Lesson Nine

I, Pencil

LESSON IDEA

The free enterprise system works in seemingly miraculous ways, to automatically coordinate the millions of different activities that produce goods and services for us. Consider, for example, what is involved in making something as "simple" as a lead pencil.

VISUAL AID

Enough standard wooden "lead" (actually graphite) pencils, with erasers, to give one to each family member.

DO YOU RECALL the story of "Aladdin and the Wonderful Lamp"? It relates the saga of a young boy who found a magical lamp containing a genie with the power to grant the wishes of whomever rubbed the lamp.

This story from *Tales From The Arabian Nights* is mythical, but there is a *real* equivalent of an Aladdin's Lamp available to us today. It is capable of supplying in abundance virtually any material objects we may desire. Called the free enterprise system, it is capable of coordinating human energy with natural resources in a way that helped lift the United States to the highest standard of living of any country in history

It may seem an exaggeration to imply that the free enterprise system works in a magical way, so let's take a look at how it produced this seemingly simple device. [Hand each family member a wooden lead pencil.]

Do you believe someone, without help, could make a pencil? [Give everyone an opportunity to express an opinion.] It looks easy at first, doesn't it? Especially when compared to what it would take to make something more complex, such as a computer or jet airliner. But before we jump to any conclusions, let's find out what it takes to make an ordinary wooden pencil. If the pencil could talk, here's the fascinating story it could tell:

I AM A lead pencil — the ordinary wooden pencil familiar to all boys and girls and adults who can read and write. Writing is both my vocation and my avocation; it is all I do.

You may wonder why I should tell you about myself. Well, to begin with, my story is interesting. And, next, I am a mystery — more so than a tree or a sunset or even a flash of lightning. But, sadly, I am taken for granted by those who use me.

Simple though I appear to be, I merit your wonder and awe, a claim I shall attempt to prove. In fact, if you can understand me, if you can become aware of the miraculousness which I symbolize, you can help save the freedom mankind is so unhappily losing. I have a profound lesson to teach. And I can teach this lesson better than can an automobile or an airplane or a mechanical dishwasher. Why? Well, because I am seemingly so simple.

Simple? Yet, not a single person on the face of this earth knows how to make me. This sounds fantastic, doesn't it? Especially when you realize that about one and one-half billion of my brothers and sisters are produced in the U.S.A. each year.

Pick me up and look me over. What do you see? Not much meets the eye — there's some wood, lacquer, the printed labeling, graphite lead, a bit of metal, and an eraser.

Just as you cannot trace your family tree back very far, so is it impossible for me to name and explain all my antecedents. But I would like to suggest enough of them to impress upon you the richness and complexity of my background.

My family tree begins with what in fact is a tree, a cedar of straight grain that grows in Northern California and Oregon. Now think about all the saws and trucks and rope and the countless other gear used in harvesting and carting the cedar logs to the railroad siding. Think of all the persons and the numberless skills that went into their fabrication: the mining of ore, the making of steel and its refinement into saws, axes, motors;

the growing of hemp and bringing it through all the stages to heavy and strong rope; the logging camps with their beds and mess halls, the raising and cooking of all the food. Why, untold thousands of persons helped supply every cup of coffee the loggers drink!

The logs are shipped to a mill in California. Imagine the individuals who make flat cars and rails and railroad engines and who construct and install all the communication systems these require. They are essential to my production, even though they do not realize it themselves.

Now consider the millwork in California. The cedar logs are cut into small, pencil-length slats less than one-fourth of an inch thick. These are kiln-dried and then they are tinted. Our wood is colored for the same reason women use cosmetics; people prefer that I look pretty, not a pallid white. The slats are waxed and kiln-dried again. How many skills went into the making of the tint and the kilns, into supplying the heat, the light and power, the belts, motors, and all the other things a mill requires? Even the sweepers in the mill help produce me. Yes, and included are the men who poured the concrete for the dam of an electric company hydroplant which supplies the mill's power!

And don't overlook the ancestors present and distant who have a hand in transporting sixty carloads of pencil slats across the nation from California to Wilkes-Barre, Pennsylvania.

Once in the pencil factory — four million dollars worth of machinery and building, all capital accumulated by thrifty and saving parents of mine — each slat is given eight grooves by a complex machine, after which another machine lays leads in every other slat, applies glue, and places another slat atop — a lead sandwich, so to speak. Seven brothers and I are mechanically carved from this wood-clinched "sandwich."

NOW LET'S TALK about my "lead." Did you know that we pencils contain no lead at all? Basically, we write with graphite, mined in Ceylon. Consider these miners and those who make their many tools and the makers of the paper sacks in which the graphite is shipped and those who make the string that ties the sacks and those who put them aboard ships and those who make the ships. Even the lighthouse keepers and the harbor pilots along the way assisted in my "birth."

The graphite is mixed with clay from Mississippi in which ammonium hydroxide is used in the refining process. Then wetting agents are added and after passing through numerous machines, the mixture finally appears like sausage from a grinder and is cut to size, dried, and baked for several hours at 1,850 degrees Fahrenheit.

My cedar receives six coats of lacquer. Do you know all of the ingredients of lacquer? Who would think that the growers of castor beans and the refiners of castor oil are a part of it? They are. Why, even the process by which the lacquer is made a beautiful yellow involves the skills of more persons than we can list!

The bit of metal at my top — the ferrule — is brass. Think of all the persons who mine zinc and copper and those who have the skills to make shiny sheet brass from these products of nature.

Then there's my crowning glory, inelegantly referred to in the trade as "the plug," the part man uses to erase the errors he makes with me. An ingredient called "factice" is what does the erasing. It is a rubber-like product made from seed oil from Indonesia, pumice from Italy, plus sulfur chloride and calcium sulfide. Rubber, contrary to

FOR YOUNGER AMERICANS

The main point of tonight's lesson is that no economic system has ever equalled free enterprise in combining thousands of different activities, and the labor of millions of different workers, to produce goods and services.

Have younger children stretch their imaginations by tracing the "ancestry" of other items in your home. It will reinforce the message of tonight's lesson. For instance, steps involved:

1. To bring a banana from South America to your breakfast table.
2. To make a bicycle.
3. To assemble the many components of a typical computer system (computer, screen, keyboard, modem, CD-ROM, etc.).

To conclude the lesson, thumb through a newspaper or mail-order catalog as a reminder of the variety of available goods. And emphasize the point that the marvelous free enterprise system of production and distribution works best in an atmosphere of freedom, not government regimentation.