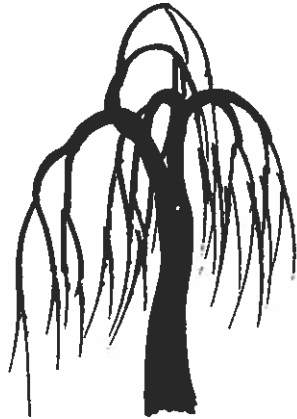


Sometimes a branch grows long and another grows short. Although the pattern stays the same the branches can point in different directions. They seem like different trees, but if you look carefully...

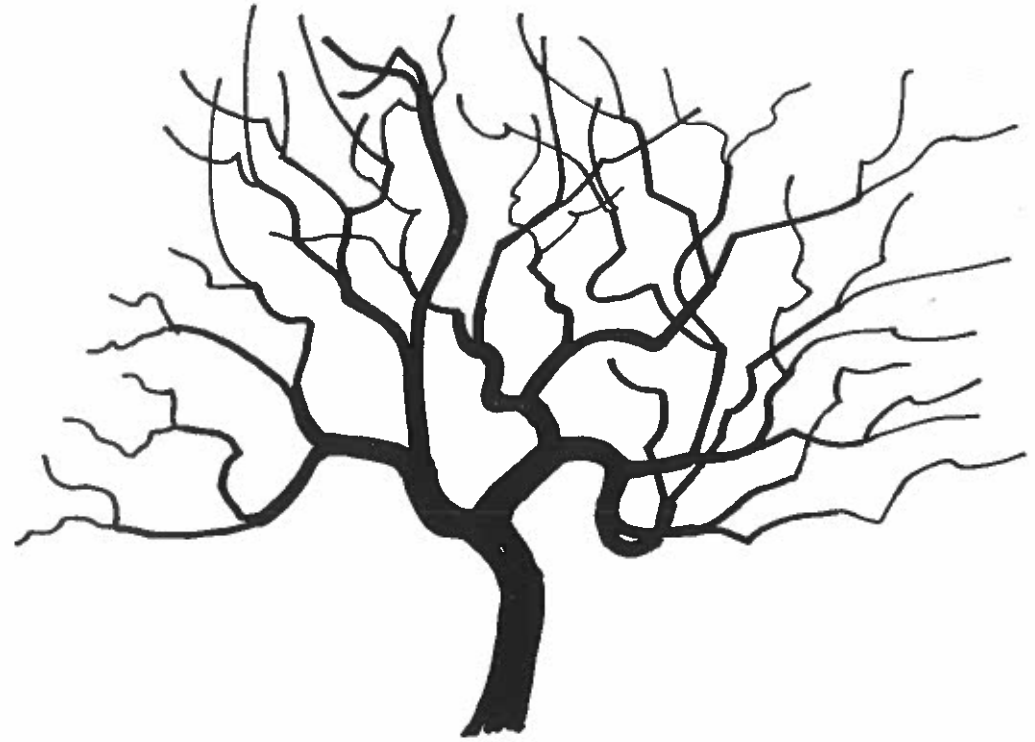


The same pattern can be drawn with curved, wavy or sharp-moving lines. So far we've used straight lines, but now the same pattern gives us fresh pictures of different trees. One snakes upwards, another closes in on itself, one expands into space until it touches the ground with its smallest branches.

