CHAPTER 9

Medieval Mechanical Clocks

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On December 28, 1372, in the small Lower Austrian town of Tulln on the Danube, about 30 miles west of Vienna, a man named Niclas Swaelbl, burgher of Breslau (Wrocław) in today’s Poland, swore an expiatory oath in front of the judge and the members of Tulln’s town council. He came before the court, because he had killed Konrad, the local town clerk. The judge and the council decided that, for the “improvement of his soul” (ze pezzrunz seiner sel), he should construct an arloy, that is, a clock, for St. Stephen’s parish church in Tulln, das sich selber slach an welher glokken man im zaigt (a clock with striking mechanism). Moreover, Niclas was ordered to make a pilgrimage to Rome. All this was to be done between then (December 28, 1372) and Saint Michael’s day of the following year (September 29, 1373), that is, during the next nine months. Then he would again be granted freedom of movement in Tulln and Austria. He should be liable with all his goods in Breslau and anywhere else.

Niclas Swaelbl was a clockmaker, one of these specialist artisans who, particularly in the second half of the fourteenth century and first half of the fifteenth century, were internationally acknowledged and needed. He apparently did the job imposed in Tulln, although there are no more surviving sources about this particular novelty of a striking clock in the small Lower Austrian town at a time when even the nearby capital of Vienna did not yet possess one. This is not the only case that shows the attempts of small communities to outdo larger and wealthier cities by possessing a mechanical clock. We should add that the local court’s decision to “improve” Swaelbl’s “soul” may also be compared with the well-known late medieval donations for the support, building, and repair of other common and public necessities of communities,


3 Dohrn-van Rossum, History of the Hour, p. 141, mentions, for example, the small Silesian town of Schweidnitz near Breslau. As early as 1370 the town representatives ordered “a clock equal to the one in Breslau or better.”
like roads, paths and bridges. These were also seen as pious contributions meant for the salvation of the donors’ souls.4

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Some years ago, the German historian Gerhard Dohrn-van Rossum conducted an extensive study of the development, function and perception of mechanical clocks in the late Middle Ages.5 My contribution is meant to offer some additional observations concerning the variety of values that were connected with clocks, their function, use, and public presentation.

The first European boom of the new invention of the mechanical clock was between 1370 and 1380, as the story about Niclas Swaelbl indicates.6 The earliest evidence of public clocks originates from northern Italy in the first half of the fourteenth century. Around the mid-fourteenth century, an “internationalization” can already be demonstrated, with clocks in urban centres and residences of England, Sweden, France, and Germany.7 Some of the clockmaker specialists traveled through all of Europe, even to today’s Ukraine and further (for instance, Moscow, 14048), constructing clocks in a large number of mainly urban communities that had enough funds to afford the new mechanical devices to measure time, prestigious objects to be seen and heard in public.

With regard to surviving late medieval specimens, one of the most famous examples is the mechanical clock and astronomical dial on the southern wall of the Old Town City Hall in Prague (Fig. 9.1), dating back to 1410 and constructed by a local clockmaker and a professor of mathematics and astronomy at Charles University.9 This Prague orloj was one of the most prestigious pieces among the complex mechanical and astronomical clocks designed and constructed during the fourteenth and fifteenth centuries.

5 Dohrn-van Rossum, History of the Hour.
6 Concerning this boom, see ibid., pp. 157–159; with regard to the invention of the mechanical clock and its dissemination during the Middle Ages and the early modern period, generally, see ibid., pp. 45–215.
7 Ibid., pp. 129–133.
8 Ibid., p. 161.