CHAPTER III

JEROME CARDAN (1501—1576)

After Venturi had announced in 1797 that he had found in the manuscripts of Leonardo da Vinci some of the essential laws of modern mechanics, the surprise of some mechanicians must have been mixed with regret. On certain points, the great painter had anticipated Galileo by a full century. Imagine what an impulse the study of mechanics would have received had Leonardo only been able to publish the Treatise on Motion and the Treatise on Statics during his lifetime or at least if the fragments left behind had become known immediately after his death! In that case, at the beginning of their research Galileo, Simon Stevin and Descartes would have found this science much further advanced on the road to progress. With the efforts of Leonardo added to theirs, they could have advanced this science much further than they actually did and the entire development of the exact sciences would have progressed much faster. Thus human knowledge was believed to have suffered an irremediable delay in its march forward because the ideas of Leonardo da Vinci concerning the principles of mechanics remained unknown for centuries.

This delay, however, did not actually occur. From the middle of the 16th century, the most essential ideas of Leonardo da Vinci concerning statics and dynamics were known to those interested in these sciences. The mathematicians and the mechanicians looted the manuscript notes of the great painter and helped themselves copiously. They flaunted Leonardo’s ideas in their writings without, however, revealing the source of their riches. It was petty but lucrative theft, which undeservedly increased the glory of certain of the authors, but which, nonetheless, brought to light and put into circulation a part of the treasure amassed by Leonardo da Vinci!

Among those who seized upon Leonardo da Vinci’s ideas in order to analyze, comment upon, and develop them, one ought to mention first Jerome Cardan. But he was not the only one because others had either preceded him or later imitated him. To give an example, we can find the influence of Leonardo in the works of Giovanbattista Benedetti. Cardan, however, was among the first to publish the most essential
results of the great painter’s meditations on mechanics. Cardan’s great reputation and the wide diffusion of his publications made them known everywhere. Through the writings of Cardan, Leonardo’s ideas reached Galileo, Kepler, and Simon Stevin and exerted a powerful and beneficial influence upon the development of mechanics.

The view which we have just expressed has momentous consequences for the history of mechanics. It shows the path by which Peripatetic mechanics spread through Leonardo’s and Cardan’s writings into modern science so as to fecundate it after having been locked away for centuries by its Scholastic commentators. If this view is correct, it should help us to better understand the evolution which permitted the seeds contained in the science of the School to burst their archaic shell and produce the science of the 17th century. Thus it is important to support our view with solid arguments.

It is unfortunately an all too certain fact that Leonardo da Vinci’s manuscripts had fallen prey to looting in the midst of the 16th century. We know the negligence of those who were supposed to guard this precious trust:

Not only did the works of the great painter perish, says Libri, but the great majority of the books containing his notes were lost too. After his death, all of his manuscripts, drawings, and instruments became the property of his pupil, Francesco Melzi, to whom he had bequeathed them. Melzi, who was only a dilettante, transferred this precious heritage to his home in Vaprio, close to Milan. His descendants ignored the existence of the trust and when a man by the name of Lelio Gavardi, a relative of Alde Manuce the Younger, and tutor to the Melzi family, saw how the family was letting this fine collection go to waste, he stole thirteen of these manuscripts and took them to Tuscany in order to sell them to the Grand Duke Francis I. The prince, however, had just died and the manuscripts were left in Pisa with Alde, who showed them to his friend Mazenta. Mazenta greatly disapproved of Gavardi’s conduct, who, now ridden by remorse, asked Mazenta to take the manuscripts back to Milan and to the Melzis. The head of the Melzi family, Horace, completely unaware of their value, gave the thirteen volumes to Mazenta. He also told Mazenta that many more drawings and manuscripts of Leonardo were stashed away somewhere in his house in Vaprio. In this way, several interested parties obtained the drawings, the instruments, the anatomical specimens and all the rest of Leonardo’s legacy. Pompey Leoni, a sculptor in the service of Phillip II, was one of those who obtained the largest share.

Thus everyone ransacked and helped himself as he pleased to the treasures amassed by the genius of Leonardo. Some treatises were kept by those particularly interested in them while the others circulated from hand to hand until they were lost. We know from Pacioli that Leonardo