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HEFT I

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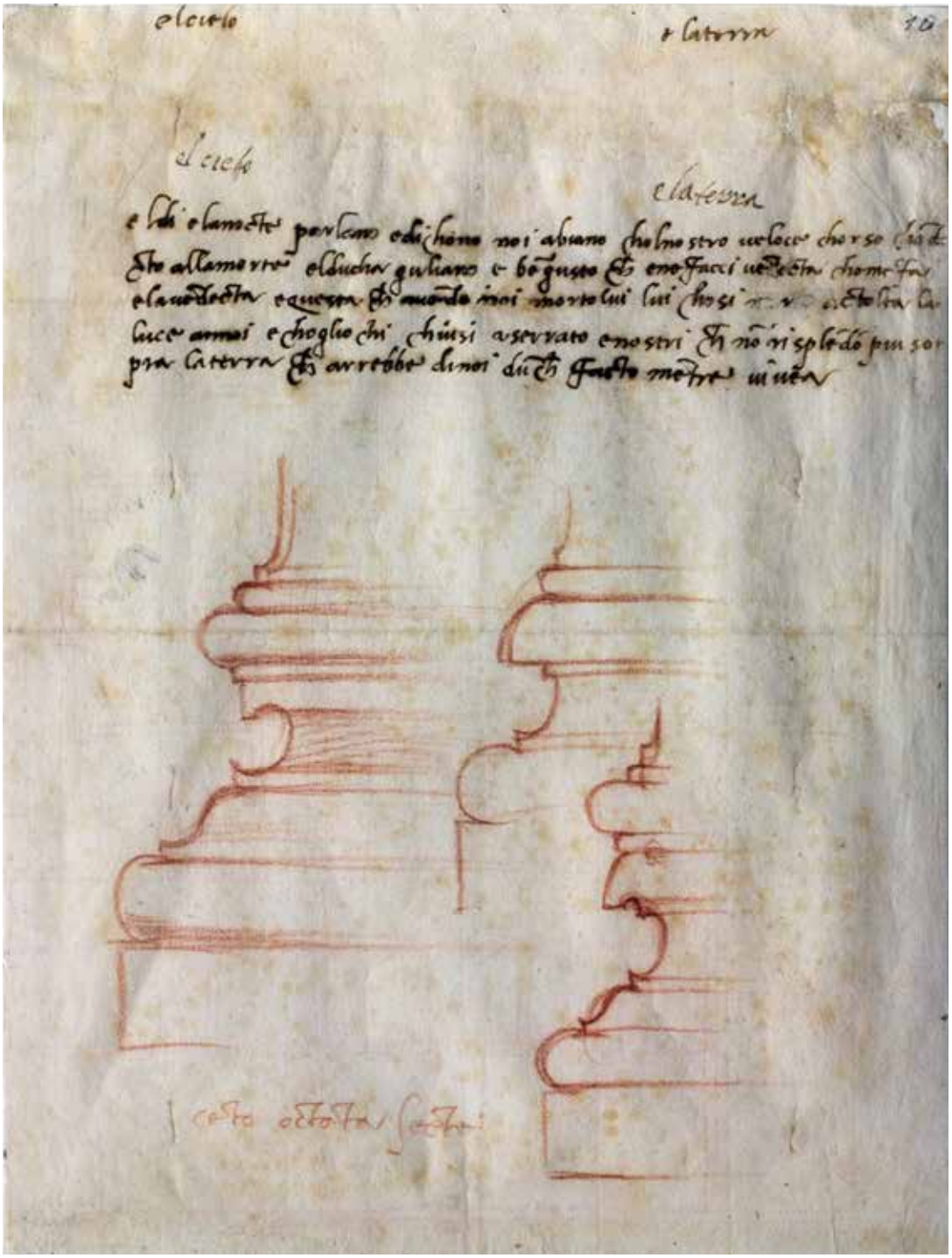


1 Michelangelo Buonarroti, profile studies for the Medici Chapel. Florence, Casa Buonarroti, inv. 10Ar

TRACING MICHELANGELO'S *MODANI* AT SAN LORENZO

Jonathan Foote

Introduction

In an often cited passage, Giorgio Vasari praises Michelangelo for introducing novel cornices and column base profiles at San Lorenzo, having finally "rotti i lacci e le catene" of Vitruvius, antiquity and common use. "La quale licenzia", he writes, "ha dato grande animo, a quelli che ànno veduto il far suo, di mettersi a imitarlo, e nuove fantasie si sono vedute poi, alla grottesca più tosto che a ragione o regola, a' loro ornamenti".[1] Widely studied since Vasari in terms of formal invention, Michelangelo's extraordinary implementation of architectural profiles seems to have had a close relationship with his working methods and techniques. To examine this, we turn to an illuminating set of surviving *modani*, the natural or full-scaled template drawings made by Michelangelo for use by the San Lorenzo stone carvers to guide details and ornaments.[2] Comprised of eight paper *modani* and one large folio containing *modani* tracings, all in the care of the Casa Buonarroti, these drawings offer valuable, previously unacknowledged clues into Michelangelo's unusual approach to conceiving architectural profiles and details.[3]

Following a re-examination of these documents, new assertions can be made about how Michelangelo generated his *modani* via a complex taxonomy of physical operations, whereby he used the *modani* themselves to produce new, altered *modani*. He relied on techniques

[1] Giorgio Vasari, *Le vite de' più eccellenti pittori, scultori e architettori nelle redazioni del 1550 e 1568*, ed. by Rosanna Bettarini/Paola Barocchi, Florence 1966–1997, VI, p. 55.

[2] The vocabulary of terms used to indicate drawings of life-size or natural scale is discussed later in the essay. Typical modern terms, such as "scale I:I", obscure the pre-modern significance of these types of drawings.

[3] The examined set encompasses: CB 61A (Charles de Tolnay, *Corpus dei disegni di Michelangelo*, Novara 1975–1980, no. 203); CB 59A (*ibidem*, no. 204); CB 92A (*ibidem*, no. 525); CB 53A (*ibidem*, no. 534); AB,

such as flipping and sliding to enable creative negotiations based on substitution, reversal, and stretching, effectively utilizing them as paper tracing devices. Not incidentally, such processes were also at the root of Michelangelo's exceptional approach to the antique lexicon, where conventions of module and moulding sequences were a source of figural deformation and dismemberment rather than rote implementation. A number of now memorable sheets have fascinated generations of scholars in trying to understand this process; one of these is CB 10Ar (Fig. 1), where Michelangelo engages in a quick-witted mutation of an attic column base into a face profile. Normally, the examination of Michelangelo's profile generating process begins with his *schizzi*, or perhaps the built work, but in this case new findings become available when starting with the *modani*. The practice of making *modani* and Michelangelo's idiosyncratic approach to the profile line have only been tangentially connected; however, in positing a stronger link between the two, remarkable findings emerge.[4]

To help introduce this connection, it is worth recalling that Vasari recounted a strict directionality from early ideas of the spirit, called "schizzi", and those that would be measured in compass and rule for implementation by others:

> Gli schizzi, de' quali si è favellato di sopra, chiamiamo noi una prima sorte di disegni che si fanno per trovare il modo delle attitudini et il primo componimento dell'opra; e sono fatti in forma di una ma[c]chia e accennati solamente da noi in una sola bozza del tutto. E perché dal furor dello artefice sono in poco tempo con penna o con altro disegnatoio o carbone espressi solo per tentare l'animo di quel che gli sovviene, perciò si chiamano schizzi.[5]

Then, he states, the sketches go through a period of refinement, where "vengono poi rilevati in buona forma i disegni", and finally, "misuratili con le seste o a oc[c]hio, si ringrandiscono da le misure piccole nelle maggiori, secondo l'opera che si ha da fare".[6] What becomes interesting is how the *modani* overturn this strict mode of working, particularly in the hands of Michelangelo. A close examination of the documents will show precisely this: just as the *modani* encroach on the technical domains normally associated with more tentative stages in the project, i.e. *schizzi*, the imaginative operations of *schizzare* are adopted to some degree from those of the *modani*. Recognizing the status of paper as a common support for both profile sketches and construction-ready templates, *modani* allow Michelangelo to disrupt Vasari's normative definitions and, almost literally, sketch in stone. Embraced between a kind of chiasmus, where they are both *modelli* and *disegni* at the same time, but also neither, the *modani* take on a critical capacity in Michelangelo's conception of and innovation in the architectural profile.[7]

Michelangelo's *modani*

The extant *modani* encompass a period spanning from 1523 to 1534, referencing the Medici Chapel and Laurentian Library at San Lorenzo (Fig. 2).[8] Michelangelo's *modani* from this period represent, in fact,

XIII, fol. 157 (*ibidem*, no. 536); CB 60A (*ibidem*, no. 527); AB, XIII, fol. 134 (*ibidem*, no. 538); AB, XIII, fol. 127 (*ibidem*, no. 539); AB, I, 59, fol. 151 (*ibidem*, no. 540).

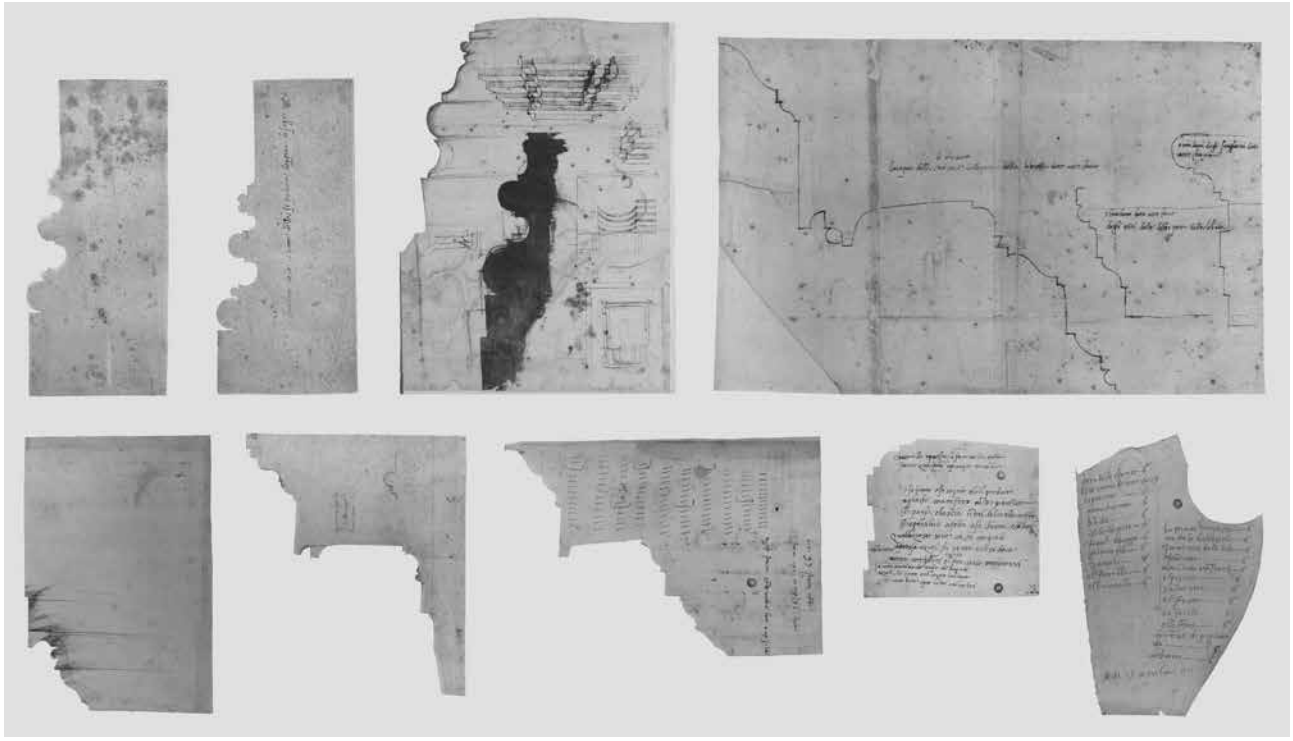
[4] The specific meaning and interpretations of Michelangelo's *licenza* are not taken up here. Rather, what is investigated is the physical processes that are in support of such an approach. For an overview of the term in the sixteenth century, see Alina Payne, *The Architectural Treatise in the Italian Renaissance: Architectural Invention, Ornament, and Literary Culture*, Cambridge 2010 ([1]1999), pp. 15–33.