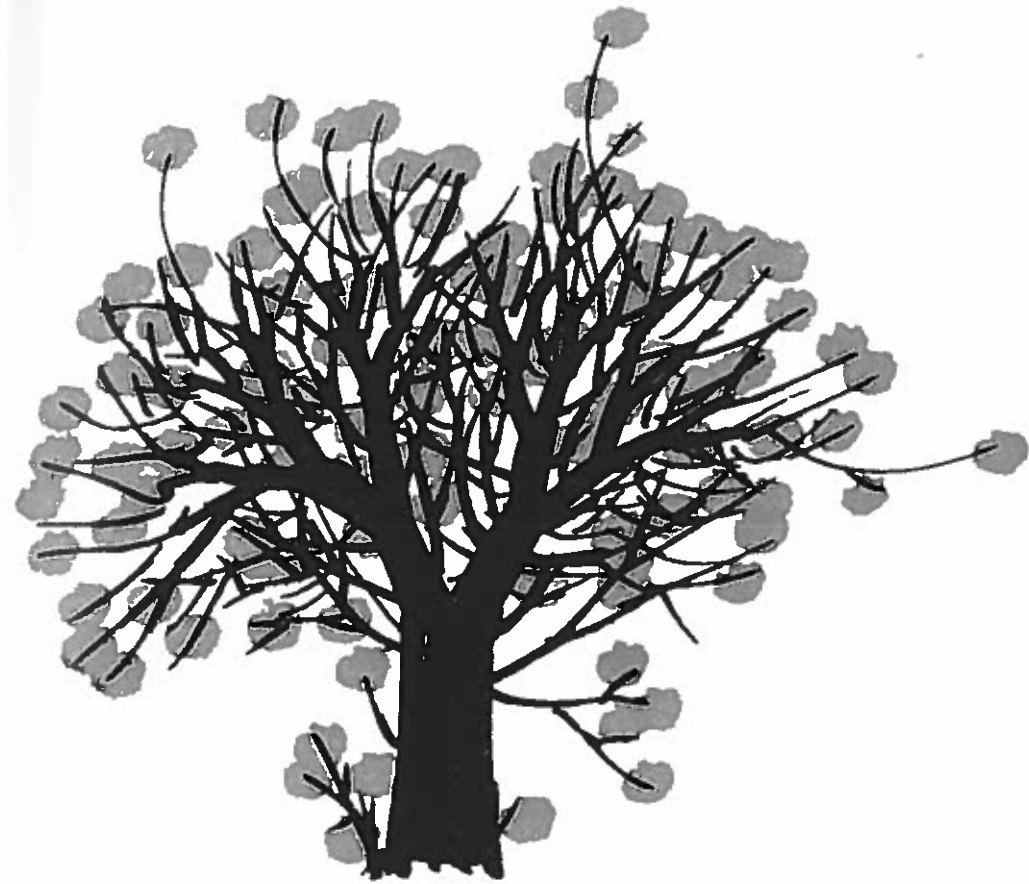


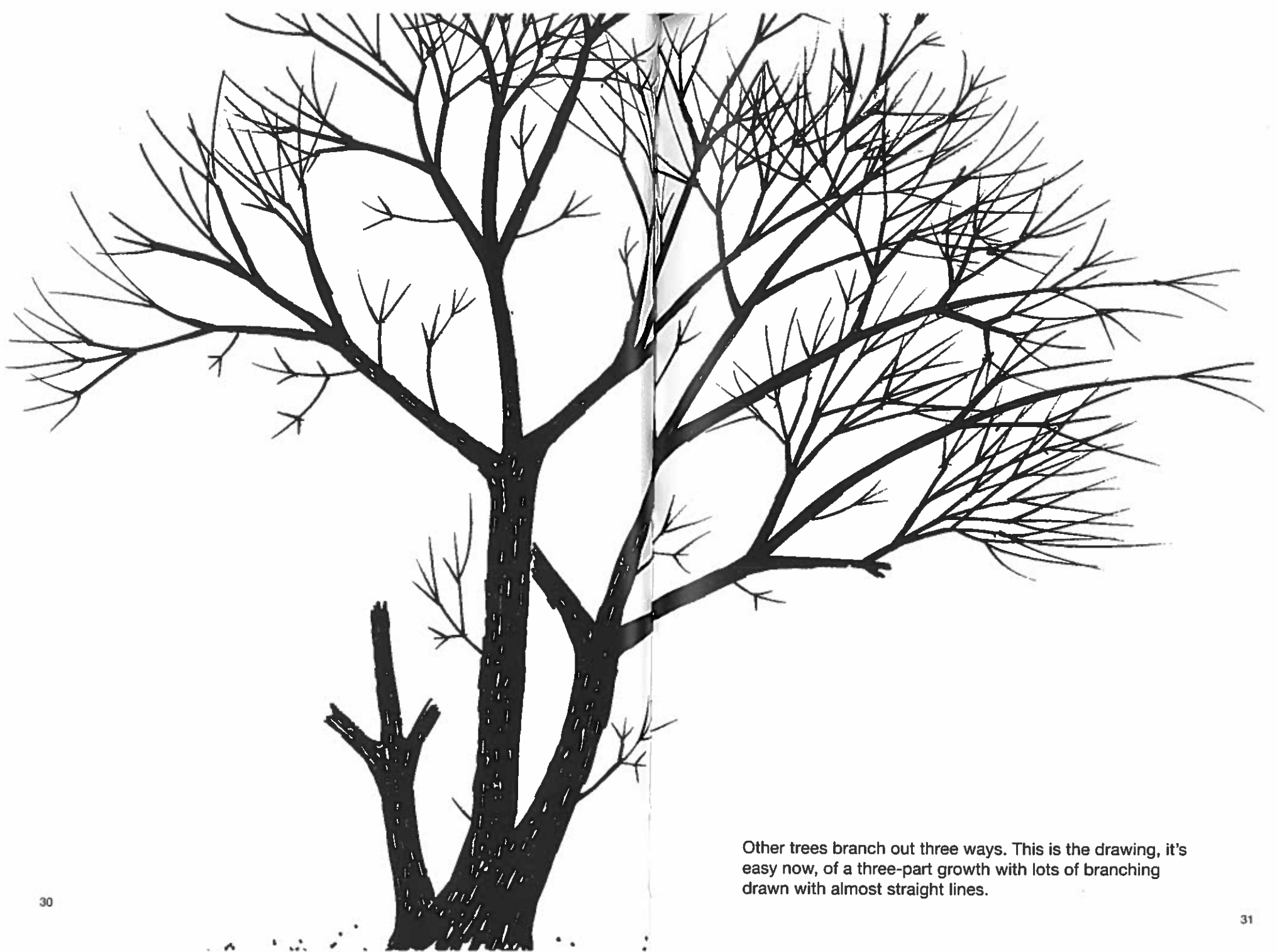


The same pattern can also have branches pointing downwards, like the weeping willow. Or you can draw a tree with a dual growth, where the branches go wherever they want. Some go straight up, some bend this way and that, some turn backwards, some escape.

