

PREFACE

THIS MONOGRAPH is based on a great number of new archival documents discovered only in the last half dozen years. It also incorporates relatively new archeological findings unearthed in digs in various regions of Europe. Although the focus is necessarily on Italy, the home of the invention of eyeglasses and where the bulk of the documents are located, it strives to include developments on a European-wide scale as much as the relatively few surviving sources can allow.

The remote origin of the book goes back to the beginning of the 1960s with a chance discovery of two orders for eyeglasses totaling at least 300 pairs which was placed by the dukes of Milan, Francesco Sforza and his son, Galeazzo Maria, to Florentine spectacle makers through their ambassador in Florence between 1462 and 1466. These orders were packed with new optical information that has not been surpassed in quantity and specificity until the late sixteenth century. In particular, they established the pre-eminence of Florence in the production of eyeglasses both for presbyopes and myopes with lenses graded in progressive powers in five year intervals for ages 30 to 70 for the former, and in two grades for the latter—practically prescription glasses. I published these documents at the end of 1976 after consultation with the late Professor Edward Rosen of New York, who had published the fundamental article on the invention of spectacles, and later with the late Professor Vasco Ronchi of Florence, another pioneer in the early history of eyeglasses. Both encouraged me to continue exploiting archival resources for additional documentation, especially because such detailed optical information was not available in scientific texts until late in the following century. Additional encouragement came from the many requests for offprints of the article by ophthalmologists, opticians, and medical schools, two of the latter located behind the then active Iron Curtain!

The kind reception of this first effort soon provoked a flood of correspondence, especially with historically minded opticians and collectors of antique spectacles, all craving additional new data about the early history of spectacles. It also spurred colleagues and students to send me additional references to eyeglasses so that soon I became the depository of this information, which I published in a number of articles. Gradually the history of this vision aid became another research interest for me alongside the history of Renaissance diplomacy, which was and remains my major interest. Most of the new sources discovered, however, confirmed Florence's leading position in this field at least up to the sixteenth century, and only a few of them mentioned Venice. Yet, to this day Venice comes to mind first whenever eyeglasses are mentioned because of its leading

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glass industry. However, my best efforts and those of my friends in Venice to find relevant sources in the Venetian archives and libraries have failed repeatedly. Venice, no doubt, had an imposing spectacle making industry, but this is a supposition that must be accepted on faith. Unlike Florence, Venice does not have the necessary documentation mostly because the itinerant spectacles vendors apparently kept no account books and the customs records, a good source of information in other places, were destroyed in the nineteenth century to make room for more “important” papers.

Except for the above-mentioned Milanese correspondence, which revealed that eye-glasses could be ordered in fairly large quantities, the other sources discovered consisted of individual orders with no hint of large-scale production in Florence. Nor could one get this information from articles and monographs on the artisan industry of this city because Florentine economic historians were not even aware that such a spectacle making industry existed. There can hardly be a more eloquent demonstration of this neglect than the fact that in 1999 the second volume of a multivolume history of Florence’s artisan industry devoted to the fifteenth century was to appear without mention of the spectacle making industry until I was invited at the last moment by one of the editors to quickly submit a chapter based on my previous publications.

Clearly the question of establishing production figures in Florence became of great concern to me, especially after I received a request by Professor Laura Abbozzo Ronchi to write an article on the history of spectacles in memory of her father, Vasco Ronchi. Unless I could discover these figures and have even an approximate idea of the extent of the Florentine spectacle making industry, I would be repeating much of what had been written before. Fortunately, Florence has the most extensive commercial documentation of any city in Europe for this period and the answer had to be in those records. But how could a man in his middle seventies, in retirement, hope to wade through those records consisting of thousands of account books and hundreds of thousands of commercial letters? It was a case of mission impossible but one that became possible once I was able to gain the interest of leading Florentine economic historians, who worked daily on account books and commercial correspondence.

I discussed my predicament with Richard A. Goldthwaite, Florence’s leading economic historian with a special interest in its artisan industry, and he gladly agreed to cooperate. Soon after, other economic historians—Marco Spallanzani, Lorenz Böninger, and Sergio Tognetti—gave their enthusiastic assent. Within weeks they began to send me a flood of new documents about sales and exports of Florentine spectacles throughout Europe and the Levant as well as the names of at least fifty-two spectacle makers, an astounding number for this period (early fifteenth century to the middle of the sixteenth). To everyone’s surprise they had discovered an extensive industry whose existence was totally unknown. That such neglect could take place even among experienced

researchers requires explanation. No one in his right mind would spend time searching for eyeglasses in Florentine records knowing that Venice was the place to look for them. Moreover, spectacle prices were so low that even when exported in large quantities they would not be noticeable among the huge sums involving textiles, spices, and other major commodities.