[5] Vasari (note 1), I, p. 117.

[6] *Ibidem*, pp. 117f.

[7] The tension between drawings and models is captured in the etymology of *modano*. Sharing a common root with *modello*, the variations on the term – *modino, modeno, modono* – are all distinguished by the characteristic use of 'n'. A *modano* is described as a derivative of the Latin *modulus* with the addition of a suffix derived from the Latin word *pampinus*, or grape-leaf, suggesting a kind of 'leaf-model'. See Giacomo Devoto, *Avviamento alla etimologia italiana: dizionario etimologico*, Florence 1967, *s.v.* "modine" and "modano", p. 271.

[8] On a general history of San Lorenzo during the time of Michelange-



2 Michelangelo Buonarroti, San Lorenzo *modani* (shown in relative size). Florence, Casa Buonarroti, inv. 61Ar; 59Ar; 92Av; 53Ar; AB, XIII, fol. 157v; 60Ar; AB, XIII, fol. 127v; AB, XIII, fol. 134r; AB, I, 59, fol. 151r

the most complete set of surviving cinquecento *modani*. Certainly, the paucity of surviving documents from the period reflects their dual status as construction tools, consumed in the building process, and media for conceiving ornaments and profiles at the architect's drawing board. In surveying other *modani* for comparisons, much textual evidence remains, testifying to their prolific use by architects as early as Leon Battista Alberti and Giuliano da Sangallo.[9] For visual comparison, one must rely in the end, however, on only a few actual, surviving *modani*. Among these, one may count three from Bartolomeo Ammannati intended for San Giovannino in Florence and one *modano*, or *sagoma* as it was called in the Veneto, from Palladio's assistant Giovanni Giacomo for San Giorgio Maggiore in Venice.[10] A host of related drawings remain from the period, including never-cut *modani* and drawings of column bases and profiles rendered in *la propria forma*, or natural scale. In particular, a nearly two-meter profile survives from Antonio da Sangallo il Giovane

lo, consult Andrea Felici, *Michelangelo a San Lorenzo (1515–1534): il linguaggio architettonico del Cinquecento fiorentino*, Florence 2015, pp. 27–45.

[9] As a starting point, see Richard Goldthwaite, *The Building of Renaissance Florence: An Economic and Social History*, Baltimore 2006 ([1]1980), pp. 377f. *Modani* are mentioned in Filarete's *Trattato di architettura* as well as in Francesco di Giorgio's *Trattato di architettura civile e militare*, and they appear in the fifteenth-century construction records of Santa Maria del Fiore. *Modani* are referenced as templates for guiding bell-making again in Francesco di Giorgio, but extensively in Biringuccio's *De la pirotechnia* of 1540.

[10] On the Venetian use of *sagome*, see Ennio Concina, *Pietre, parole, storia: glossario della costruzione nelle fonti veneziane (secoli XV–XVIII)*, Venice 1988, pp. 129f., and Howard Burns, "Building and Construction in Palladio's Vicenza", in: *Les chantiers de la Renaissance*, conference proceedings Tours 1983/84, ed. by Jean Guillaume, Paris 1991, pp. 191–226: 206f.

for the monumental order of Saint Peter, described on the sheet by the architect as a "modano" but never cut.[11] Drawings in *la propria forma*, which grew out of the quattrocento culture of measuring and drawing ancient ruins, may be found periodically during the period, notably in Giuliano da Sangallo's Codex Barberini.[12] Why so many of Michelangelo's *modani* survived intact compared to those of his contemporaries may have something to do with the fact that nearly all of them contain some other identifiable autograph writing or sketches.

As paper object-models open to a variety of uses, the *modani* assume a deeply complex role. Ammannati, for example, apparently thought them suitable for inclusion into a written treatise that he was preparing but never finished.[13] Equally notable are figures such as Alberti and Palladio, who relished in the acute ability of *modani* to embody the architect's authority on a remote building project. Both architects sent *modani* to their patrons as evidence of their prowess in handling the antique lexicon. Alberti apparently enclosed a few in a letter to his patron Lodovico Gonzaga, stating, "E modoni de Sancto Sebastiano, Sancto Laurentio, la logia, sono facti, credo non vi dispiaceranno."[14] And letters from Palladio frequently enclosed *sagome*, not only for builders, but also for the specific attention of building patrons.[15] Examples throughout the quattro- and cinquecento attest to the binding contractual role *modani* played between stone carvers and patrons.[16] This is all in addition to their more conventional and well-known role as communication devices between the architect and the on-site *scarpellini*.

What arises from the fragmentary evidence of the period is a clear suspicion that Michelangelo utilized his *modani* in a unique way. Although frequently cited and published in relation to the built work, the San Lorenzo *modani* have yet to receive a comprehensive assessment. Up until recently, the primary concern of these documents has been two-fold: on the one hand, as factual support for building chronologies, related to as-built conditions; and on the other, as documents containing circumstantial markings, drawings or notes, such as employment rosters, workshop tallies, and poetic fragments. Early scholars dated the drawings and discussed them in terms of Michelangelo's autograph, and by the time Charles de Tolnay completed the *Corpus dei disegni di Michelangelo* in 1980, scholarship was generally settled in regard to most of the drawings' attributions and provenance, although there were a few exceptions.[17] More recent analyses have reached deeper into these findings, focused increasingly on how to interpret the *modani* within a rising interest into Michelangelo's working methods.

Tracy Cooper was the first to systematically draw our attention to the substance of *modani* beyond their

[11] GDSU, inv. 7976A.

[12] In the Codex Barberini, see fols. 27r, 36r, 42v, in: *Il libro di Giuliano da Sangallo: codice Vaticano Barberiniano Latino 4424*, ed. by Christian Hülsen, Vatican City 1984.

[13] Tracy Cooper, "I Modani: Template Drawings", in: *The Renaissance: From Brunelleschi to Michelangelo. The Representation of Architecture*, exh. cat. Venice 1994, ed. by Henry A. Millon/Vittorio Magnago Lampugnani, Milan 1994, pp. 494–500. Ammannati's intention to publish a treatise with the *modani* included has been disputed by Michael Kiene, *Bartolomeo Ammannati*, Milan 1995, pp. 217f. Ammannati's *modani* are collected in: *La Città Ideale*, GDSU, inv. 3462A. It remains unclear how the *modani* would have been implemented in the published form of the treatise.

[14] Letter dated 27 February 1460, in: Willelmo Braghirolli, "Leone Battista Alberti a Mantova: documenti e notizie inedite", in: *Archivio Storico Italiano*, s. 3., IX (1869), I, pp. 3–31: 8.

[15] Palladio sent *sagome* to the building patrons of San Petronio in Bologna (Giangiorgio Zorzi, *Le chiese e i ponti di Andrea Palladio*, Venice 1967, p. 115, doc. 25) and the duomo of Montagnana (*ibidem*, p. 82, doc. 3).

[16] See, for example, a contract for Santa Maria delle Carceri in Prato specifying that the work of the *scarpellino* Lorenzo di Salvadore shall be "facta in modono dicti oratorii facto Iulianum de Sangallo" (Piero Morselli/Gino Corti, *La Chiesa di Santa Maria delle Carceri in Prato: contributo di Lorenzo de' Medici e Giuliano da Sangallo alla progettazione*, Florence 1982, p. 133).

[17] Pivotal investigations by scholars on the *modani* before 1980 is extensive and cannot be comprehensively listed here. A few key reference works include: Henry Thode, *Michelangelo: Kritische Untersuchungen über seine Werke*, Berlin 1908–1913; Karl Frey, *Die Handzeichnungen Michelagniolos Buonarroti*, Berlin 1909–1911; Paola Barocchi, *Michelangelo e la sua scuola: i disegni dell'Archivio Buonarroti: testo e tavole*, Florence 1964; *Michelangiolo architetto*, ed. by Paolo Portoghesi/Bruno Zevi, Turin 1964; de Tolnay (note 3).

capacity as practical construction templates, proposing that they might even be included under the products of *disegno*, as defined by Vasari.[18] In addition to being practical devices for communication, she wrote, *modani* were also theoretical demonstrations. Their inclusion in the sixteenth-century treatises of Bartolomeo Ammannati and Galeazzo Alessi signalled an evolution of the practice of template drawing, which was now integrated into the discipline of profiling details, or *modanatura*.[19] A few years afterward, William E. Wallace offered an informative reconstruction of template use at San Lorenzo, with much important work done to illuminate connections between Michelangelo and the day-to-day work of the assistants actually executing the stone work.[20]

In some ways, Wallace's work, published in the early 1990s, coincided with a subtle shift in emphasis around the documents, with a new emphasis being placed on a close scrutiny of Michelangelo's working methods. Over the last decade, several edited volumes and exhibition catalogues have been published that include detailed discussions about many of the extant *modani*. Paul Joannides was among the first to suggest that cutting the paper constituted a creative act within itself.[21] Following this, Cammy Brothers and Alina Payne acknowledged the in-process agency of Michelangelo's template drawings, and Mauro Mussolin wrote that Michelangelo's *modani* should be understood within his larger oeuvre of architectural and figural models as instruments of artistic process and control.[22] Christof Thoenes asserted that the *modani* of Michelangelo were continuations of the process of ideation, a demonstration that at no point in Michelangelo's process did the creative process stop and execution begin.[23] Other recent scholarship with a similar emphasis on drawing and working methods includes studies by Caroline Elam and Silvia Catitti.[24] The relationship of Michelangelo's details and drawing practices to his larger planning process, a question to which we shall return, has recently been investigated by Golo Maurer and Stefan W. Krieg.[25]

Current scholarship on the *modani* has generally accepted the early suggestions by Cooper and others, and it has sought a deeper understanding of Michelangelo's creative process through a closer analysis of his drawing practices.[26] This has led to an increased

[18] Cooper (note 13), p. 494.

[19] Alessi's 1565 treatise work, the *Libro dei misteri*, includes not only drawings in natural scale but also several *modani* as part of his collection of drawings for the Sacro Monte of Varallo. See Galeazzo Alessi, *Libro dei misteri: progetto di pianificazione urbanistica, architettonica e figurativa del Sacro Monte di Varallo in Valsesia (1565–1569)*, ed. by Stefania Stefani Perrone, Bologna 1974.

[20] William E. Wallace, "Drawings from the Fabbrica of San Lorenzo during the Tenure of Michelangelo", in: *Michelangelo Drawings*, conference proceedings Washington, D.C., 1988, ed. by Craig Hugh Smyth/Ann Gilkerson, Hanover *et al.* 1992, pp. 117–141; *idem*, *Michelangelo at San Lorenzo: The Genius as Entrepreneur*, Cambridge 1994.

[21] Paul Joannides, in: *L'Adolescente dell'Ermitage e la Sagrestia Nuova di Michelangelo*, exh. cat. Florence/St. Petersburg 2000, ed. by Sergej Androsov/Umberto Baldini, Florence *et al.* 2000, pp. 132–134, nos. 22f.