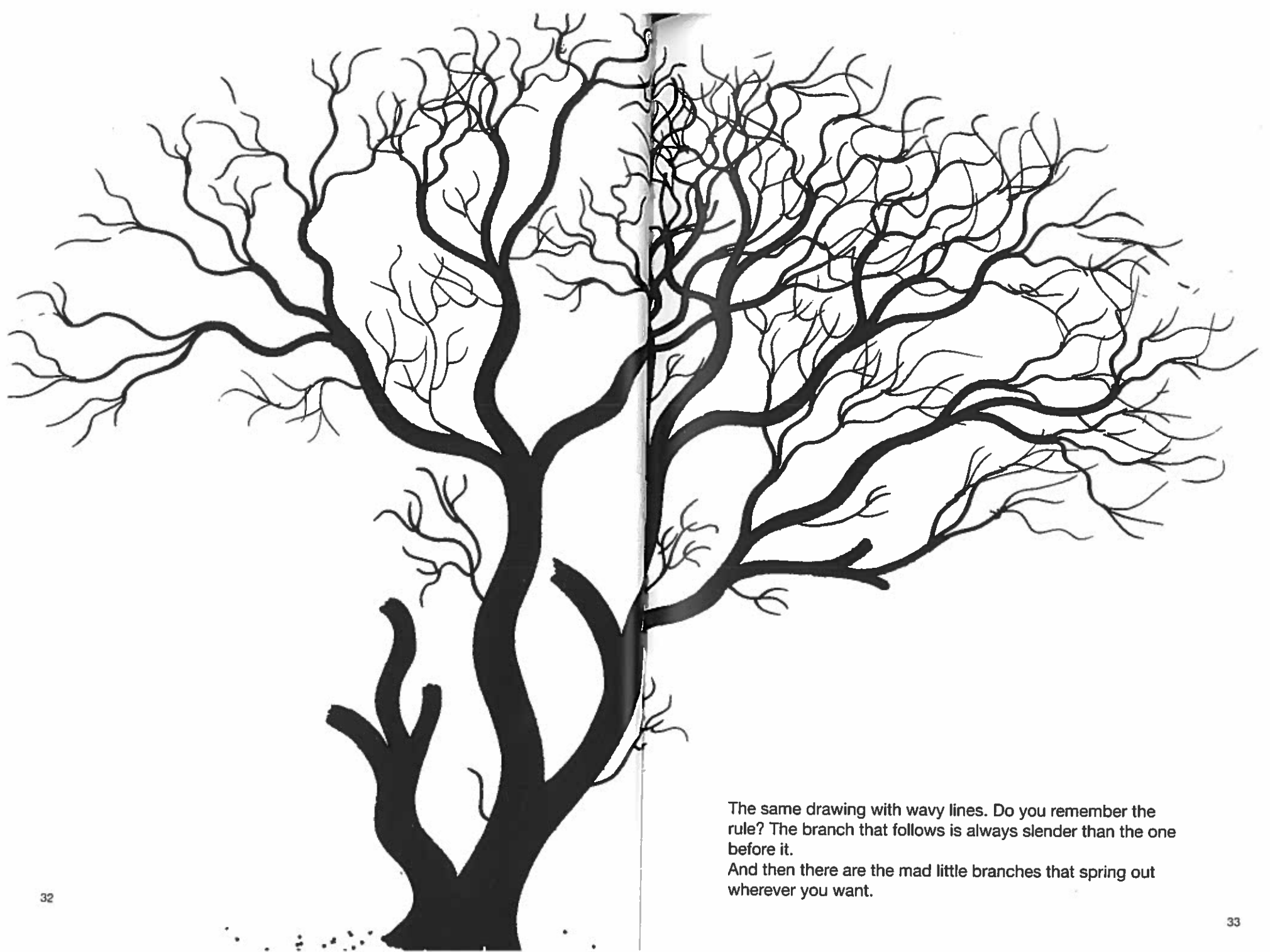


But there's another fact to consider when you draw a tree. The fact is that there are the mad branches too, like in nearly all families. So here's a thin branch emerging from the trunk like an April fool. Small branches can spring out from all over the place and cover the tree. But if you look carefully, you can still see the principal branching pattern.

