The meaning of the "Renaissance of the machine": why this technology is still with us

Q.: Your exhibition is based on the concept of a "Renaissance of the machine."
How important a role did technology play in the Renaissance? Why might people today want to understand the Renaissance as a time of technological development?

PG: The greatest marvels of the Renaissance were its cities. Even today, when we think of the Renaissance, we think of Rome, Venice, Florence, Milan, Siena and so on. If we reflect on them, we realize these are heavy structures, which were built very well. They've lasted for seven, eight centuries, notwithstanding earthquakes, floods, fires, wars. These cities, which are the enduring gift of the Renaissance to us, were created through great and innovative professionalism in the techniques of construction and they were endowed with daring and efficient technical plants. That is one measure of the importance of technology in the Renaissance, and one reason why we should feel this technology is still with us, as part of our lives.

Q: And yet we don't readily perceive the Renaissance of the machine. Why?

PG: Because the Renaissance is now understood through museums. In general, these museums represent only one aspect of Renaissance civilization, the history of art. They also represent architecture to a certain extent. But other aspects of Renaissance civilization--not only science and technology, but also politics and economics, poetry, music--have not been addressed by the museum system. As a result, we get only a partial view of the Renaissance.

Q: Can you give us an example of this shortcoming of the museum system?
Think of the magnificent art collections that have come down to us from the Medici family, which patronized many of the greatest artists of the Renaissance. Now, in order to be patrons, the Medicis needed money. So behind the great artistic monuments left behind by the Medicis lies an entire world of financial and commercial activities. There is no museum in the world that will allow you to understand the Medicis through their business enterprises. There is no museum which exhibits letters of exchange. The same has been true of the representation of technology. Of course, art will always be the star of the Renaissance heritage. But the art has a lot to do with technology. In fact, the interdependence of art and technology was a primary characteristic of the Renaissance. You can't understand one without the other.

Q: It's apparent that art and technology influenced each other during the Renaissance, as they have in all historical periods. But were they fully interdependent?

PG: Yes--and that phenomenon is one of the main points of *The Art of Invention*. I'll give you an example. Everyone knows that one of the most important developments in the art of the 15th century was the introduction of linear perspective: a system of representing three-dimensional space based on the principles of Euclidean geometry. This major artistic achievement was born of scientific and mathematical research. So you see, there was really only one impulse: the desire to gain control over space by ordering it mathematically. This impulse could express itself in different ways--through a painting that gives you the illusion of depth, or through a dam built on a river. But we should understand that the development of art and the development of technology are really two modes of a single great advance. Isolate one part of it from another, and you lose the meaning of this crucial moment in history.

Q: Why is it important to know all this?

PG: First, because if you've heard of the Renaissance and you want to know what it was about, this concept is indispensable. Renaissance art was so exceptional, so innovative, precisely because of the close alliance of art and technology. Technical procedures made an enormous contribution to the evolution of Renaissance
Second: Even today, we need to have a more balanced view of the relationship between artistic activity and technical activity. We now have a borderline concept--design--which lies between making a thing and giving it an appropriate shape. But this tradition comes from the Renaissance. Artist-engineers would draw a machine both to show how to construct it and also to give it a harmonious shape. I suggest they were portraying machines, exactly as they portrayed landscapes and human figures.

Today, we have a kind of flashback to the 15th century. With computer-based and multimedia art, people are combining their artistic vision with the latest advances of science and communications technology—and in so doing, these artists sometimes make their own contributions to technology. Today, as in the 15th century, knowledge from different domains is being combined.

Q: Why don't people today see art and technology as compatible?

PG: Part of the reason may be linguistic. Unlike the humanists of the Renaissance, we have lost touch with classical Greek and Latin, and therefore with the worldview they reflected.

At the origin of our concept of art is a Greek word, techne, which the Romans later translated into their own language as ars. Our word "art" is derived directly from that Latin word. But whereas the Romans used ars to designate both the fine arts and the mechanical arts—painting, sculpture, poetry, and music, on the one hand, techniques of construction on the other—we have split the original concept. We use the Latin ars, or art, to mean fine or decorative arts, and we use the Greek techne, or techniques, to mean practical applications. From the 15th century on, we have progressively separated these activities, which were originally one concept. We have made of one word (ars) two: art and technique, which we feel as irreducible. On the contrary, neither Praxiteles nor Leonardo da Vinci distinguished between technicians and artists, as we do today.