[22] Cammy Brothers, *Michelangelo, Drawing, and the Invention of Architecture*, New Haven *et al.* 2008, pp. 165–187; Alina Payne, "The Sculptor-Architect's Drawing and Exchanges Between the Arts", in: *Donatello, Michelangelo, Cellini: Sculptors' Drawings from Renaissance Italy*, exh. cat. Boston 2014, ed. by Michael W. Cole, London 2014, pp. 56–73: 69f.; Mauro Mussolin, "Forme *in fieri*: i modelli architettonici nella progettazione di Michelangelo", in: *Michelangelo e il disegno di architettura*, exh. cat. Vicenza/Florence 2006/07, ed. by Caroline Elam, Venice 2006, pp. 95–111.

[23] Christof Thoenes, "Michelangelo e architettura", in: *Michelangelo architetto a Roma*, exh. cat. Rome 2009/10, ed. by Mauro Mussolin/Clara Altavista, Cinisello Balsamo 2009, pp. 25–37: 28f.; *idem*, "Michelangelo und Architektur", in: *Michelangelo e il linguaggio dei disegni di architettura*, conference proceedings Florence 2009, ed. by Golo Maurer/Alessandro Nova, Venice 2012, pp. 15–29.

[24] Caroline Elam, "Funzione, tipo e ricezione dei disegni di architettura di Michelangelo", in: *Michelangelo e il disegno di architettura* (note 22), pp. 42–73; *eadem*, "The Significance of the Profile in Michelangelo's Architectural Drawing", in: *Michelangelo e il linguaggio dei disegni* (note 23), pp. 85–99; Silvia Catitti, "Michelangelo e il disegno architettonico come strumento progettuale ed esecutivo: il caso della Biblioteca Laurenziana", *ibidem*, pp. 53–67.

[25] Golo Maurer, *Michelangelo: Die Architekturzeichnungen. Entwurfsprozess und Planungspraxis*, Regensburg 2004; *idem*, "Fatiche su carta: Michelangelo disegnatore di architettura", in: *Michelangelo e il linguaggio dei disegni* (note 23), pp. 32–51; Stefan W. Krieg, "Das Architekturdetail bei Michelangelo: Studien zu seiner Entwicklung bis 1534", in: *Römisches Jahrbuch der Bibliotheca Hertziana*, XXXIII (1999/2000), pp. 101–258.

[26] Exceptions to these prevailing assessments should be noted. Gustina Scaglia, "Drawings of Michelangelo's Designs for the Laurentian Library and the Medici Chapel Altar, and of a Peruzzi Doorframe", in: *Quaderni di storia dell'architettura e restauro*, 13/14 (1995), pp. 59–73, asserted that Mi-

importance placed on the artist's use of paper as a support medium, both in developing ideas in architecture but also across his oeuvre. Vitale Zanchettin and Mauro Mussolin have made important revelations by approaching the paper sheet as both an object, able to be flipped and carried, and also as a medium itself that reliably preserves valuable clues.[27] Likewise, but with a different emphasis, Leonard Barkan has foregrounded the role of paper in his analysis of Michelangelo's use and re-use of sheets, raising questions about the role of juxtaposition and fragmentation in his creative process.[28] The focus on the active and instrumental role of paper adds to the interest in recent years on the artist's working premises between sculpture and architecture, as specifically examined by Payne, Brothers, and Thoenes.[29]

Taking these trends as a point of departure, the present essay offers new supporting evidence on the in-process nature of Michelangelo's *modani*. Recognizing, as have others, that they demonstrate how the line between ideation and realization is blurred, the following analysis looks within the facture of the drawings itself – circumstantial marks, cuts, and drawing materials – to plausibly speculate on Michelangelo's *modani*-making practices. What seems evident is that an examination of Michelangelo's *modani* offers new readings into the artist's unconventional approach to the antique lexicon. The most poignant finding involves the known condition that most of Michelangelo's *modani* do not exhibit signs of proportioning or construction lines. Unlike surviving templates by his contemporaries who both make ample use of the compass and rule, most notably Ammannati and Antonio da Sangallo il Giovane, Michelangelo's *modani* are curiously lacking consistent evidence of having been constructed with geometrical tools. Scholars have not, for the most part, addressed this condition, although it has been generally assumed that the profiles were drawn free-hand.[30] However, a close examination of the multiple marks and pricks on the *modani* leads to a more complex assessment whereby Michelangelo abstained from compass and rule but employed other modes of drawing construction, principally tracing. It becomes apparent that for Michelangelo the *modani* were not only devices for commutating to on-site *scarpellini*, they were also employed by the artist himself in a process of determining, inventing, and selecting stone profiles.

In exploring how the *modani* were actively utilized, each *modano* will be analysed with an emphasis on the specific drawing features observed, particularly on the edge conditions. Taken together, these clues build a strong case for evaluating the active involvement of the *modani* in Michelangelo's approach to making architectural profiles.

Suspicion for Tracing: CB 53A, 61A, and 59A

The analysis relies on the practice of tracing as a meeting ground between the line-based profile drawing and the object-based qualities of a cut *modano*. The tracing assessment begins by recalling that Michelangelo actually produced tracings of his own *modani* that are well documented and widely accepted as autograph. In a sheet for several details in *macigno*

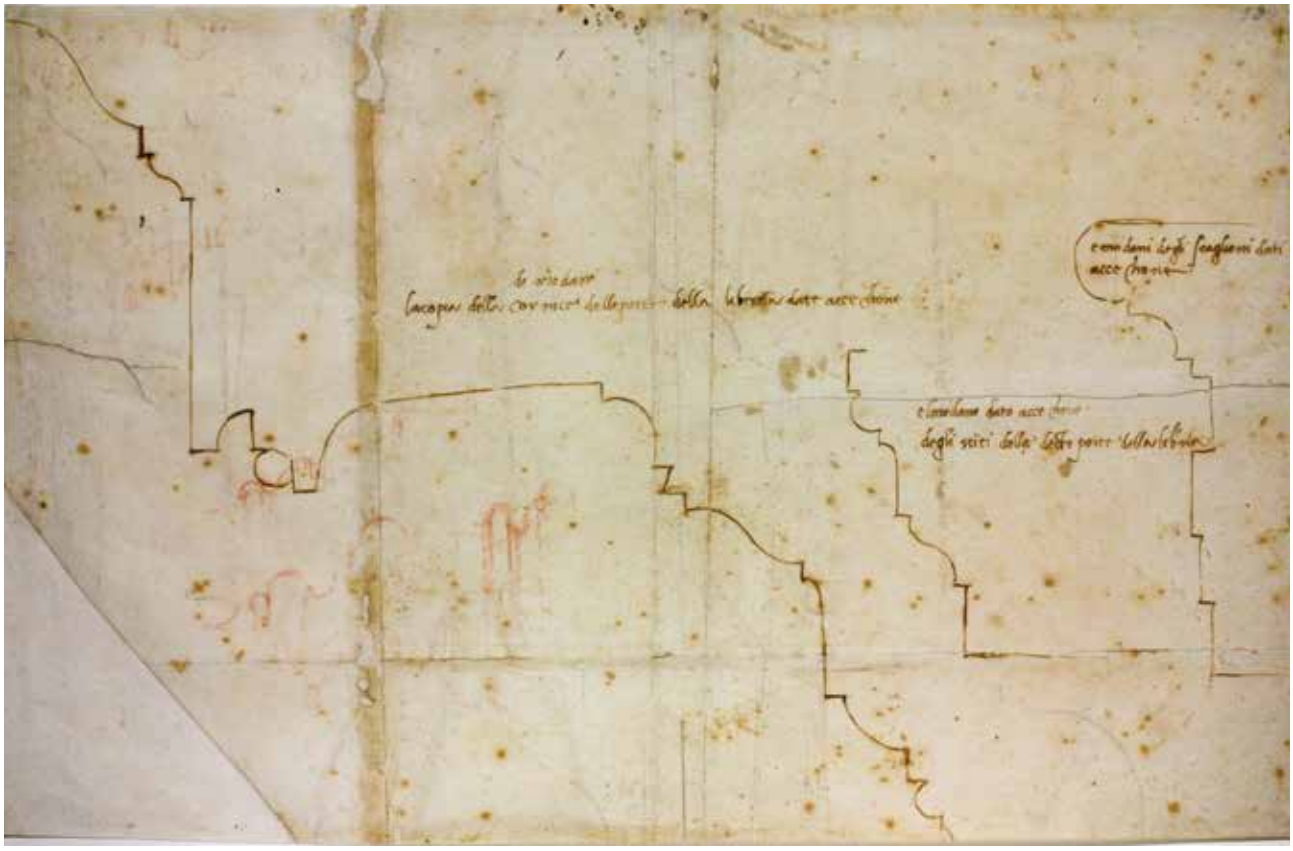
chelangelo's *modani* were certainly drawn by others who were more trained in technical drawing and possibly even cut by others. Thoenes 2009 (note 23), p. 28, raises tentative doubts about their authorship; see also *idem* 2012 (note 23), p. 17.

[27] Vitale Zanchettin, "Michelangelo e il disegno per la costruzione in pietra: ragioni e metodi nella rappresentazione in proiezione ortogonale", in: *Michelangelo e il linguaggio dei disegni* (note 23), pp. 100–117; Mauro Mussolin, "In controluce: alcune osservazioni sull'uso della carta nei disegni architettonici di Michelangelo in Casa Buonarroti", *ibidem*, pp. 287–311: 300–302.

[28] Leonard Barkan, *Michelangelo: A Life on Paper*, Princeton, N.J., *et al.* 2011, pp. 287–304.

[29] Payne (note 22); Brothers (note 22), pp. 84–97; Thoenes 2009 (note 23), pp. 25f. See also Pietro C. Marani, "Riconsiderando il rapporto tra scultura e architettura in Michelangelo", in: *L'ultimo Michelangelo: disegni e rime attorno alla Pietà Rondanini*, exh. cat. Milan 2011, ed. by Alessandro Rovetta, Cinisello Balsamo 2011, pp. 62–69.

[30] See, for example, Cammy Brothers, in: *Michelangelo e il disegno di architettura* (note 22), pp. 164f., no. 3, and pp. 187f., no. 13.