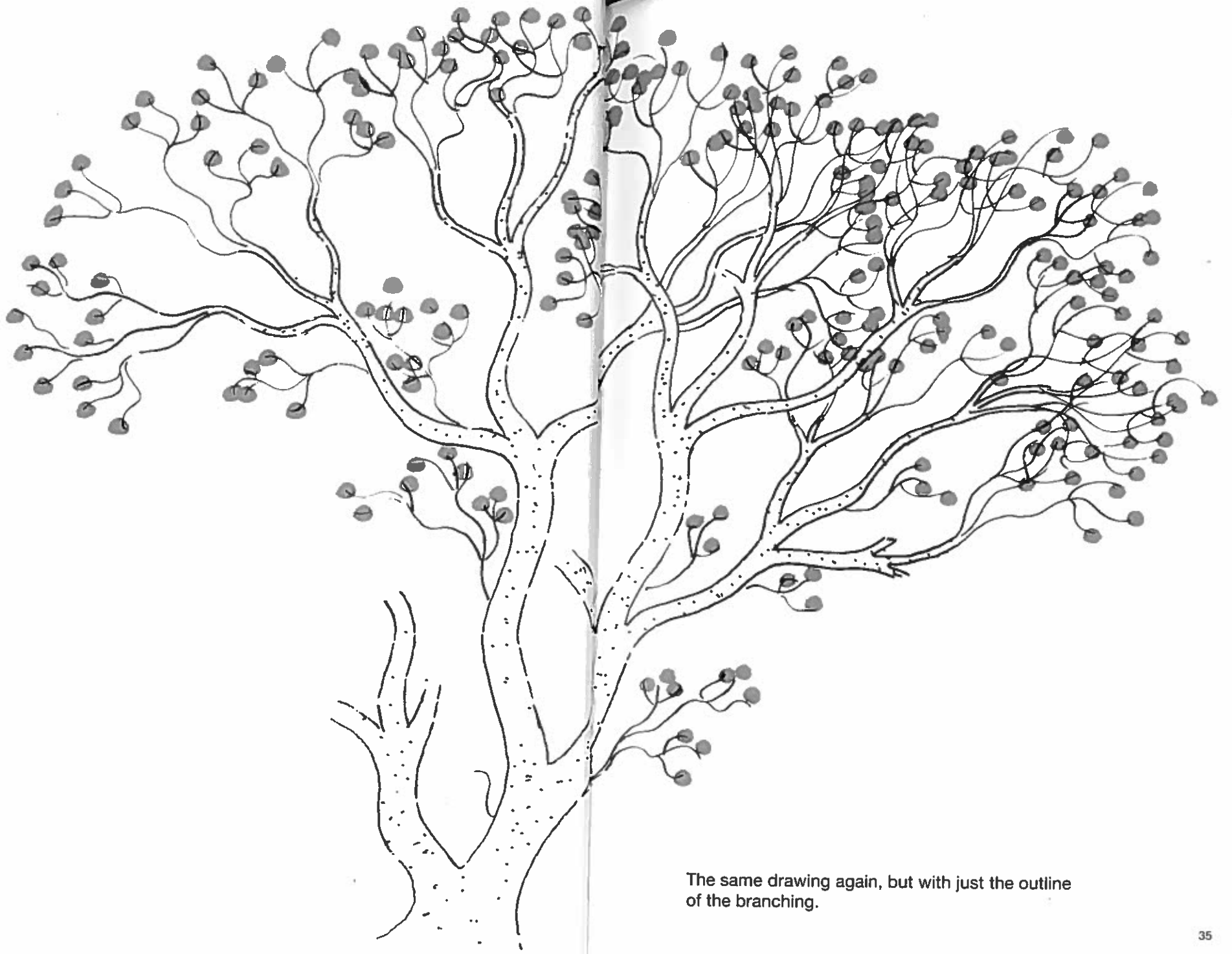




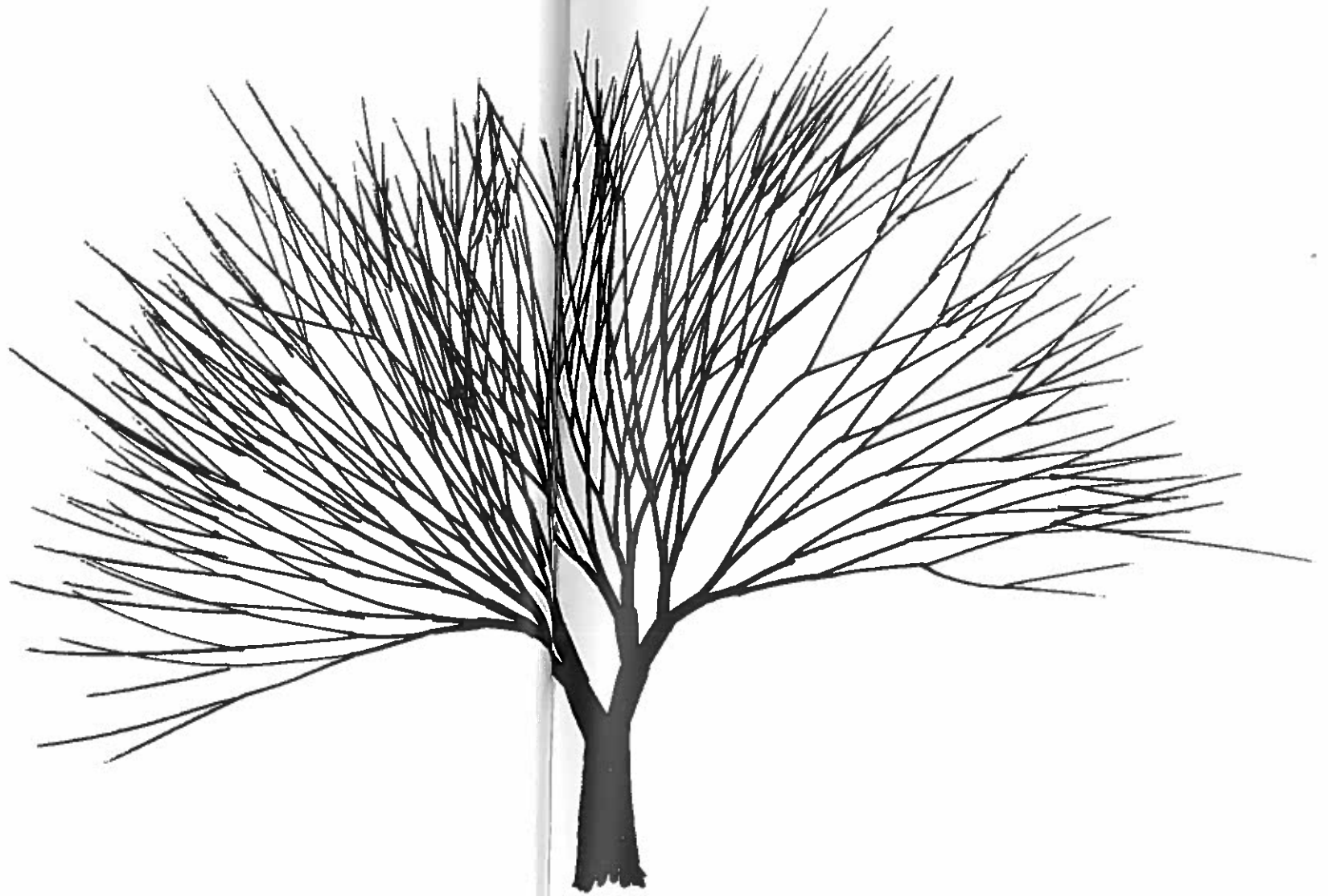
Other trees branch out three ways. This is the drawing, it's easy now, of a three-part growth with lots of branching drawn with almost straight lines.