This is a common phenomenon in archival research—one concentrates his attention on a particular line of inquiry disregarding the rest since he cannot be interested in everything. How many diplomatic historians would interrupt their research in high affairs of state to take note of two orders for eyeglasses found in diplomatic files? This correspondence had lain unnoticed for more than five hundred years in the Milanese archives, and chances are that it would have remained so probably for at least a generation or more except that curiosity got the best of me that day. To be sure, the world would have gone on spinning if this discovery had not been made, but I am confident that Florentine economic historians, historians of optics and optical instruments, including the telescope, and a significant number of interested ophthalmologists and opticians worldwide are happy that it came to light, judging from my bulging correspondence and comments in the scholarly literature.

Regrettably, some scholars in Venice are not happy about these developments and this has become a serious matter for a few of them. It may surprise readers, especially those on this side of the Atlantic, that the priority of the invention of eyeglasses and the history of their early development are still hotly contested by Venice and Florence. Evidence for this late exhibition of anachronistic *campanalismo* (parochialism) has been treated in the text and need not be repeated here except to add some disconcerting personal experiences. As my publications of additional evidence relating to Florence's pre-eminence in spectacle manufacturing, especially in the fifteenth century, have progressed, some of my Venetian friends declared in a friendly manner that eventually they were going to prove me wrong. Not so friendly, however, was the remark made by the president of a leading optical firm in the Cadore region north of Venice, that what I had written about Florence's leadership position was not true, even though he didn't bother to produce any contrary evidence. Even more amazing is the fact that some American scholars specializing in Venetian or Florentine history take partisan positions on this issue.

On the other hand, it should be noted that the Florentine public in general are blissfully ignorant of this question altogether. Were they more informed they could rejoice in the mass of new documents just discovered and proceed to dismantle the hideous false funeral monument erected in the nineteenth century to the mythical inventor of spectacles, the Florentine Salvino degli Armati. Pisa itself, the most likely place for the first appearance of eyeglasses, is no less well informed. To this day there is not even a plaque commemorating the two friars who lived in the Dominican Monastery of Saint

Catherine of Alexandria—Alessandro della Spina, the “second optician” in history, and Giordano da Rivalto—who announced the discovery from the pulpit of the Dominican Church of Santa Maria Novella in Florence in 1306.

Faced with this contentious issue and the attendant questions about my published conclusions, as early as 1993 I felt the need to declare my neutrality based primarily on my family background and multi-archive research supporting these conclusions. Being American by birth, Sicilian by upbringing for my first fourteen years, and Milanese by self-adoption, all should provide sufficient diversity of influences and carry some assurance that I am able to offer a more impartial perspective. The reference to Milan simply reflects the fact that I began my career as a researcher in the State Archives of that city, and it was the diplomatic correspondence of the Sforza dukes that led to this re-examination of the early history of eyeglasses. Surely Milan deserves some credit!

It should also be added that the very composition of the group of the four economic historians named above, whom I call affectionately “the gang of four,” offers a comforting diversity—one is American, another is German, two are Florentines. I have read almost all the originals of the transcriptions they sent me simply as an exercise in self-education in handling sources relatively unfamiliar to me. I found no distortion of evidence and no hint of any Florentine conspiracy against Venice. The fifth member of the “gang” is another American—Charles E. Letocha, practicing ophthalmologist, historian of spectacles, and collector of antique vision aids. He has assisted me in answering numerous questions from his worldwide contacts with the medical and optical community, and has supplied a great number of illustrations from his vast archive of photographic images, one of the most extensive in the world. He, along with Goldthwaite and A. Mark Smith, a leading historian of medieval optics, has read the manuscript. Jay M. Enoch, retired dean of the School of Optometry at the University of California, Berkeley, read and commented on the first four chapters. I am grateful to all the readers for their constructive comments. It is customary to say at this point that I am solely responsible for whatever errors remain in the narrative.

As knowledgeable as the above-mentioned readers are, they could not be expected to have firsthand knowledge of related developments throughout Europe. For this I had to rely on the advice and cooperation of a great number of scholars in various countries, especially in England and The Netherlands. A significant number of them had already graciously volunteered their services as soon as they heard that a new history of spectacles was being prepared. Documentary evidence, news of archeological finds, pictures of bespectacled persons in museums, etc., reached me in a steady stream. There may be other instances of such scholarly cooperation and generosity but this experience feels unique to me. And so it is with great pleasure and gratitude that I acknowledge hereby these additional individual contributions, hoping not to omit anyone. The details of their contributions have been noted in the footnotes.