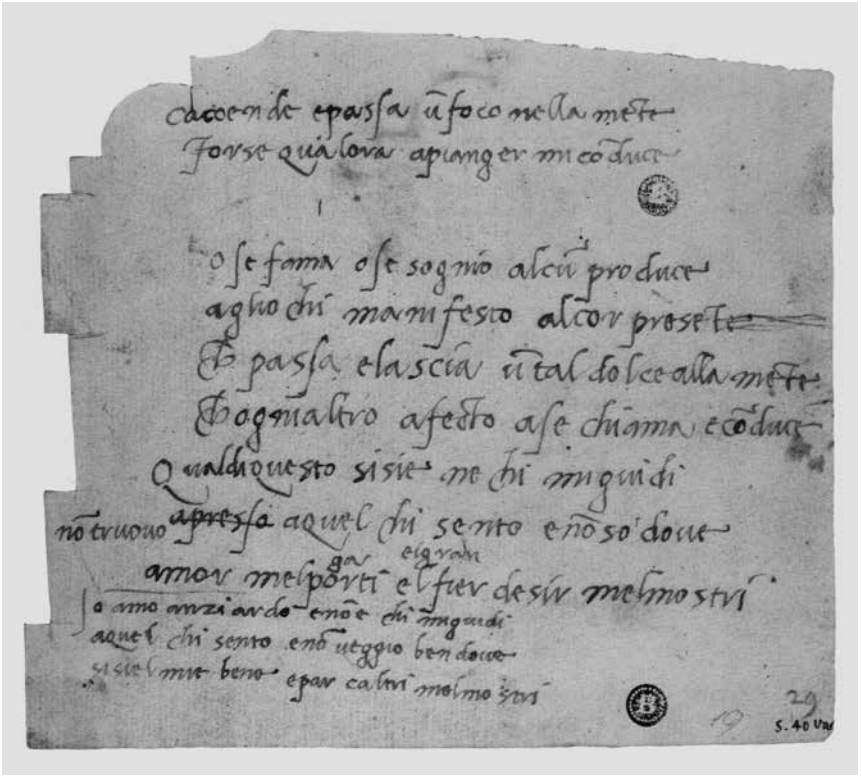


3 Michelangelo Buonarroti, *modani* tracings for the Laurentian Library. Florence, Casa Buonarroti, inv. 53Ar

for the Laurentian Library, CB 53A (Fig. 3),[31] the artist seems to have traced his own paper templates before sending them to the construction site. The line work consists of profiles in *pietra nera* followed by lines in ink traced more or less over top of them on both the recto and verso. Adjacent to one of the most prominent profiles on the recto, Michelangelo wrote in ink: "la copia de' modani della cornice delle porte della libreria date a·ccechone". The accepted interpretation of this sheet is that the lines represent a series of tracings performed on now-lost paper *modani* at a moment before they were sent to the San Lorenzo *scarpellini*.[32] In addition to the confirmed autograph, a number of other clues support this reading. To begin, a surviving 'negative' or 'cut-off' drawing, AB, XIII, 134 (Fig. 4), is a near per-

[31] De Tolnay (note 3), no. 534. Recent bibliography includes: Marcella Marongiu, in: *Michelangelo: grafia e biografia. Disegni e autografi del maestro*, exh. cat. Rome/Biel 2002, ed. by Lucilla Bardeschi Ciulich/Pina Ragionieri, Florence 2002, p. 55, no. 22; Silvia Catitti, in: *Michelangelo architetto a San Lorenzo: quattro problemi aperti*, exh. cat., ed. by Pietro Ruschi, Florence 2007, pp. 126–128, no. 32; *eadem* (note 24), p. 62; Mussolin (note 27), p. 301; Felici (note 8), pp. 241f. For the bibliography prior to 1994, see Cooper (note 13), p. 496.

[32] Elam 2006 (note 24), p. 62; Wallace 1994 (note 20), p. 173; Cooper (note 13), pp. 495f.



4 Michelangelo Buonarroti, 'negative' *modano* of the *scaglione* of the Laurentian Library. Florence, Casa Buonarroti, Archivio Buonarroti, XIII, fol. 134r

fect match with one of the tracings on CB 53A ("gli scaglioni", to the right on the recto). Just as revealing, all five of the profiles traced on recto and verso bear a close resemblance to the as-built conditions of the portal.[33] And finally, this does not appear to be an isolated practice, as similar *modani* tracings may be detected in several sheets for the Palazzo della Zecca in Rome, attributed to Giovanni Battista da Sangallo, one of which is reproduced here (Fig. 5).[34] More circumstantial but important for later analyses, the line work reveals conditions that are consistent with an act of tracing, e.g. the lines at the corners often do not meet, and there is some slippage of the drawing tool around the outside of curves.

If tracing is evident in CB 53A, there is a possibility that the other *modani* exhibit similar visual evidence. The practice of tracing, in fact, plausibly accounts for several curious circumstances generally related to the *modani*. The general eschewal of compass and rule, for example, is more convincingly explained by the use of the *modani* themselves as paper tracing tools than by the assumption that they were drawn free-hand. And tracing also suggests a possible explanation for the multiple drawing materials present

[33] As first observed by Rudolf Wittkower, "Michelangelo's Biblioteca Laurenziana", in: *The Art Bulletin*, XVI (1934), pp. 123–218: 186–189. Micaela Antonucci, "Un'opera di Antonio da Sangallo il Giovane tra architettura e città: la facciata della Zecca in Banchi a Roma", in: *Römische historische Mitteilungen*, XLVI (2004), pp. 201–244.

[34] Sangallo's involvement in the Palazzo della Zecca is discussed in

along many of the profile edges, as well as the curious and coordinated use of both recto and verso, both well-observed but generally unexplained conditions.

The hypothesis that Michelangelo traced his own *modani* begins with an analysis of a pair of *modani*, CB 61A and CB 59A (Figs. 6a, b, 7a, b).[35] These nearly identical drawings were likely made during the second building campaign at the Medici Chapel, dated to circa 1533, just before Michelangelo left Florence for Rome. They are associated with the never realized double tomb of the Magnifici, an elaborate all-marble construction for the brothers Lorenzo and Giuliano de' Medici. These two *modani* are often published together because of their nearly matching size and profile shape. Recent scholarship has even shown that they were probably transported and folded together at one time.[36]

The watermark on CB 61A indicates that the paper is of Florentine origin, perhaps from one of the then-active paper making workshops near the Badia Fiorentina and the Piazza San Firenze, a short walk from Michelangelo's workshop on Via Mozza.[37] It also shows that the paper originated from a *foglio reale* (610 × 440 mm), a size frequently purchased by Michelangelo and used for other *modani* as well.[38] Aside from the cut profile edge, the most prominent characteristic appears on CB 59Ar (Fig. 7a), where a neatly drafted note in Michelangelo's hand reads "el modano delle colonne della sepultura doppia di sagrestia", thus indicating its intended use for the columns of the un-built Medici tomb. The practice of indexing

5 Giovanni Battista da Sangallo, *modani* tracings for the Palazzo della Zecca, Rome. Florence, Gallerie degli Uffizi, Gabinetto dei Disegni e delle Stampe, inv. U 1332A

the template to its corresponding detail on the building site appears to be common and may also be seen in both Ammannati's and Antonio da Sangallo il Giovane's surviving *modani*.[39]

Upon close inspection, no prick marks indicating the use of a compass can be found on either *modano*.

[35] De Tolnay (note 3), nos. 203 and 204, respectively. Recent bibliography includes: Joannides (note 21); Maurer 2004 (note 25), pp. 181–183; Cammy Brothers, in: *Michelangelo e il disegno di architettura* (note 22), pp. 187f., no. 13; Mussolin (note 27), pp. 300f.; Pietro Ruschi, in: *Michelangelo architetto a San Lorenzo* (note 31), p. 84, no. 28; Brothers (note 22), pp. 60–62; Pietro Ruschi, *Michelangelo architetto nei disegni della Casa Buonarroti*, exh. cat. Milan 2011, Cinisello Balsamo 2011, p. 71; Payne (note 22), p. 69; Felici (note 8), p. 241. For the bibliography prior to 1994, see Cooper (note 13), pp. 497f.

[36] Mussolin (note 27), pp. 300f.

[37] The watermark is "Hat C", as referenced in Jane Roberts, *A Dictionary of Michelangelo's Watermarks*, Milan 1988, p. 22, and in Charles-Moïse Briquet, *Les Filigranes [...]*, Paris 1907, no. 3387 or 3394. This watermark, or a similar one, is shared with two other *modani*, CB 53A and AB, XIII, 127. On the technical aspects of Michelangelo's paper selections, see Mussolin (note 27), pp. 295f.; Ariane de La Chapelle, "Michel-Ange: le choix de ses papiers", in: *Michel-Ange, élèves et copistes*, ed. by Paul Joannides, Paris 2003 (*Musée du Louvre: inventaire général des dessins italiens*, VI), pp. 402–422.

[38] The buying of *fogli reali* was frequently recorded in Michelangelo's workshop expenses. See, for example, *I ricordi di Michelangelo*, ed. by Lucilla Bardeschi Ciulich/Paola Barocchi, Florence 1970, pp. 133f., nos. CXXIII and CXXIV.

[39] On a cornice *modano* for San Giovannino (GDSU, inv. 3463A), Amman-

6a, b Michelangelo Buonarroti,
modano for the tomb of the Magnifici,
recto and verso. Florence,
Casa Buonarroti, inv. 61A

7a, b Michelangelo Buonarroti,
modano for the tomb of the Magnifici,
recto and verso. Florence,
Casa Buonarroti, inv. 59A

The close match between CB 61A and CB 59A, coupled with the apparent lack of such marks, indicates that these two templates are quite possibly related through direct tracing. The analysis begins on CB 61Av (Fig. 6a), where one observes several lines in *pietra nera* that have been marked using a straight edge and a rule, representing some of the few ruled lines found on any of Michelangelo's *modani*.[40] Since they run parallel with the edges of the folio, these lines were probably the first on the sheet, certainly before it was cut, as indicated by their alignment with the watermark. The artist probably began the profile construction with a series of datum lines generated from internal relations, such as module and scale, or external alignments, a practice that is discussed at length toward the end of the essay. Once having drawn these, he delineated a profile edge in *pietra nera*, facing left and mostly in free-hand, relating precisely to the proportioning lines previously drawn with the aid of a straight edge. CB 61Av is eventually cut along one of several closely sketched profiles in *pietra nera*, using scissors.[41] Residue of ink along the edge suggests that Michelangelo also inked the line before cutting.

As evidenced by sketched lines just to the inside of the cut line on the verso of CB 61A (Fig. 6b), the *modano* was certainly flipped over after it had been cut, since the precise alignment of the *pietra nera* lines with the cut edge indicates that they must have been drawn at some time after the drawing had been cut. At this point, with the profile facing right, one may speculate that the sheet could have been traced. Small marks in *pietra nera* on CB 59Av (Fig. 7b), particularly around the *tondino* profile, point to such a tracing from the right-facing *modano* CB 61Av (Fig. 6b). This creates a new profile edge that was then cut, verso side up, eliminating much of the remaining evidence of the tracing. After cutting, CB 59A was flipped back over with the profile facing left, and on this side of the sheet (CB 59Ar) Michelangelo notes its final destination for the carpenters and the carvers. Now there are two, nearly identical templates. No more evidence of tracing, compass construction, or other lines appears alongside the artist's neatly drafted note.

Why flip CB 59A after it has been cut? Simply speaking, as some scholars have suggested, this was a *modano* intended to guide work while Michelangelo prepared to leave for Rome in 1534.[42] Compared with his other *modani*, it certainly has an air of finality to it, making it very probable that CB 59A was made for the *scarpellini* who had the task of copying it onto a more rigid substrate.[43] By flipping and neatly labelling it, no sketch marks or other *pentimenti* are visible, and, perhaps more importantly, it faces left, Michelangelo's preferred orientation for nearly all of his profile studies and finished *modani*. Recall, for example, that on CB 53A (Fig. 3), the sheet with the traced profiles for the Laurentian Library, all of the *modani* were traced from the left-facing position before being sent to Ceccone. Additionally, the overwhelming majority of Michelangelo's profile sketches and studies face the left edge of the sheet, as in the previously introduced CB 10Ar (Fig. 1), with examples found on nearly a

nati wrote "La Cornice ch[e] va sopra i pilastri di San giovanino de medici"; Antonio da Sangallo il Giovane's *modano* for Saint Peter (GDSU, inv. 6976A) is inscribed "modano della basa gra[n]de / di s.to pietro de pilastri".

[40] Michelangelo's drawing material for this type of line is referred herein as *pietra nera*, following the most recent conventions. Alternatively, throughout the *Corpus*, de Tolnay refers to this drawing material as "lapis nero". A *pietra nera* or *lapis nero* would have indicated a hard, mineral-based stone, as described in Filippo Baldinucci, *Vocabolario toscano dell'arte del disegno [...]*, Florence 1681, p. 79. On Michelangelo's drawing materials, see Elam 2006 (note 24), pp. 53–55.

[41] Michelangelo's use of scissors is testified by Vincenzio Borghini, who commented on a letter written by Benvenuto Cellini on Michelangelo's extensive use of models, including his paper *modani*, "tagliate in su' profili apunto con le forbici" (Benedetto Varchi/Vincenzio Borghini, *Pittura e scultura nel Cinquecento*, ed. by Paola Barocchi, Livorno 1998, p. 93). Cellini's original letter was published by Benedetto Varchi in his *Lezzione della maggioranza delle arti* of 1546, republished in *Scritti d'arte del Cinquecento*, ed. by Paola Barocchi, Milan 1971–1977, I, pp. 519–522: 521).