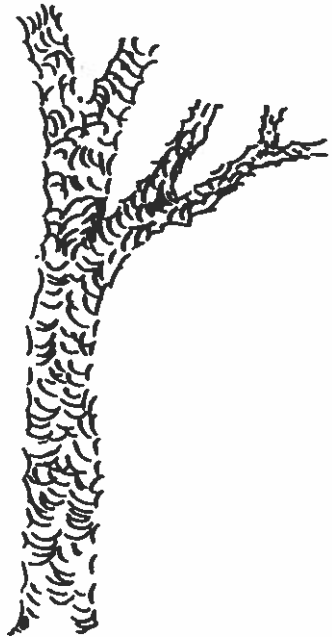
The same drawing with wavy lines. Do you remember the rule? The branch that follows is always slender than the one before it. And then there are the mad little branches that spring out wherever you want.



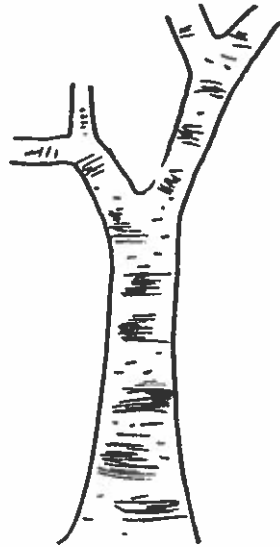
The same drawing again, but with just the outline of the branching.



A tree drawn with almost straight lines, with nine branches one behind the other in dual branching.



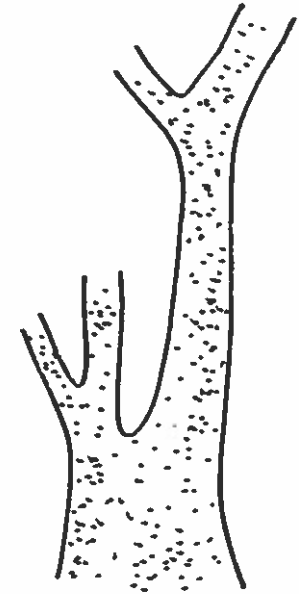
Cork oak



Birch

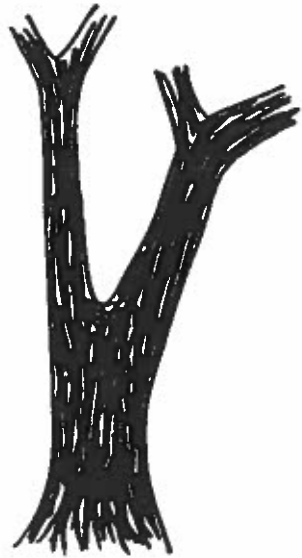


Elm

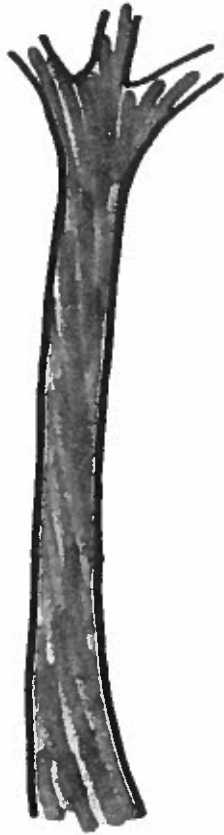


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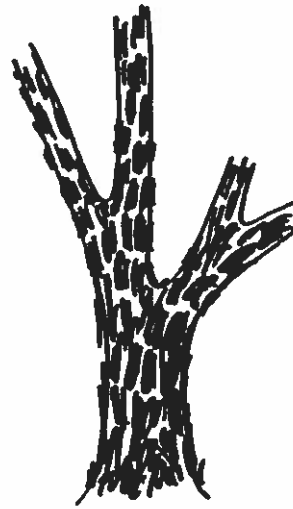
All trees have bark. Some trees have a smooth trunk that seems like cast-iron, others have a skin that peels, like wrapping. Some trunks are shiny and some are matt. Some have jutting bark, others just have scattered dots.