Beginning at home, I would like to thank the following graduate students (some now colleagues), who put up with this obsession of mine in my seminars at Yale and discovered new sources: Stefano U. Baldassarri, Allegra di Bonaventura Hogan, Claudia Chierichini, Paul M. Dover, Bernardo Piciché, and Marcello Simonetta. At the University of Massachusetts (Amherst) the staff of the Interlibrary Loan Department, headed by Kathryn A. Ridenour, performed miracles in locating rare publications and promptly securing copies of journal articles. At the Office of Information Technologies, Kevin M. Skelly, Software Support Manager, more than once rescued my data with exemplary skill and patience. Particularly helpful and supportive has been the editor of the *American Philosophical Society*, Mary McDonald, whose patience and kind understanding helped me to overcome personal crises during the long gestation of this book. Closer to me at home, my wife, Nina, managed the logistics for our many research trips abroad, occasionally lent a hand in libraries and museums, and performed many other tasks that would have taken precious hours away from the depositories.

In Milan several friends lent support and advice in various ways. The late Sergio Lucoli offered his vast experience in the Italian publishing world. Giorgio Tassara, president of the optical firm Metallux, published my first book on this subject. This book was translated into graceful Italian by the playwright, novelist, journalist, and historian Guido Lopez, who also translated my articles on this and other topics for a couple of Italian journals. The leading historian of medieval and Renaissance Milan, Franca Leverotti, used her intimate knowledge of Italian publishing to offer advice and lay the groundwork for an Italian edition in the near future, while spurring me on to complete the book so that we could pursue our overriding common research interest—the history of Renaissance diplomacy.

Additional assistance came from other friends in Rome, Florence, Venice, and Croatia. In Rome: Arnold Esch (retired Director of the Istituto Storico Germanico), Gerardo Piciché, Maurizio Pallone, Paola Potestà, and the staff of the Fototeca dello Stato (Paolo Ferroni). In Florence, in addition to those named above, I am indebted to Anna Affortunati, Marco Beretta, Marialuisa Bianchi, Niccoló Capponi, William J. Connell, P. R. Del Francia (Centro di Restauro della Soprintendenza Archeologica per la Toscana), Pasqualino Di Nardo, Gloria Fossi, Maria Fubini, Paolo Galluzzi, Edward Goldberg, Orsola Gori, Maria Letizia Grossi, Alessandro Guidotti, Bill Kent, Aldo Landi, Laura Abbozzo Ronchi, Sharon T. Strocchia, Guido Vannini, and Nicholas Wilding. In Venice, I am grateful to the following friends for helping me search for those ever-elusive Venetian documents: Reinhold C. Mueller, Maria Francesca Tiepolo, and Francesca Trivellato. The late Astone Gasparetto helped me to confirm my hypothesis on the seeming neglect of spectacle production in Venice before the sixteenth century. In considering sources in nearby Croatia, I was fortunate to have the advice of Vjekoslav Dorn, professor of ophthalmology at the University of Zagreb, whose publications on the history of eye-glasses in this area are based on extensive archival and pictorial evidence.

After Italy, England supplied the bulk of the evidence in documentary sources and surpassed all others in archeological finds and superb analysis of the artifacts. I am grateful to the following scholars for their assistance and gracious welcome: Harry S. Cobb, John Clark (Museum of London), Sabine Eiche, Francis Grew (Museum of London), Neil Handley, Vanessa Harding, Elizabeth Leedham-Green, Stuart Jenks (who teaches at the University of Erlangen, Germany), Ronald J. S. MacGregor, Valerie Mellor, Michael Rhodes, Adele and Bernard Schaverien, Dennis Simms, Judith Stevenson, and Richard J. Walsh. The Ophthalmic Antiques International Collectors' Club served as a mine of information on the latest findings about the history of spectacles, though some of the articles in its newsletter are published without references and a couple of the authors refused to divulge their sources even when privately contacted.

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In closing, I should like to conclude with the plea that this work be continued. After

all, the following pages offer only the first results of a long research project carried out with sources of gigantic proportions. These records have much more to reveal. But this work can be most successfully accomplished by various researchers who work daily on these sources and are willing to note and share the references to spectacles as they pursue their major interests. One or two members of the “gang of four” are ideally suited to act as coordinators and propagators of this new knowledge so that the present monograph can be constantly updated. Or a new “gang” can be constituted, hopefully with research funds supplied by an optical firm, which is relatively free of parochialism. It will be a dream worth pursuing!

