
Book Review

Luca Pacioli, a man who deserves to become known to Americans

by Stephanie Ezrol

No Royal Road: Luca Pacioli and His Times

by R. Emmett Taylor

Ayer Company Publishers, Salem, New Hampshire (Reprint of 1942 edition, Arno Press collection, "Dimensions of Accounting Theory and Practice," 1980.)

445 pages, clothbound, \$32.00.

Fra Luca Pacioli is best known today as the close collaborator of Leonardo da Vinci and Piero della Francesca. R. Emmett Taylor wrote his book in 1942 in an effort to defend Pacioli's reputation from a variety of slanders including the irrelevant charge that he had plagiarized his work from his acknowledged teacher Piero and others.

This reviewer, having worked professionally in the field of accounting, was first drawn to Taylor's book on Pacioli because almost every modern textbook on accounting mentions in its introduction that the first treatise on double entry bookkeeping was written in 1494 by Luca Pacioli. The seemingly odd coincidence of Pacioli's specialties in art, geometry, military affairs, theology, and music, among others, aroused my curiosity and prompted an active investigation both into the book now under review, and the works of Pacioli.

The 1980 reprint of *No Royal Road* was published as a volume in the Arno Press collection, "Dimensions of Accounting Theory and Practice." Art aficionados are shocked and amazed at this classification of the life and times of Luca Pacioli. The only written work of Luca Pacioli available in the English language is a translation of the bookkeeping section of Pacioli's 1494 book, *Summa de Arithmetica. Geometria, Proportioni. et Proportionalità*.

Pacioli's instructions are essentially the same as formal bookkeeping procedures in use today.

Pacioli writes, "Accounts are nothing else than the expression in writing of the proper order of your affairs." This contrasts with the currently prevailing nominalist approach to accounting, in which artificial categories are estab-

lished, not to measure the real physical activity of a business, but to conform instead with false ideology underlying usurious tax law and investment banking practice.

Leonardo da Vinci and Pacioli

Pacioli came to Milan in 1496 to serve as a teacher of mathematics at the ducal court. He came to know Leonardo intimately, and they worked together on Pacioli's *De Divina Proportione*.

Leonard was during this same period creating his masterpiece, *The Last Supper*. This collaboration was interrupted by the French invasion of Italy. Pacioli and Leonardo left Milan together in 1499, and went to Mantua, and then to Venice, and finally to Florence. Taylor unfortunately gives us very little of the substance of the collaboration between Leonardo and Pacioli.

Lyndon LaRouche explained the importance of Pacioli's role as chief promoter of the five "Platonic solids," in a recent issue of *EIR*, (Vol. 14, No. 36, page 20ff.):

Leonardo da Vinci was brought to systematic study of Cusa's scientific work through Leonardo's Milan collaborator, Fra Luca Pacioli. . . . From the collaboration between Pacioli and Leonardo, nearly all of modern science was set into motion, together with several revolutions in painting and music.

The 'true' Euclid

In 1509, Pacioli published his own edition of the *Elements* of Euclid. The book appears to have been published in both Latin and Italian; however, the Italian edition has disappeared. While it is impossible for me to comment on the text of Pacioli's now-missing translation, the commentary on that Italian translation raises many interesting questions about the history of constructive geometry, and the corruption of what is known today as Euclid's *Elements*.

Pacioli dedicated his edition to Cardinal Francesco Soderini. He writes in the dedication, "At one time I was prevailed upon by the very insistent prayers of friends and es-

pecially your and my friends of whom the dearest to me is Leonardo da Vinci to publish the work. You will read with the wonted tranquillity of countenance a Euclid presented by me in the vernacular. As this work has been written for the use of us all and is fraught with the greatest usefulness for the human race, so may it be accessible to everyone, so that our country may through the instrumentality of language be enriched in these disciplines.”