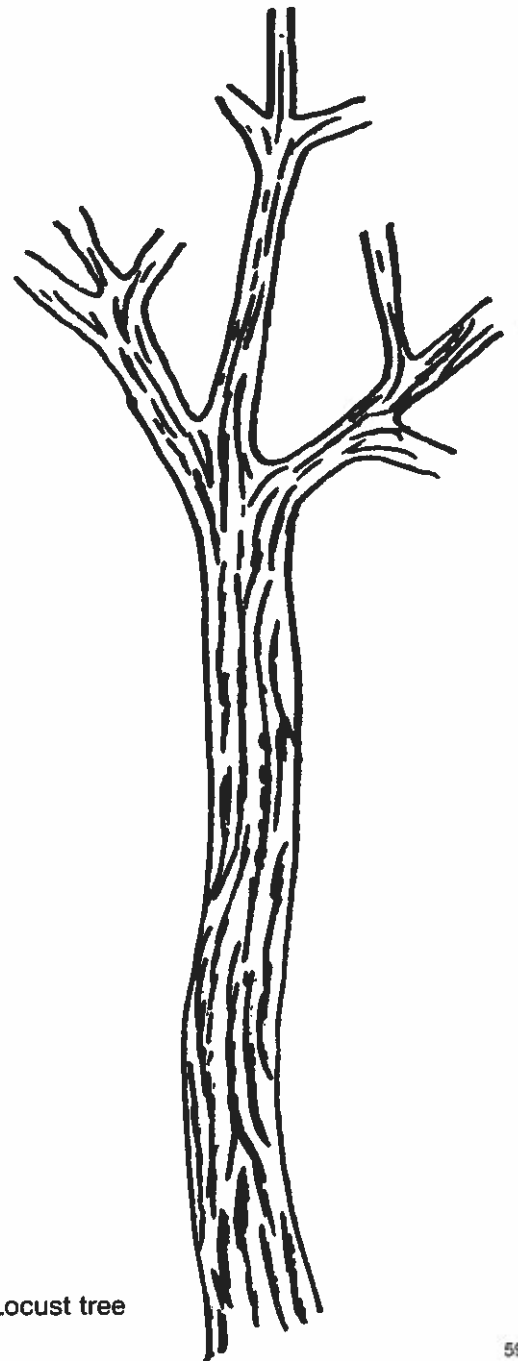
Chestnut



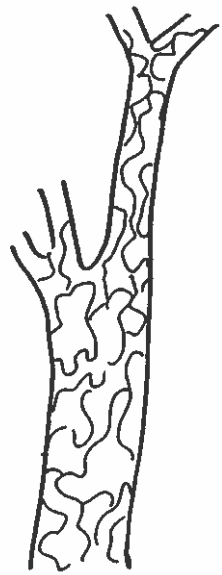
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Maritime pine



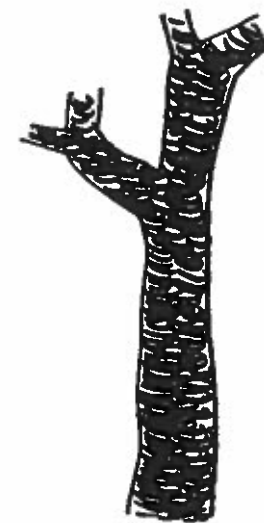
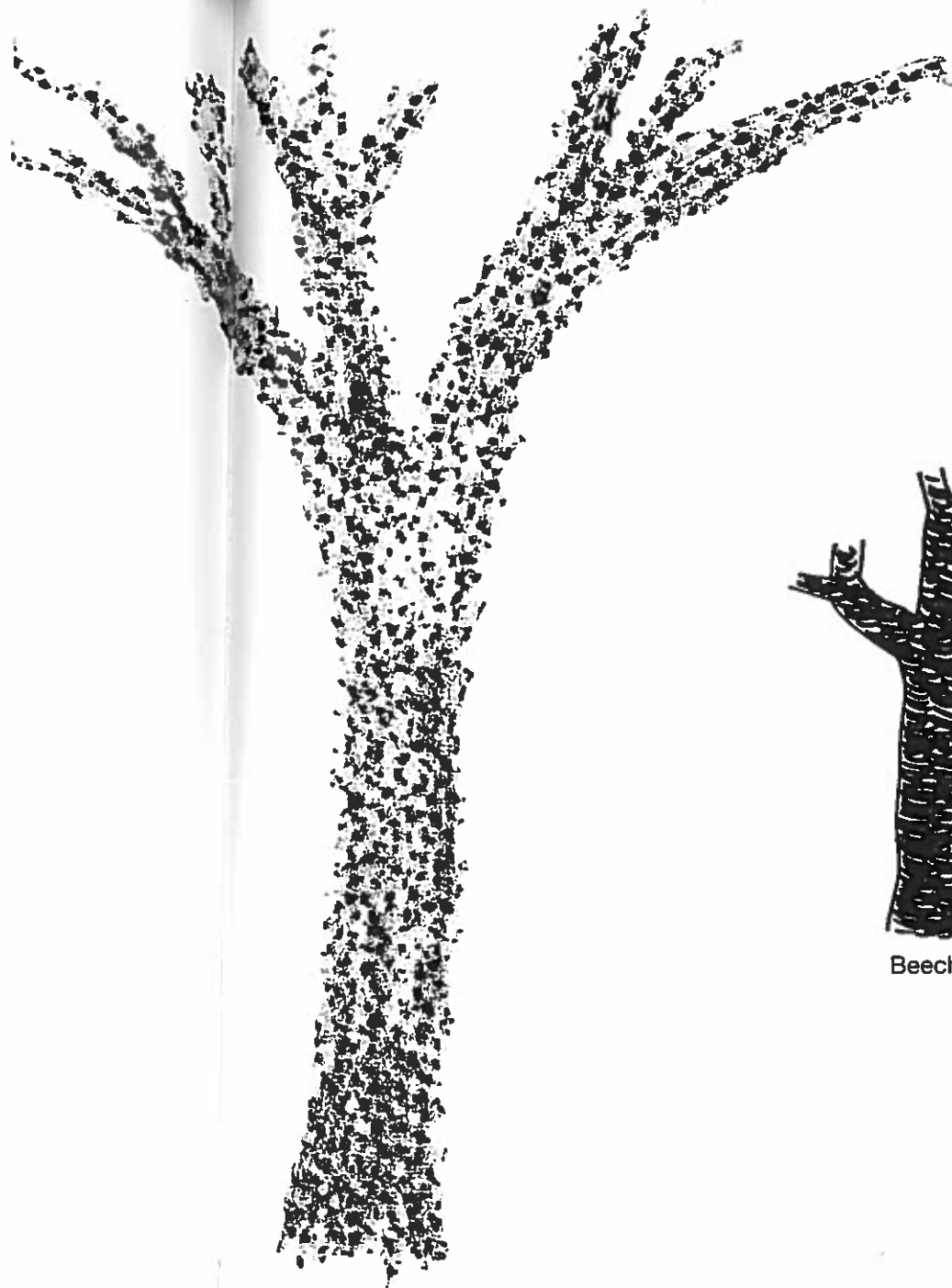
Locust tree