[42] Ruschi 2007 (note 35).

[43] Paper *modani* were subject to transfer onto a more rigid medium before being suitable for use on the construction site. Michelangelo's favoured material for this was tin, one of the most common, as evidenced by mul-

dozen more.[44] And on several of his copies of profiles after the Codex Coner, a connection discussed later, he deliberately reversed what were originally drawn as right-facing profiles.[45]

Traced Edges: AB, XIII, 127, and AB, XIII, 134

Although CB 61A and CB 59A are related in a way that would be consistent with tracing, evidence of tracing in the form of discernible marks or drawing residue is still inconclusive. In order to substantiate the tracing hypothesis, one ought to detect supporting evidence in the other *modani*. Next we examine AB, XIII, 127 (Fig. 8a, b), a cornice profile that has been related by Tolnay to the portal of the Laurentian Library.[46] Scholars have generally followed this opinion, which is based on the relation of the profile to the tracings on CB 53A, which are assuredly related to the library portal. A brief examination of the absolute measurements of the profile and not only the profile shape, however, opens the door for a possible connection of this profile to the Medici Chapel. The *modano* also displays a number of incidental marks and workshop tallies, all added after the cut, including a poetry fragment on the recto for a poem written to Tommaso de' Cavalieri.[47] The watermark is "Hat C", the mark also found on CB 53A and CB 61A.

In closely examining this *modano* for evidence of tracing, one notes several curious marks along the cut edges of both the recto and verso. Of particular interest are: on the verso, a curved mark in *pietra nera* on the upper termination of the *gola diritta* (Fig. 9), and on the recto, *pietra nera* deposited along nearly the entire edge, particularly visible on the lower *ovolo* and the uppermost *gola diritta* (Fig. 10). Like the previous two *modani*, the marks indicate that this *modano* has been actively utilized on both sides, a practice that is encouraged by the act of cutting, which immediately collapses the recto and verso into a single, shared line. This opened the possibility to work both sides in relation to each other.

The presence of *pietra nera* on both sides might also be evidence of a manipulation process whereby a 'family' of *modani* emerges, consisting, as it were, of 'parents' and 'offspring'. This relies on the assumption that the extant *modani* probably represent only a fraction of Michelangelo's actual production, with clues on the remaining drawings that point to now lost drawings which came before (parents) or after (offspring). In general, as has been stated, *modani* rarely survived beyond the realization of the project because of their dual status as both drawing and construction implement. Following this line of reasoning, the marks on the verso of AB, XIII, 127, suggest that it might have been traced from a now lost parent; one that, like CB 61A, had established some overall measures or relationships through ruled lines. Once cut, the *modano* was available to be flipped, and this helps explain the *pietra nera* along the paper edge of the recto, which could have only been the result of tracing, to produce either a workshop record or a now lost offspring.[48]

The use of *pietra nera* bears further discussion. It has been seen already on CB 53A and on the pair CB 61A/CB 59A, in particular as an underlay for an

tiple references in his *Ricordi*; *I ricordi* (note 38), p. 119, no. CXVI, p. 122, no. CXVII, p. 125, no. CXIX, pp. 128f., 133, no. CXXIII.

[44] Some prominent examples of left-facing profiles may be observed in: CB 7Ar (de Tolnay [note 3], no. 530r), CB 9Ar (*ibidem*, no. 202r), CB 10Ar (*ibidem*, no. 201r), Haarlem, Teyler Museum, inv. A 34v (*ibidem*, no. 250v), CB 93Av (*ibidem*, no. 275v), CB 62Ar–v (*ibidem*, no. 532r–v), CB 63Ar (*ibidem*, no. 533r), CB 74Av (*ibidem*, no. 463v), CB 84Av (*ibidem*, no. 614v), AB, XIII, 149 (*ibidem*, no. 531v), and British Museum, inv. 1859-9-15-508r–v (*ibidem*, no. 528r–v). Mussolin (note 27), pp. 301–303, proposes a correspondence between CB 61A and CB 59A based partly on the predominance of left-facing profiles in Michelangelo's works.

[45] For example, see Brothers (note 22), pp. 64f., who refers to CB 1Ar (de Tolnay [note 3], no. 518r).

[46] De Tolnay (note 3), IV, p. 61, no. 539, with bibliography prior to 1980. Recent bibliography includes: Barkan (note 28), p. 61; Wallace 1994 (note 20), pp. 173–175.

[47] The related poem is *Sento d'un foco un freddo aspetto acceso*; see *Die Dichtungen des Michelagniolo Buonarroti*, ed. by Karl Frey, Berlin 1897, pp. 127, 413f., no. CIX.18.

[48] One cannot exclude the possibility that the template was traced at a much later date in connection with the collecting or archiving of the *modano*. However, this is not observed as such on any other *modani* and,

8a, b Michelangelo Buonarroti,
modano for the Laurentian Library,
recto and verso.
Florence, Casa Buonarroti,
Archivio Buonarroti, XIII, fol. 127

9, 10 Michelangelo Buonarroti, details of
modano for the Laurentian Library. Florence,
Casa Buonarroti, Archivio Buonarroti, XIII,
fol. 127v and 127r

11 Michelangelo Buonarroti, detail of *modano*
for the *scaglione* of the Laurentian Library.
Florence, Casa Buonarroti, Archivio Buonarroti,
XIII, fol. 134v

12a, b Michelangelo Buonarroti, *modano* for the Laurentian Library (?), recto and verso. Florence, Casa Buonarroti, inv. 60Ar-v

inked line. It is likely that *pietra nera*, which, unlike ink, would not smear, was the most common tracing tool. Evidence of *pietra nera* along the template edges may also be observed in AB, XIII, 134r (Fig. 4), introduced earlier as the so-called 'negative' or cut-off of a now lost *modano* for the steps in the library portal.[49] On the verso (Fig. 11), there is a deposit of *pietra nera* that is strongly suspicious for having resulted from a traced drawing template – residue from the production of the 'positive' *modano* that, while recorded on CB 53A, has long since been lost.

Cutting, Flipping, Sliding: CB 60A, AB, XIII, 157, and CB 53A

As has been pointed out by others, cutting paper was itself a creative act in the production of Michelangelo's *modani*.[50] A re-examination of the evidence on the next *modano*, CB 60A (Fig. 12a, b),[51] brings new

based on the abundance of related evidence presented in this essay, one may ease such a suspicion.

[49] De Tolnay (note 3), IV, pp. 60f., no. 538 (with bibliography prior to 1980). Wallace 1994 (note 20), p. 174. The association with the library portal derives from its near match when placed adjacent to the profile line traced on CB 53A. On the recto, added after the cutting occurred, Michelangelo drafted lines to the sonnet *Non so, se s'è la desiata luce*, for which see *Die Dichtungen* (note 47), p. 79, no. LXXV. This remnant is one of two 'negative' off-cuts remaining from San Lorenzo, the other being AB I, 59, 151.

[50] Joannides (note 21); Krieg (note 25), p. 231.

[51] De Tolnay (note 3), no. 537. Recent bibliography includes: Thoenes 2009 (note 23), p. 28; *idem* 2012 (note 23), p. 19; Cammy Brothers, "Designing What You Cannot Draw: Michelangelo and the Lauren-

complexities to this contention, particularly when viewed in light of the tracing hypothesis. Identified again with the portal of the Laurentian Library,[52] evidence on this *modano* raises for the first time the possibility that it has been traced and cut multiple times. Normally it is assumed that, although the scissor cut might deviate from the drawn profile line, the drawing operations followed a strict progression from first establishing a drawn line and then making a final cut line. Evidence on CB 60A points to the probability that Michelangelo disrupted this sequence, repeatedly drawing and cutting the same profile edge.

To discuss this, several clues are worth noting: on the recto (Fig. 13), at least three drawing materials can be detected along the cut profile edge, *pietra nera*, *pietra rossa*, and ink, indicating an extremely complex handling of the sheet. Also on the recto, a vertical, ruled line in *pietra rossa* acts as a possible registration mark (Fig. 12a). One observes a short workshop list, probably not an autograph, and a quick sketch in *pietra rossa* for a profile. Moving to the verso (Fig. 12b), the sheet is blank except for a continuous line in ink that hugs the profile edge, breaking away slightly along the soffit. Considered together, these marks indicate that both sides were actively utilized, just as in the other *modani*. The presence of at least three different drawing materials along the profile edge of the recto begs explanation. The use of *pietra nera* has already been explored as both a tracing tool and a preparation for an ink line, and it points toward the existence of a now-lost parent *modano*. Even more curious, however, is the introduction of *pietra rossa*, the traditional tool employed by sculptors and masons when working directly with the material.[53] Although *pietra rossa* appears regularly in the artist's oeuvre, as Elam has noted it is rarely used together with *pietra nera*.[54] While there does not appear to be a clear explanation for the presence of both drawing materials on the profile edge of CB 60A, it is a reminder of the temporal and physical interconnectedness between Michelangelo's *modani*, the work of the *scarpellini*, and the spaces of carving and construction. *Pietra rossa*, for example, played a small but significant role in the on-site wall drawings in the apse of the Medici Chapel (Fig. 14), possibly a result of its expediency in the midst of an active worksite.[55] And *pietra rossa* is notably detected in another *modano*, AB, I, 59, 151r (Fig. 2, lower right), which has been utilized as an expedient support for tracking days worked by the San Lorenzo *scarpellini*.[56]

In attempting to synthesize these clues, one must work backward from what is presented to us in its current state. As was pointed out, the inked line on the verso most closely conforms to the cut line, deviating only at the soffit. At the same time, the recto contains multiple marks in *pietra nera*, *pietra rossa*, and ink, appearing periodically, but not continuously, along the profile edge. In order to produce such a coincidence of profile marks on recto and verso, the cut line must have been at play, but how? Since the final cut appears to have been made while holding the verso side up, the only possible explanation for drawing materials on the recto is that the profile edge was cut or trimmed multiple times. This may be clearly understood by comparing the treatment of the inked

tian Library", in: *Michelangelo e il linguaggio dei disegni* (note 23), pp. 153–167: 163. For bibliography prior to 1994, see Cooper (note 13), pp. 497f.

[52] De Tolnay (note 3), IV, p. 60, no. 537, tied it to the library portal profiles recorded on CB 53A. Although this connection has been generally accepted, scholarship has not been settled on this question. An alternative association with the Medici Chapel is possible.

[53] The use of *pietra rossa* (or *matita rossa*) by sculptors and masons has been explored by Zanchettin (note 27), p. 110, and *idem*, "A New Drawing and a New Date for Michelangelo's 'Finestre Inginocchiate' at Palazzo Medici, Florence", in: *The Burlington Magazine*, CLIII (2011), pp. 156–162: 161. See also Michael Hirst, *Michelangelo and His Drawings*, New Haven 1988, pp. 5–8.

[54] Elam 2006 (note 24), pp. 50–55.

[55] Among the natural scale drawings of the windows for the Laurentian Library, rendered principally in *carbone*, a number of architectural details appear in *pietra rossa*. On the technical analysis of the wall drawing materials, see Paolo Dal Poggetto, *Michelangelo: la 'stanza segreta'. I disegni murali nella Sagrestia Nuova di San Lorenzo*, Florence 2012, p. 35.

