

Productive Ideas and Know-How

The individual who first took wood and made it into a chair—or a bed or a house—must have had some idea of what he was going to make or build before setting to work. Such an individual had to understand the form that the pieces of wood would have to acquire in order to become a chair. He could not get that idea from an experience with chairs because no chairs existed before he made this one. Perhaps, we may guess, he got it from experiences with rock formations that provided his body with support for sitting down. The first chair was thus an imitation of something its inventor had found in nature, as the first house was, perhaps, an imitation of natural cave formations that provided shelter.

Wherever or however the first chairmaker got the idea of a chair, the idea itself was not enough. As we observed in an earlier chapter, the form of a chair—chairness—is common to chairs of every size, shape, and configuration of parts. If all that

the first carpenter had in his mind was an idea of chairs in general, he could not have produced an individual chair, particular in every respect in which one individual chair can differ from others. In order to transform the wood materials he worked on, by giving those materials the form of a chair, he also had to have some idea of the particular chair he was about to produce.

Productive thinking involves having what we may be tempted to call creative ideas. Since no Greek equivalent of the word "creative" was in Aristotle's vocabulary, we should resist that temptation, and speak instead of productive ideas. Productive ideas are based on some understanding of the forms that matter can take, supplemented by imaginative thinking about such details as sizes, shapes, and configurations. Without a productive idea in this full sense, the craftsman cannot transform raw materials into this individual thing—be it a chair, a bed, a house, or anything else that can be made out of materials provided by nature.

There are two ways in which a productive idea can be expressed. The first chairmaker or housebuilder probably did not draw up a plan or blueprint of the thing he was about to produce. With a productive idea in mind, he just produced it. The materialization of that idea—its embodiment in matter—expressed the productive idea he had. If you had asked him what idea he had in mind before he made the chair or built the house, he might not have been able to tell you in so many words. But once he had brought the chair or house into existence, he could have pointed to it and said, "There, that is what I had in mind."

Much later in the history of mankind, craftsmen of all sorts became able to draw up plans for the making of things. They became able to express their productive ideas before actually materializing them by transforming matter. But even at later

stages in the history of human productivity, craftsmen do not always proceed to work by first putting their productive ideas down on paper in some fashion. They still sometimes hold the idea in their mind and let it guide them in every step of the work until the finished product comes into existence and expresses the idea they had in the first place.

This distinction between two ways in which productive ideas can be expressed calls our attention to two phases in the making of things, phases that can be separated. One individual can have the idea of a particular house to be built and can draw up the plans for the building of that house. Another individual, or other individuals, can execute or carry out that plan. Nowadays we differentiate between these different contributors to the making of a house by calling one an architect and the other a builder (or, if the builder employs other persons to engage in building the house, we call the builder a contractor).

The individual who draws up the plans in the first place is the one who has the productive idea. Those who execute the plans must have know-how. In the making of anything, whether it be a chair or a house, productive ideas are not enough. To carry them out, it is necessary to know how to deal with the raw materials in such a way that their potentiality for becoming a chair or a house is actualized. Unless that end result is reached, the productive idea will not be expressed in matter. It will not be materialized.

Of course, one and the same individual may have both the productive idea and the know-how needed for making a chair or a house. The only thing we must remember is that productive ideas and know-how are distinct factors in the making of things. What enters into the craftsman's know-how?

First of all, he must know how to choose the appropriate raw

materials for making the kind of thing he has in mind, with whatever tools he has at his disposal, or with none at all, but only his bare hands. If, for example, his only tools are a hammer and saw, he cannot make a chair out of iron or steel or a house out of stones. And it should go without saying that, regardless of what tools are available, the artisan cannot make a chair or a house out of air or water.

Beyond knowing how to choose the appropriate materials to work on with the tools at his disposal, the craftsman must also know how to use those tools efficiently and how to proceed, step by step, in the construction of the thing he wishes to make. In the building of a house, laying the foundations precedes getting the frame up, as that precedes putting the roof on.

The mind, the hands, and the tools of the craftsman, taken all together, are the efficient cause of the thing that is produced. They act upon the raw materials to actualize the potentialities that such materials have for being transformed into the product that the maker had in mind.