Eucalyptus



Plane tree



Beech

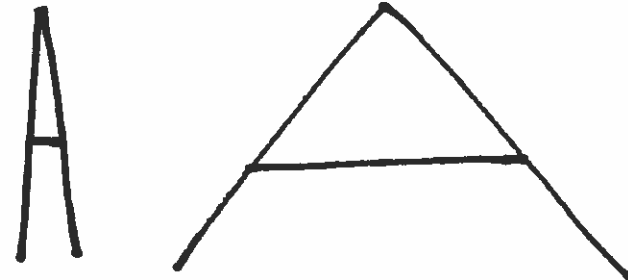
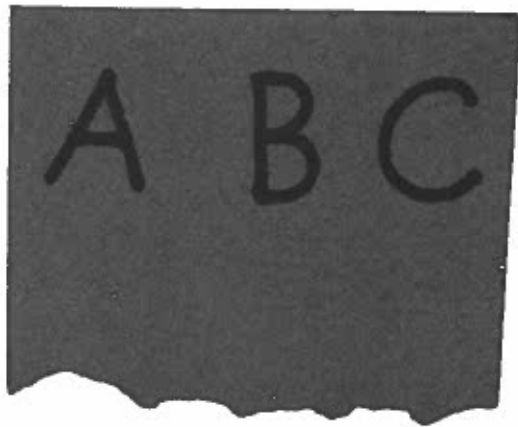
At this point someone says: I can't draw, I'm hopeless at drawing. I'm absolutely useless at drawing, I can't draw anything, nothing at all. These are people who are terrified of making fools of themselves, of drawing something wrong or everything wrong, so they refuse to draw.

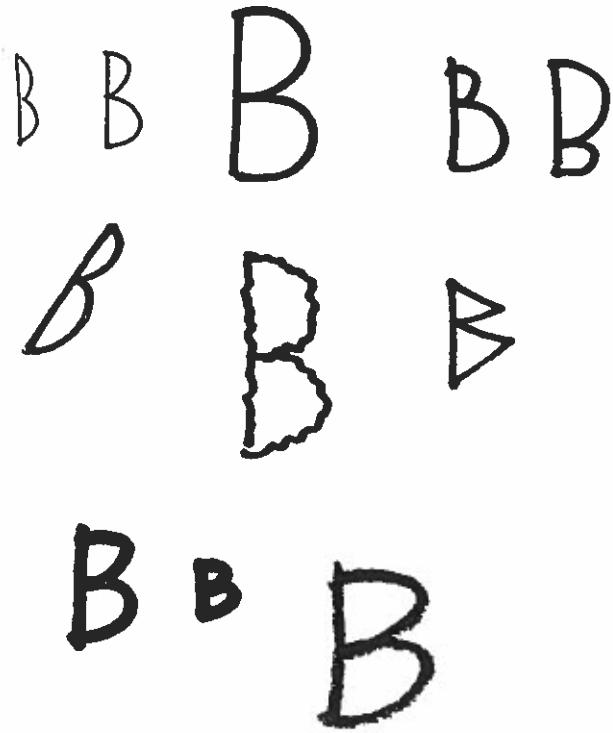
Apart from the fact that everyone is free to draw or not to draw, among these there are people who say these things and feel they would like to draw, but as an adult they are afraid of showing they don't know how to draw things even a child can draw.

You can say this to these people: - do you know how to do these drawings? - (and on the blackboard or on a piece of paper you draw an A, a B and a C in capital letters). These are just the first three letters of the alphabet, they'll say. You can answer that these are the three drawings that represent the first three letters of the alphabet and that one is made up of straight lines, one of straight lines and curved ones and one is made up only of curves.

Well, I know how to do those, they'll say. Well, and you know how to do them not only with a pen but with a pencil too, with a felt-tip too, with a crayon as well... you know how to make them narrow or wide, high or low, with straight lines or wavering lines...

Of course, we know how to do those.





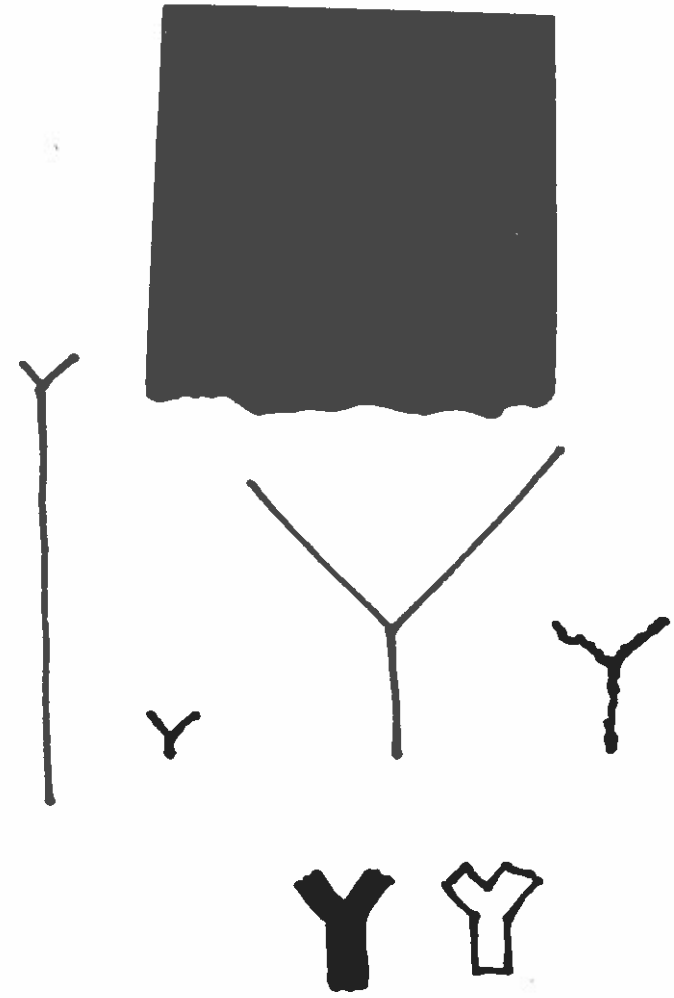
And do you know how to draw the letter Y?