[56] De Tolnay (note 3), no. 540r, a 'negative' modano for a marble volute

line along the soffit, where on the verso there is an inked line offset 2 mm from the cut edge. On the recto no such ink line may be observed, which suggests that the *modano* was first cut from the recto side, flipped, and re-cut from the verso side, following a modified ink line. Such a procedure would have effectively removed any evidence of the ink profile from the recto, which is why only small fragments appear. A similar relationship between recto and verso may be seen in the *gola diritta*, where ink residue on the verso does not correspond with an ink line on the recto. If multiple cuttings were indeed involved, it becomes more convincing that Michelangelo used the scissors almost like a chisel on the block of stone, re-enacting the famous conceptual imperative "per forza di levare", with paper acting as a surrogate material for stone.

While the multiplicity of operations on CB 60A appears without any temporal framework (the marks and cuts may have happened in immediate succession or days or months apart), another *modano* suggests that the traced line may be a product of rapid tracing and repositioning, performed within a matter of seconds. This possibility appears on AB, XIII, 157 (Fig. 15a, b), where there is an unusually large amount of paper area relative to the small profile cut made along the corner.[57] A poetry fragment is drafted by Michelangelo on the recto, datable to 1532, probably after the cut.[58] Speculations about the intended location for the profile line remain inconclusive.[59] On the verso, one observes multiple profile sketches, where large areas of smudged ink appear over the profile work.[60]

13 Michelangelo Buonarroti,
detail of *modano* for the Laurentian Library (?).
Florence, Casa Buonarroti, inv. 60Ar

There is possible evidence of tracing. On the lower corner of the verso, there are three profiles recorded in succession and labelled herein as A, B, and C (Fig. 16): profile A in *pietra nera* is hardly noticeable but may be detected underneath the inked profile, particularly in the upper *cavetto*; a second, traced profile in ink (B) largely follows the *pietra nera*

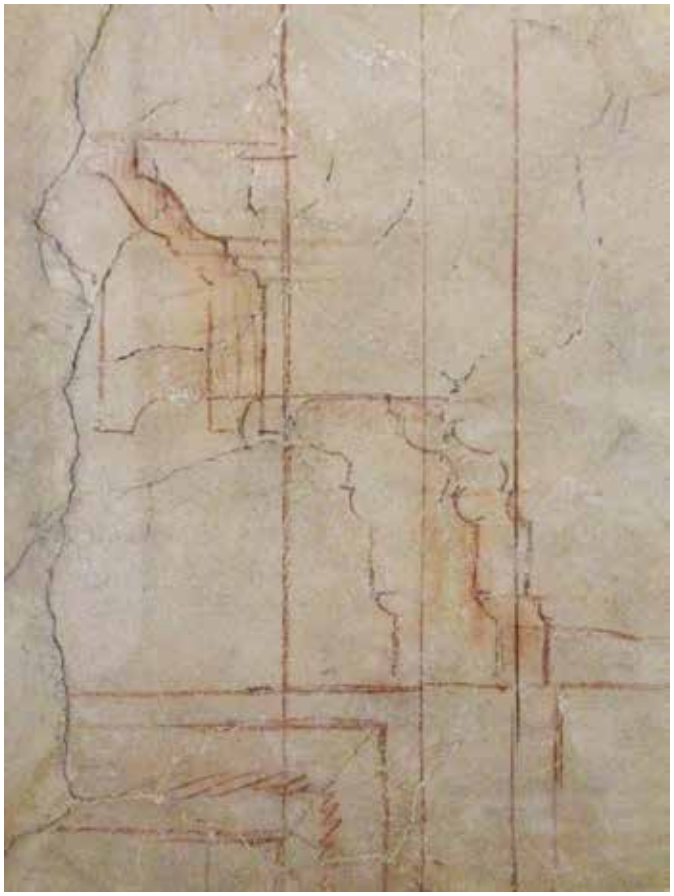
in the Medici Chapel. The list of assistants has been explored by Wallace 1994 (note 20), pp. 132f.

[57] De Tolnay (note 3), IV, p. 60, no. 536 (with bibliography prior to 1980). The watermark is Briquet (note 37), no. 5641; cfr. also Roberts (note 37), p. 18. Selected bibliography includes: *Disegni di fortificazioni da Leonardo a Michelangelo*, exh. cat., ed. by Pietro Marani, Florence 1984, p. 76; Giulio Carlo Argan/Bruno Contardi, *Michelangelo architetto*, Milan 1990, pp. 186–195; Brothers (note 22), p. 170; Pina Ragionieri, in: *La vita di Michelangelo: carte, poesie, lettere e disegni autografi. Grafia e biografia*, exh. cat. Naples 2010, ed. by Lucilla Bardeschi Ciulich/Pina Ragionieri, Cinisello Balsamo 2010, p. 72, no. 24 (with mirrored reproduction).

[58] The fragment was identified by Frey (*Die Dichtungen* [note 47], p. 226), as belonging to the poem *Che fie doppo molt'anni di chostei*.

[59] De Tolnay (note 3), IV, p. 60, no. 536, assigned this *modano* to the Laurentian Library, citing the similarity to profiles in CB 53A. Although the profile shape suggests a relationship, a comparison based on absolute measures throws this association into doubt.

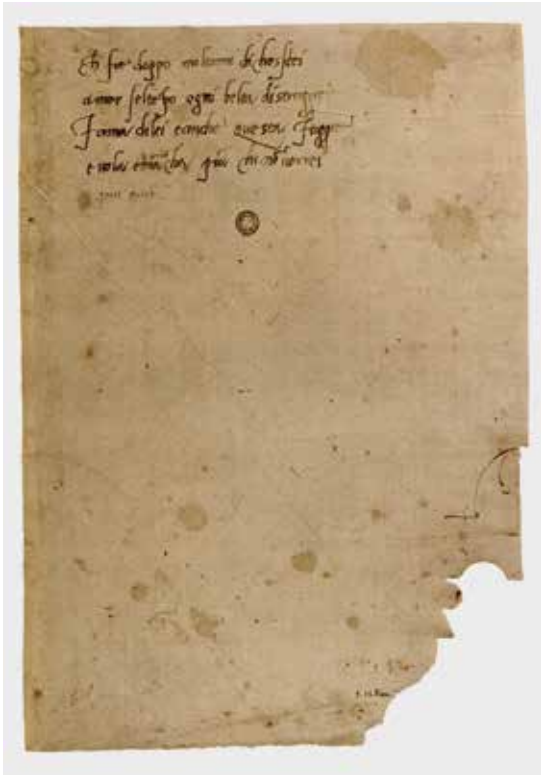
[60] Recent scholarship has suggested that this *modano* was cut with the recto side up, flipped over, and re-worked by a second hand (Ragionieri, [note 57]).



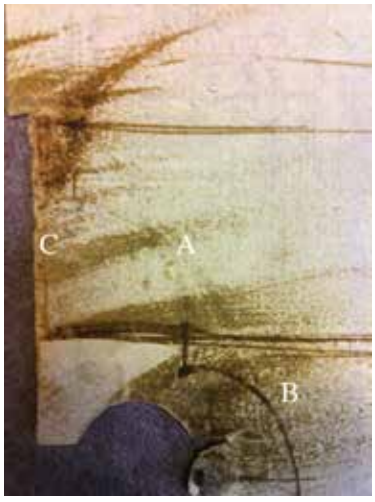
14 Michelangelo Buonarroti, profile studies on wall of apse. Florence, San Lorenzo, Medici Chapel

line below it; and a third profile (C) appears in the form of the cut profile edge. Judging from the quality of the line work and the use of *pietra nera*, profile A is possibly the result of tracing and suggests a now-lost parent template. Profile B is consistent with similar factures found in other *modani*, e.g. CB 53A, AB, XIII, 127, and CB 60A. The smudged ink marks are quite curious and merit further speculation, particularly in light of evidence observed previously in other *modani*. Although Michelangelo made periodic use of ink wash, incidental ink smudging appears to be rare, particularly in such a relatively large area. Ink bleeding, where a line expands slightly due to an over-inked quill, a rapid sketch, or absorbent paper is more common, as is occasional smearing due to the hand sliding across wet ink. Ink smearing is sometimes used in his letter writing or poetry to cancel or cross out previous writing.

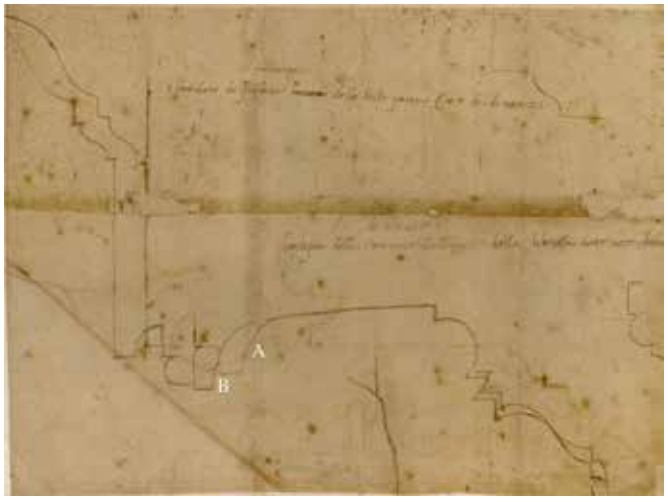
A possible explanation of the ink smudge lies in the use of a parent *modano*. By this explanation, in the rapidity of the work, the ink constituting profile C had not yet dried and was smudged by the removal of the parent template. The evidence of the lost parent, i.e. the ink line that would have been traced to the left of the cut line, has been removed through cutting. Several clues in the smudged area attest to this conclusion: most of the smudge originates from profile C, meaning that in order for something to induce the smearing, the object must have started its smudging beginning to the left of the profile cut; secondly, the smear appears 'tooled', in that the smudges run in relatively the same direction, covering a wider area than may be account-



15a, b Michelangelo Buonarroti, *modano* for an unknown location at San Lorenzo, recto and verso. Florence, Casa Buonarroti, Archivio Buonarroti, XIII, fol. 157



16 Michelangelo Buonarroti, detail of *modano* for an unknown location at San Lorenzo. Florence, Casa Buonarroti, Archivio Buonarroti, XIII, fol. 157v



17 Overlay of profiles from the recto and verso of CB 53A

ed for by positing a simple hand smudge. Michelangelo was right handed, so he might have grabbed the parent template on the non-inked edge (the right) and dragged it across a freshly inked profile (C).[61]

That transposing or sliding *modani* seems to be a common technique emerges from another example as well. Beginning with a simple overlay of two profiles in CB 53A, the template tracings previously discussed for the Laurentian Library (Fig. 17), it can be observed how the sliding technique was used to 'stretch' the soffit through a simple shift of the template while in the act of tracing. In comparing two profiles, profile B from the recto and profile A from the verso, one can see an otherwise identical profile sequence and shape with the exception of the soffit length. The implication is that Michelangelo, using the same template, traced the upper portion but shifted and slightly rotated the template approximately 17 mm to the right before tracing the lower portion.[62] Two small gaps in the ink line defining the soffit on profile B are consistent with a necessary pause of the drawing tool in order to shift the template. Profile B, on the recto, ultimately conforms most closely to the built work.