Of these three factors (which together constitute the efficient cause), the mind is the principal factor. It is the maker's mind that has the productive idea and the know-how, without which neither hands nor tools could ever make anything. The maker's hands and his tools are merely the instruments his mind uses to put his productive idea and his know-how into the actions required to act on the raw materials and actualize their potentialities.

The human mind is the principal factor in human production. Everything else is instrumental.

To know how to make something is to have skill. Even in the simplest performances, which we sometimes call unskilled labor, there is some know-how and, therefore, some skill. From

the simplest to the most complex activities in which human beings engage—from the building of toy models by children to the building of bridges, dams, and schools—the levels of know-how are the levels of skill.

Another English word for “skill” is the word “technique.” The person who has the know-how required for making something has the technique for making it. I mention this because the English word “technique” comes from the Greek word *technikos*, which Aristotle used in talking about the acquired ability that some men may have and others may not have for making things. The combining form *techno-* which means art or skill, comes from the Greek *techné*. In Latin, this becomes *ars* and in English *art*. An artist is a person who has the technique, skill, or know-how for making things. We would call such persons creative artists if, in addition to having the know-how, they also have the productive idea that is the indispensable primary source from which comes the thing to be made.

We sometimes use the word “art” for the things produced by an artist. We use that word as short for “works of art.” But since works of art cannot be produced unless someone has acquired the know-how to produce them, art in the sense of know-how must first exist in a human being before it can make itself evident in a work of art.

Although you would readily refer to cooks, dressmakers, carpenters, or shoemakers as artists or craftsmen because you recognized that they had the skill or know-how for making this or that, you would probably not refer to farmers, physicians, or teachers as artists. Aristotle, however, recognized their possession of a certain skill or know-how that would justify calling them artists. But he also pointed out how different their art is from the art of cooks, carpenters, and shoemakers.

The latter produce things—cakes, chairs, and shoes—that

would never come into existence without human productive ideas, know-how, and effort. Nature does not produce such things. They are always works of art. But nature, without human know-how and effort, does produce fruits and grains. Why, then, should we refer to farmers, who raise such things as apples or corn, as artists? What have they produced?

By themselves, nothing. Farmers have merely helped nature to produce the apples and the corn that nature would have produced anyway. They have the skill or know-how to cooperate with nature in the production of fruit or grain; and, by so doing, they may be able to obtain a better supply of nature's products than would have fallen to their hands if they had not cooperated with nature in producing them.

As farmers, having the know-how or skills that belong to agriculture, cooperate with nature in the production of fruits, grains, and vegetables, so physicians, having the know-how or skills that belong to medicine, cooperate with nature in preserving or restoring the health of a living organism. Since health, like apples and corn, is something that would exist even if there were no physicians, physicians, as well as farmers, are merely cooperative artists, not productive ones like the shoemakers and the carpenters.

So, too, are teachers. Human beings can acquire knowledge without the aid of teachers, just as apples and corn grow without the aid of farmers. But teachers can help human beings acquire knowledge, just as farmers can help apples and corn to grow in desired qualities and quantities. Teaching, like farming and healing, is a cooperative, not a productive art.

The productive arts differ in many ways. Human making turns out a wide variety of products—from chairs, shoes, and houses to paintings, statues, poems, and songs. Paintings and

statues are like shoes and chairs in that they are made of materials that the maker somehow transforms. Also, like shoes and chairs, paintings and statues exist at a given place and at a given time.

On the other hand, a piece of music—a song that is sung over and over again—does not exist just at one place and at one time. It can be sung at many different places and at many different times. In addition, it takes time to sing a song or play a piece of music, as it takes time to recite a poem or tell a story. The song and the story have a beginning, a middle, and an end in a sequence of times, which is not true of a statue or a painting.

There is one further difference between a song or a story and a painting or a statue. Stories can be written down in words; songs can be written down in musical notations. The words of speech and the notations of music are symbols that can be read. The person who is able to read them can get the story that is being told by them, sing the song or hear it. But the painting and the statue must be seen directly. To enjoy the work of a painter or sculptor, you must go to the material product that he has made.