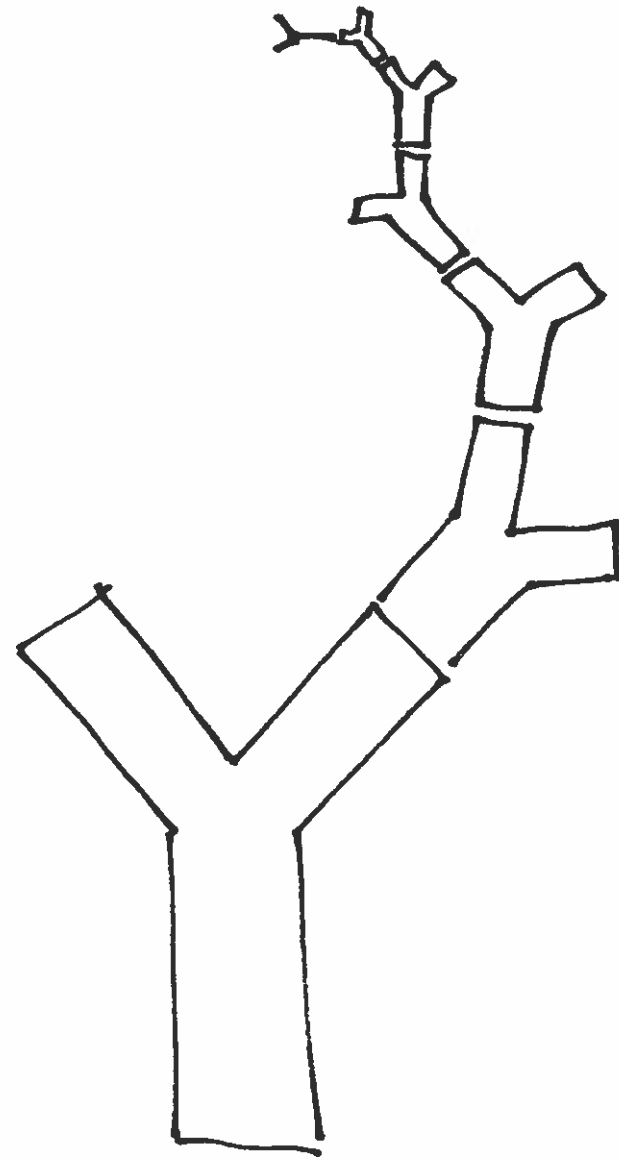
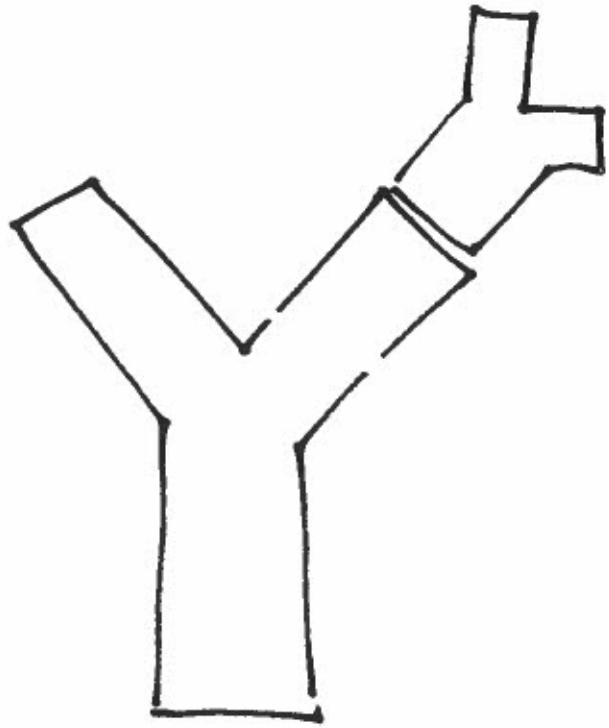
Certainly.

And can you draw it high or low or narrow or wide or wavering or fine or thick?

Certainly.

Well then, draw a big fat Y and then on the two raised arms continue the drawing with two more smaller Ys and so on ... you'll draw yourself a tree.





the branch that follows is always more slender than the one before it

Perfection, says an old oriental proverb, is beautiful but stupid: you have to understand it but break it. Now that you know how to draw a tree, as I think you do, there's no need to slavishly follow what I've shown you; once you know the rule, you can draw the tree of your choice, completely different from the ones you've seen in this book.

You can draw them with a pencil, a pen, a felt-tip, a paintbrush, crayons, chalk, a piece of brick, charcoal, your fingers, powders, chocolate, a shaving brush or a broom. You can make them out of paper, stiff card, corrugated board, packing paper, wire mesh, plastic, non-plastic, papier-mâché, wire, brass, aluminium, string, spaghetti, cloth, whatever you want. And then, above all, teach others how to do it.