"Nuove fantasie": CB 92A

The active role of *modani* in altering construction-ready details gives new insights into Michelangelo's so-called "giudizio dell'occhio" in the development of architectural details.[63] Here, the question of natural scale and how Michelangelo bridged between the sketch-like condition of his *modani* and the requirements for measured drawings needed for construction becomes critical. Understanding Michelangelo's use of *modani* as simultaneously sketches and construction-ready documents relies on returning to the pre-modern notion of *la vera grandezza* or *la propria forma*, terms used by quattro- and cinquecento architects to describe a detail drawn in the same size as it appears in actuality. The values embedded in these terms, with words like *vera* and *naturale*, indicate that this scale enjoyed a special status compared to others, and perhaps it is more correctly defined not as a scale at all. A modern term such as 'scale 1:1' confuses this critical, pre-modern difference, assuming an apparent equivalence between scale, as a relative proportion linked to objective measure, and size, as that which is correlated to life experience. This obscures the possibility to imagine and plan architecture in life-size without actually measuring it (interestingly enough, this would never be questioned in sculptural modelling). As such, Michelangelo plans the *modani* profiles *as if* he were working within the actual size of the architecture – that is, without any size reduction, while at the same time eschewing the tools normally necessary for such a procedure, such as compass and rule.[64] This creates some doubt as to whether these *modani* could have

[61] Most scholars agree that Michelangelo's drawings evidence a predominance of right-handedness. See Hugo Chapman, *Michelangelo Drawings: Closer to the Master*, exh. cat. Haarlem/London 2005/06, London 2005, p. 304, note 106, or Mussolin (note 27), p. 303, who suggests that Michelangelo's right-handedness accounts for the predominance of his left-facing profiles. Raffaello da Montelupo wrote in his autobiography that, although Michelangelo was naturally left-handed, he never did anything with his left hand, except matters requiring force (Giorgio Vasari, *Le vite de' più eccellenti pittori scultori ed architettori*, ed. by Gaetano Milanesi, Florence 1906, IV, p. 552). Perhaps most convincingly, Michelangelo sketches himself during the painting of the Sistine ceiling with the paint brush in his right hand; see AB, XIII, 111 (de Tolnay [note 3], no. 174v).

[62] The opposite is, of course, possible: he might have traced first from the bottom and then shifted the template 17 mm to the left. Evidence is inconclusive on the direction of the tracings.

[63] For Michelangelo's notion of the "giudizio dell'occhio", indispensable is the analysis by David Summers, *Michelangelo and the Language of Art*, Princeton, N.J., 1981, pp. 352–363 and pp. 368–379.

[64] Another good example of this occurs on the Medici Chapel wall drawings (Fig. 14), where several sketches in red chalk were made in life-size, but without the aid of a compass or rule. See the discussion by the author in: "In medias res: Michelangelo's Mural Drawings at San Lorenzo", in: *Confabulations: Storytelling in Architecture*, ed. by Paul Emmons/Marcia Feuerstein/Carolina Dayer, London/New York 2017, pp. 185–192.

been used for construction at all or whether there must have been some intervening drawing, as Scaglia has argued.[65] In returning to the values embedded in *la propria forma*, however, one discovers that Michelangelo implemented specific practices to ensure that the sketch-like *modani* could be used directly as drawings sufficiently measured for construction purposes. Maurer offered one possible explanation for how life-size drawings could be used for construction, observing that the column base profiles in one of the *modani*, CB 92A discussed below (Fig. 18a, b), correspond to a fixed overall height of precisely one-third *braccio fiorentino* (19,5 cm), even as the specific profile sequences and relative proportions remain planned from "rein optischen Gesichtspunkten".[66] To this one may add the aforementioned *modano* for the tomb of the Magnifici, CB 61Ar (Fig. 6a), where a pair of faintly ruled lines between the top of the plinth and the centre line of the *tondino* determine a measured framework from which to build a more freely determined profile. Between these measured lines Michelangelo could work 'by eye', so to speak, as a life-sized sketch, while at the same time imagining a measured and predictable fit with the future construction.[67] Such measures would then telegraph throughout the *modani* tracing process, ensuring some fidelity with proportions or fit.

It is clear that Michelangelo's *modani* were something between open-ended, creative processes, such as sketching, and formal modes of communicating directly with stone carvers to guide measured constructions.[68] This in-between condition leads to a realization that free explorations in the profile line, normally interpreted through free-hand sketching, could be enacted directly through natural scale, construction-ready templates – drawings typically understood as fixed, final or, at the very least, near the end of the design process. This constitutes a reversal of Vasari's programme of drawing types – i.e., from sketch to finished drawing –, where the physical operations enabled by the *modano*, such as flipping, tracing, and sliding, establish an imaginative mode of determining and selecting new and ingenious profiles. Rather than acting merely as formal devices to bridge between Michelangelo and the *scarpellini*, the *modani* collapse this distance altogether.

One *modano* that has yet to be considered, CB 92A (Fig. 18a, b), offers the most convincing example to illuminate this fertile space of experimentation.[69] Here, the operations enabled by the *modani* and the imagining of "nuove fantasie" converge in an extraordinary fashion. As will be shown, the concurrence on the same sheet of sketched profiles and a cut profile edge demonstrates an inexorable link between the agency of paper, natural scale de-

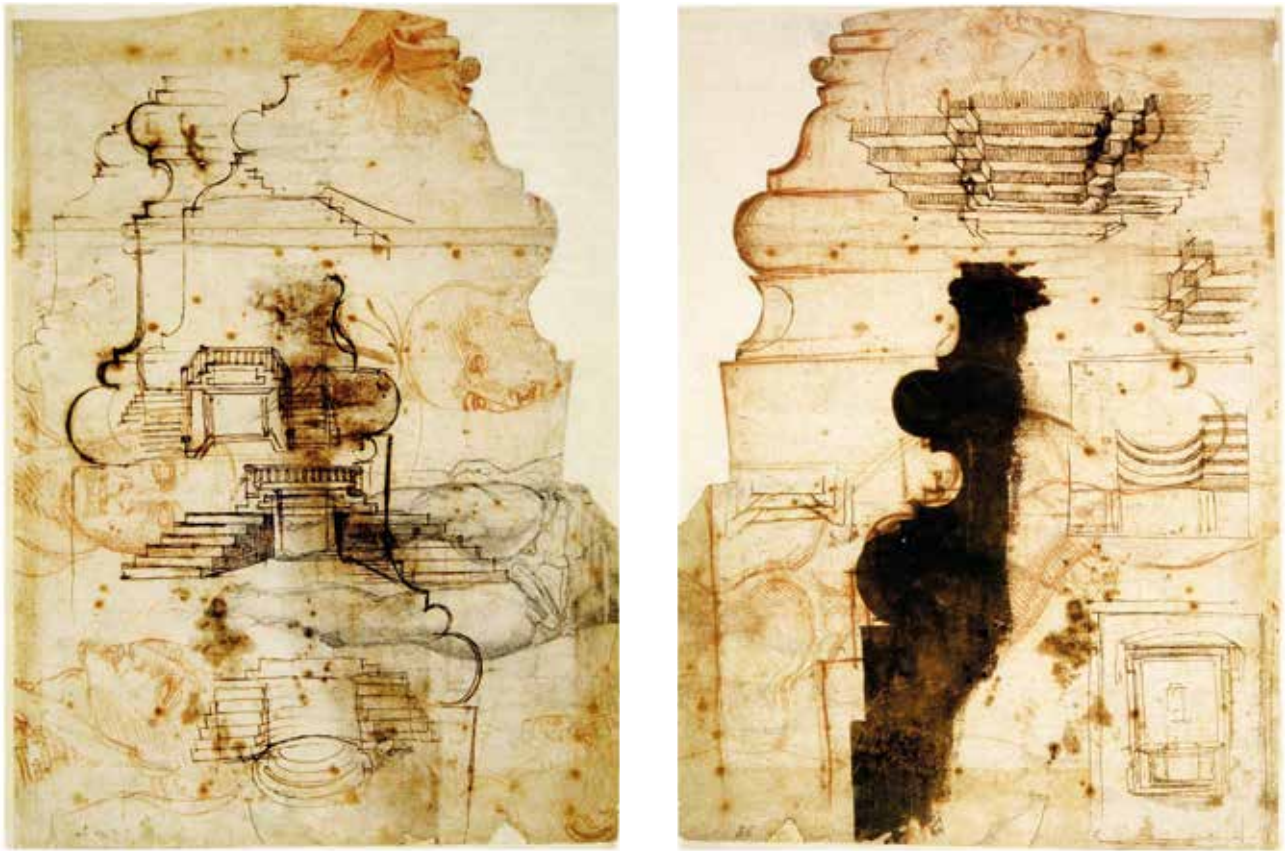
[65] Scaglia (note 26) claims there must have been an intervening, professionally trained draftsperson who would have translated Michelangelo's drawings into a format more directly useable by the stone carvers. Scaglia's analysis, however, is heavily biased, since it is based on the typical project delivery methods of modern practice. There is no concrete evidence that Michelangelo's drawings would need to be re-drawn by others in order to be suitable for construction.

[66] Maurer 2004 (note 25), pp. 179–181. Maurer also points out the use of other geometric frameworks that might have guided the generation of profiles, such as the diagonal sketched by Michelangelo through a cornice section of the tomb of Julius II on CB 74Av (de Tolnay [note 3], no. 463v).

[67] Such a practice may have been honed already in the autodidactic copying of the Codex Coner, where Michelangelo copied the profiles but did not include Volpaia's carefully scripted dimensions; cf. Brothers (note 22), p. 60.

[68] This claim echoes Payne (note 22), p. 69, who writes that "in their 'objecthood' the *modani* generated design and were not merely working drawings".

[69] De Tolnay (note 3), no. 525. Selected bibliography includes: David Hemsoll, "The Laurentian Library and Michelangelo's Architectural Method", in: *Journal of the Warburg and Courtauld Institutes*, LXVI (2003), pp. 29–62: 51; Maurer 2004 (note 25), pp. 180f.; Elam 2006 (note 24), p. 60; Cammy Brothers, "Figura e architettura nei disegni di Michelangelo", in: *Michelangelo e il disegno di architettura* (note 22), pp. 80–93: 86; Silvia Catitti, "Michelangelo e la monumentalità nel ricetto: progetto, esecuzione e interpretazione", in: *Michelangelo architetto a San Lorenzo* (note 31), pp. 91–103: 90f.; *eadem*, *ibidem*, pp. 132–134, no. 36; Brothers (note 22), pp. 54, 57, 168f.; Thoenes 2009 (note 23), p. 30; Thoenes 2012 (note 23), pp. 19–21; Catitti (note 24), pp. 53–55; Alessandro Nova, "Il ruolo del legno nell'architettura di Michelangelo", in: *Michelangelo e il linguaggio dei disegni* (note 23), pp. 169–177: 169;



18a, b Michelangelo Buonarroti, *modano* for the Laurentian Library, recto and verso. Florence, Casa Buonarroti, inv. 92A

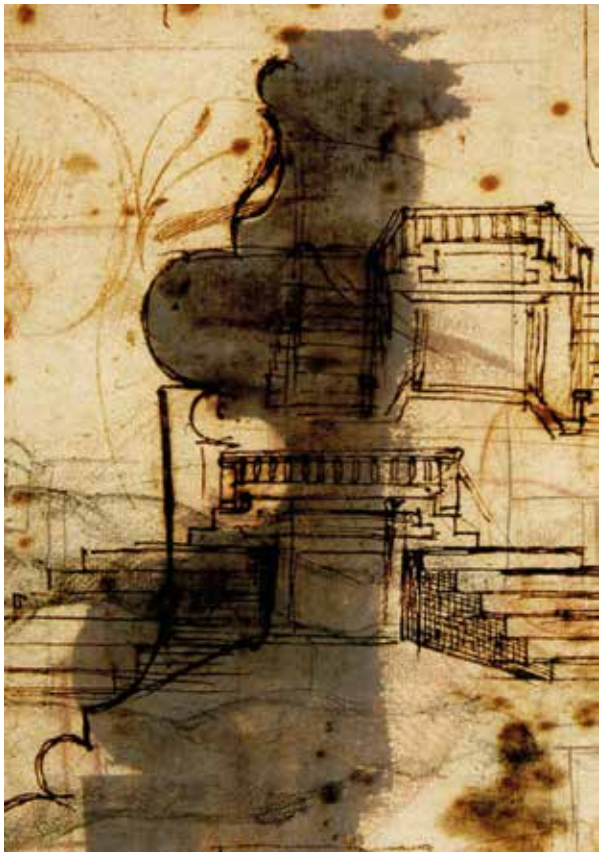
tail drawing, and Michelangelo's unusual approach to the antique lexicon. Building on what has been learned from the previous *modani* in terms of tracing and cutting, what emerges from an examination of CB 92A is a noticeable reciprocity between Michelangelo's template-tracing operations and his sketching techniques. Remarkably, not only does free-hand sketching provide a conceptual basis for freeing the *modani* from compass and rule, the *modani*, and their operations, help establish a framework for developing his profile sketching.