Following this dedication is an epigram from Daniele Caetani of Cremona, “Sadly Euclid returned from Hades’ shades wan, misshapen, his face hidden by dust. Hospitality he asked many a person, in pitiful tones as he made his way through the public squares, thresholds of kings, and schools. He was received by no one except those who mistakenly thought they were acquainted with him but his glory but poorly shone for his being recognized. And for long he journeyed to the farthest shores of the world to see if any right hand might succor him in his wretchedness. Finally he discovered such a one as the happy fates brought in answer to his prayers for patrons. This is the brother (Paciolus) by whose means he is now radiant and beautiful and is restored just as he was in antiquity.”

Also published in the same edition is a letter from Daniele Caetani to Daniele Reniero, a patrician mathematician and humanist. Caetani notes, “However, although I am prevented from speaking in praise of Paciulus, nevertheless I cannot be silent, namely, that Euclid, whether in the press or in the hands of the translators was so confused, so mutilated, so absurdly done that whoever studied the subject either did not understand it or else introduced error from outside into Euclid itself. Now indeed where the lyncean eye of Lucas Paciulus has penetrated between the Symplegades and into the many swirling Charybdis of error, the road has been made even, the passage safe, the route unencumbered through the dark byways, and the true Euclid has been brought back accessible to everyone.”

Educating the citizens of a republic

Pacioli’s mission, as exemplified by all of his written works, was to make available to the artists, artisans, and engineers as well as the dukes and princes of the Italian city-states, the most advanced scientific knowledge and method.

Pacioli made models of the five regular Platonic solids which he distributed as gifts to dukes and princes. On at least three occasions, formal presentation of them as gifts had been made to illustrious persons.

Pacioli writes in the architecture section of the *Divina*, “The most beautiful forms of said material bodies I have with my own hands here in Milan arranged, colored and decorated . . . and arranged a set for my patron Galeazzo Sanseverino and as many more again in Florence for Our Most Excellent Gonfalonier Piero Soderini which are at present found in his palace.”

He wrote in a mixture of Latin and Italian, which accord-

ing to Taylor was necessary because the dead Latin language was incapable of communicating advanced scientific concepts. “For practical purposes the Italian had to be used because it was the only means by which technical and scientific ideas could be expressed and understood. At the end of 15th century science was greatly enriched, but was still in conflict with book learning. At Milan, applied science found a language.”

Pacioli was a professor of mathematics in Perugia, Florence, Pisa, and Bologna. Beyond his university lectures, Pacioli gave public lectures throughout Italy to audiences of churchmen, scholars, bankers, businessmen and ordinary citizens. Taylor’s scholarship, which took him to archives and libraries in Rome, Milan, Bologna, London, Geneva, and elsewhere, makes available to the 20th-century English-speaking reader knowledge of much of Pacioli’s previously unknown writings.

The following lecture, reprinted in its entirety by Taylor, is the only record now remaining of one of Pacioli’s public lectures. Given on Aug. 11, 1508 in Venice, the lecture was printed as introduction to Euclid’s fifth book. I believe it makes clear in a concise fashion the coherence between science, Augustinian theology, and beauty.

Pacioli tell his audience,

Of all arduous and difficult things, oh very reverend Lords, venerable Fathers, very eminent Doctors, distinguished Gentlemen, very intelligent students of whatsoever field of study, and you remaining very distinguished citizens, the most difficult is proportion. This is the quality which alone penetrates the inmost being of the most high and undivided Trinity, and is investigated very sagaciously by sacred theologians. . . . For there is nothing else in the upper universe and in the lower universe than the proportion necessarily among things, or the relation which is sought. They who are concerned with sacred literature never would have been able by tongue or pen to explain the procession of the Holy Ghost from the Father and the Son, due to the reciprocal love of them, except they had first been able to explain the relation between them, that is, of the Father to the Son and vice versa. This relation the Great Architect always held before His eyes in the arrangement of the celestial and terrestrial worlds since He spaced at most regular intervals the orbits and revolutions of the sun and moon, the stars, and all other planets. This was before His eyes when He was establishing the aether above, and was hanging the foundation of the earth, and weighing the streams of water, and giving its bounds to the sea, and imposing a law upon the waters that they might not surpass their borders. . . . In what way could mankind be carried away into love especially for the invisible, if he did not see a certain relation of the creature to the creator?

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and His Times R. Emmett Taylor

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