Possible Palladian Villas

(Plus a Few Instructively Impossible Ones)

The title-level DOI for this work is:

doi:10.7551/mitpress/5487.001.0001

PREFACE

In 1985, I was a college senior majoring in computer science, with an abiding interest in architectural history, when a particular course caught my eye—a seminar on Italian Renaissance architecture. I enthusiastically enrolled and to my good fortune, the course was taught by George Hersey. Professor Hersey was a leading scholar of the period with wide-ranging interests that included, I came to learn, the use of technology as a research tool, a novel concept in the humanities back then.

Early in the semester I read Andrea Palladio's classic treatise *The Four Books of Architecture*. I kept returning to the Second Book, the most renowned of the four, containing his plans and elevations for over 40 domestic residences, many built and standing today. It struck me that the Second Book constituted a database, so to speak, sufficiently large and sufficiently regular that I might be able to abstract the underlying design rules and program a computer to generate new Palladian villas. When I proposed doing just that to George as my semester research "paper" I expected him to say it was a coding project, not a research paper, and I should find another topic.

George's response was just the opposite; elation would be a more apt description, that I would both propose such an outlandish idea and have the training to execute it. That seminar project, a primitive version of the software, was the beginning of *Possible Palladian Villas*. With George's encouragement, I later revised the software and wrote about it in an academic journal. He then proposed we collaborate on a book, a substantial undertaking that required writing, illustrating, and coding new software far more advanced in its design capabilities and usable by readers of the book.

That last point was critical to me. Readers of the book had to be able to run the software on which the book was based. That meant I had to develop the software as consumer software, for use on a personal computer, and not as a research project for use only on a big university computer system inaccessible to the public. However, personal computers were not very powerful in the early 1980s. Nearly all consumer software at the time was text-based—think Word Perfect and Lotus 123—and one cannot render architectural plans in text. PC software development tools were primitive and even the most basic graphics programming, like drawing a line on a screen, was impossible on a personal computer except in Basic, a language unsuited for anything but the smallest programs.

Consequently, in addition to George's encouragement and collaboration, *Possible Palladian Villas* would have been impossible without a major technological innovation of the time, the release of the Macintosh in 1984. The Mac

made graphics programming vastly easier. By 1989, when I began developing the final version of the software, I had the luxury of programming on a Mac SE with 2 MB RAM, a hard disk and a good C compiler. I was able to improve the plan-making functionality, implement the ability to design facades, and add a graphical user interface to make designing Palladian villas almost game-like.

Time does pass and the software underlying and accompanying *Possible Palladian Villas* has not run on new Macintosh models for many years. I had to purchase a Mac SE from Ebay to show the software to my children, born many years later. But when I did, they had the same sense of wonder I'd had decades earlier, after I had finally debugged the software and gotten a computer to design like Palladio for the first time.

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December 2018