Though the painting or the statue is a material product like the shoe or the chair, it is also something to be enjoyed, like the story or the song, not something to be used, like the shoe or the chair. Of course, it is possible to use a painting to cover a spot on the wall, as it is possible to enjoy a chair by looking at it instead of sitting down on it.

Nevertheless, using and enjoying are different ways that men approach works of art. They use them when they employ them to serve some purpose. They enjoy them when they are satisfied with the pleasure they get from perceiving them in one way or another—by seeing, hearing, or reading.

The pleasure we get when we enjoy a work of art has something to do with our calling the thing we enjoy *beautiful*. But that is not all there is to it. It is also possible to call a chair, a table, or a house beautiful simply because it is well made. Its being well made is one factor that enters into the beauty of a human product, whether it is a chair or a statue. The pleasure we get from beholding it is another factor.

Aristotle's suggestion that these two factors are related appears to make good sense. The pleasure we get from looking at the statue or the house, or listening to the story or the song, is somehow connected with its being well made. A poorly made statue, a poorly constructed house, a poorly told story would not give us as much pleasure.

We all know the difference between a piece of clothing made by a skilled tailor, or a soup made by a skilled cook, and shirts or soups made by persons with very little skill. The well-made shirt and the well-made soup are more enjoyable—give us more pleasure—than poorly made ones.

In addition, those who have the art of cooking or tailoring have the know-how by which they can judge whether a shirt or a soup is well made. We would expect skilled cooks or tailors to agree in their judgments. We would be very surprised if one skilled cook thought a soup was well made and another, having equal skill, thought it was poorly made.

We would not be so surprised if we found that, of two persons looking at a painting that skilled artists agreed was well made, one liked it and the other didn't. We do not expect individuals to enjoy the same things or enjoy them to the same extent. What gives one person pleasure may not give pleasure to another.

Just as one person may have more skill or know-how than another, so one person may have better taste than another. It

would be wiser to ask a skilled person whether a certain work of art was well made than to ask that question of a person who did not know anything about how such things should be made. So it might be wiser to ask a person who had better taste about the enjoyability of a work of art. We would expect a person of better taste to like a work of art that was better—not only better made but more enjoyable.

The question whether we should all be able to agree, or whether we should all be expected to agree, about the beauty of a work of art has never been satisfactorily answered. There are some reasons for answering it by saying yes, and some reasons for answering it by saying no. If all there were to the beauty of a work of art consisted in its being well made, the question would be easier to answer. We expect those who have the know-how needed to produce a work of that sort to be able to agree that it is well made or poorly made.

Where does this all important know-how come from? How does the person of skill acquire it?

There are two answers. In the earlier stages of human production, the know-how needed was based on common-sense knowledge of nature—knowledge about the raw materials that nature provided the human producer to work on and knowledge about the use of the tools to be worked with.

In later stages, and especially in modern times, the know-how needed has been based on scientific knowledge of nature, and it now consists of what we have come to call the technology that scientific knowledge gives us. "Technology" is just another name for scientific know-how as compared with common-sense know-how.

Does Aristotle's uncommon common sense give us any useful know-how? Does philosophical thought—the understanding of

natural processes that we have been considering in the preceding chapters—help us to produce things?

No, it does not. Scientific knowledge can be applied productively. Scientific knowledge, through technology, gives us the skill and power to produce things. But the philosophical reflection or understanding that improves our common-sense grasp of the physical world in which we live gives us neither the skill nor the power to produce anything.

Remember, for example, something said in an earlier chapter. Aristotle's philosophical understanding of why acorns develop into oaks and kernels of corn develop into stalks of corn does not enable us to interfere with these natural processes in any way. But our scientific knowledge about DNA and the genetic code does enable us to alter the pattern of development by splicing the genes.

Is philosophy totally useless, then, as compared with science? Yes, it is, if we confine ourselves to the use of knowledge or understanding for the sake of producing things. Philosophy bakes no cakes and builds no bridges.

But there is a use of knowledge or understanding other than the use we put it to when we engage in the production of things. Knowledge and understanding can be used to direct our lives and manage our societies so that they are better rather than worse lives and better rather than worse societies.

That is a practical rather than a productive use of knowledge and understanding—a use for the sake of doing rather than a use for the sake of making.

In that dimension of human life, philosophy is highly useful—more useful than science.