Unlike Michelangelo's other *modani*, CB 92A is unique for its density of drawings, both figural and architectural, and palimpsest-like condition. It offers one of the artist's most poignant documents for his methods of producing imaginative profiles. CB 92A contains, between the recto and verso, over twenty unique drawings, mostly relating to the Library vestibule.[70] It provides some of the most informative sketches of Michelangelo's intended design for the free standing stair, a source of some controversy since the stairway was built much later and without his

Howard Burns, "Michelangelo e Palladio", *ibidem*, pp. 270–283: 274; Payne (note 22), p. 70. For the bibliography prior to 1994, see Cooper (note 13), pp. 495f.

[70] The drapery and figural studies are generally considered by scholars to be from the hand of an assistant; see Silvia Catitti, in: *Michelangelo architetto a San Lorenzo* (note 31), pp. 132–134, no. 36.

immediate supervision. As such, it is the most widely published and most thoroughly studied of all his *modani*. Yet, it is also the one least likely to be discussed in terms of its cut edge. In spite of being prolifically reproduced since Wittkower's ground-breaking study on the Laurentian Library in 1934, the focus has been largely on the stair sketches, with only a few scholars having explored the significance of it as a *modano*.[71] The examination of CB 92A begins on the verso (Fig. 18b), where there is a left-facing profile study for the Library vestibule, rendered heavily in *pietra rossa* and overlaid with a second profile in ink wash or *lavata di bistro*.[72] This profile, a variation on an attic base, can be identified most closely with the lower order columns, although the columns as built rely on the substitution of a small double *tondino*, called *bastoncino*, a condition that may be faintly detected in the *pietra rossa* profile underneath. The deliberate and heavy use of *lavata di bistro* merits a closer scrutiny.[73] Also called *fuliggine*, it was a brownish-black material derived from burning organic materials such as wood and has been occasionally utilized by artists for its dark, smoke-like effect when used in wash or watercolour.[74] This leads to a much more opaque and penetrating wash than iron gall ink, Michelangelo's normal wash material.[75] The rare and surely deliberate use of such a material may be linked to the observed condition of CB 92A, where the wash profile telegraphs through the thickness of the paper. An overlay of the recto and verso (Fig. 19) reveals that this was certainly done as a purposeful act of transposing the profile shape on the recto: the heavily rendered profile in *lavata di bistro* bleeds through the paper and thus provides a guide to trace a new profile, facing right, on the other side of the sheet. From the recto, it can be seen that the right facing profile takes its upper moulding sequence – *toro*, scotia, *tondino* – directly from the verso.



19 Overlay of profiles from the recto and verso of CB 92A, detail

[71] The few exceptions are: Cooper (note 13), pp. 495f., who claims that CB 92A records "the creative phase of template production"; Thoenes 2009 (note 23), p. 30; Maurer 2004 (note 25), pp. 180f.

[72] There is some confusion about recto and verso on CB 92A, no doubt a reflection of the various scholarly emphases over the years. I defer here to the conventions of de Tolnay (note 3), IV, pp. 53f., no. 525.

[73] Scholars disagree as to whether the wash material on CB 92A is *lavatura d'inchiostro* or the more rare *lavatura* (or *lavata*) *di bistro*. De Tolnay (note 3), IV, p. 53, no. 525, identifies it as *lavata di bistro*, and I follow him here for two reasons: the greater ability of the material to penetrate the paper fibres, as may be seen on the other side, and the propensity of *lavata di bistro* to develop cracks, which are also detected here.

[74] Francesco Milizia, *Opere complete risguardanti le belle arti*, Bologna 1826–1828, III, p. 41. Also found in Baldinucci (note 40), p. 61.

[75] Ornella Signorini Paolini, "Gli inchiostri", in: *Restauro e conservazione delle opere d'arte su carta*, exh. cat., Florence 1981, pp. 49–57. On the unique ability of bistre to penetrate paper fibres, see Annamaria Petrioli Tofani, "I materiali e le tecniche", *ibidem*, pp. 73–113: 93.

The transposition of the profile sketch to the other side of the sheet not only copies the profile, it also reverses it, producing one of Michelangelo's few right-facing profiles. It is an obvious parallel to flipping a *modano*, an operation demonstrated in several *modani*, such as CB 61A and CB 59A, the nearly identical pair for the tomb of the Magnifici, or CB 60A, where it was utilized as an essential method to perform multiple cuttings on the profile edge. By cutting, Michelangelo flattened the double-faced nature of paper but simultaneously expanded it beyond its two surfaces into a full-bodied *modello*.[76] The advantage of 'opening up' the thickness of the paper relies on the imaginative potency of introducing ambiguities between right and left, and front and back. The turning over of the *modano* is thus a highly productive activity for Michelangelo to explore new profiles and render them open for new associations, a practice poignantly observed in his autodidactic profile copies from the Codex Coner. As has been pointed out, in several places Michelangelo initiates a direct reversal of profiles with respect to Volpaia's originals.[77] The act of mirroring most certainly aids in the release of the profile from its strict, antique genealogy as recorded by Volpaia. Also founded on the creative power of the flip, as discussed by Hirst, is Michelangelo's famous rendering of *Tityus*, where the suffering, recumbent Titan is wittily transformed into a study for the resurrection of Christ through a transposition between recto and verso.[78]

The use of mirroring or flipping as a dislocation tactic can be demonstrated clearly by following what happened to the just discussed attic profile after it was transposed through the thickness of the sheet. As stated already, Michelangelo chose to trace only the upper portion, leaving the lower profile free to take on new associations. Following this, there is a remarkable transformation of that lower portion into a study for an entirely different moulding, one where the remaining part of the profile on the verso is abandoned in favour of a new sequence – plinth-*toro*-*tondino*-*cimbia* – now on the recto. This, in fact, would become the basis for the studies of the *zoccolo*, or base moulding for the Library vestibule. Taking this as a new starting point and moving to the upper left of the sheet, an entirely new series of profiles is introduced to study this condition. Returning to his customary practice of drawing left-facing profiles, Michelangelo retains the moulding sequence just discovered in the flip but subsequently introduces a systematic study of three new profiles related to the vestibule base moulding. Bound by their shared lower portion, the three profiles exhibit, in rapid succession from right to left, different solutions for their upper portions.

Having transposed the profile with a flip of the sheet, the successive, adjacent studies rely on a formal operation of substitution, one that is ultimately an anatomical procedure of dismembering and assembly. The attic base is first dismembered and then partially reassembled into the vestibule base moulding. But this is not just an abstract operation of pure caprice; rather, it relies on the use of the paper sheet transformed into a manipulative object, and thus, clear parallels can be drawn with the use of the *modani*. One advantage with tracing *modani* is that they enable substitutions and dislocations, as profiles may be partially traced and then utilized with other templates to produce new combinations. This is

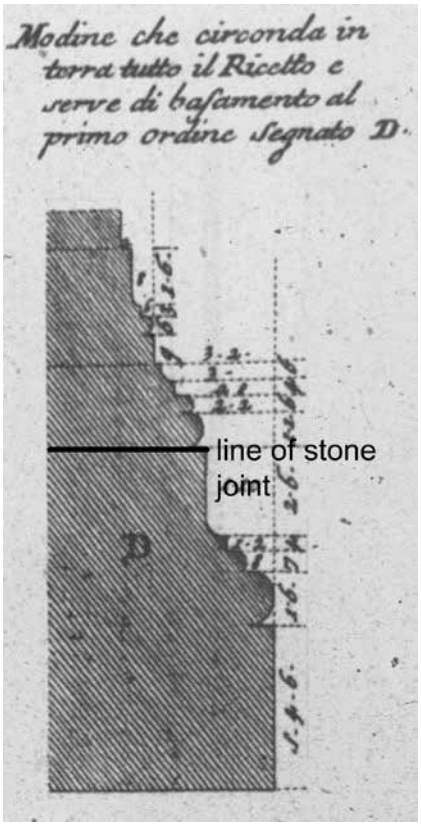
[76] Carmen Bambach has shown how Michelangelo's own use of the term *modello* almost invariably referred to representational objects made in wood or clay (Carmen C. Bambach, reply to Michael Hirst, "A Note on the Word *Modello*", in: *The Art Bulletin*, LXXIV [1992], pp. 172f.: 173).

[77] See Brothers (note 22), pp. 64f., who refers to CB 1Ar (de Tolnay [note 3], no. 518r). See also Wolfgang Lotz, "Zu Michelangelos Kopien nach dem Codex Coner", in: *Stil und Überlieferung in der Kunst des Abendlandes*, conference proceedings Bonn 1964, Berlin 1967, II, pp. 12–19. For a comparison of Michelangelo's profiles in the Laurentian Library to those in the Codex Coner, see Krieg (note 25), pp. 150–156.

[78] Hirst (note 53), p. 113, and more recently Brothers (note 22), p. 26.

certainly supported by the close link between *modani* and the control and assembly of the actual *lavoro di quadro*,[79] a process that involves the joining of many individual stones together into a single work, again with conceptual underpinnings in anatomy.[80] In other words, complex profile sequences would out of necessity be assembled using multiple stones and thus would require multiple *modani*.

Interestingly enough, the accounts documenting the delivery of *macigno* at San Lorenzo include a detailed record of the arrival of the building stones related to these very profiles, allowing for a deeper look into this link.[81] Among a record of blocks comprising the basement and main story, a distinction is made between the "imbasimento", or base block, and the "scaglione", which comprises the upper block of the base moulding assembly. In fact, there is a joint in the actual construction that divides the upper and lower blocks between the termination of the *cimbia* and the initialization of the upper *toro* (Fig. 20). Looking back, this division appears at precisely the same point as it does in Michelangelo's profile sequences on CB 92Ar, where the lower portion of the sketched profiles matches the *imbasimento* even as the upper portion, the *scaglione*, exhibits an array of different possible profiles. It seems possible, given this evidence, that the substitution operations were not only variations on antique sequences, studied in new ways, but were also specifically tied to the problem of creating a unified monolithic construction with the necessary use of smaller blocks. One wonders, as well, if these profile substitutions were not being executed in the exact moment when the stones were being carved and installed.



20 Study of joint location in the *zoccolo* of the Laurentian Library vestibule after building survey by Giuseppe Ignazio Rossi, *La Libreria Mediceo-Laurenziana, architettura di Michelagnolo Buonarruoti*, Florence 1749, pl. IV

Aside from their origin in the attic base profile on the verso, the three closely spaced sketches on the upper left of CB 92Ar (Fig. 18a) merit further explanation. Indeed, they follow a somewhat characteristic approach by Michelangelo to inventing and considering architectural profiles. Generally speaking, as is evidenced on several other sheets, he often iterated sketched profiles, progressing systematically

[79] The term *lavoro di quadro* refers to smooth architectural carvings, such as cornices and architraves. An ornamented cornice would fall into the category of *lavoro d'intaglio*; see the distinction made in Vasari (note 1), I, pp. 55f.

[80] That Michelangelo thought of architecture as an anatomical operation of assembly can be read into his so-called "letter to an unknown prelate", where he states that "le membra dell'architettura dipendono dalle membra dell'uomo" (*Il carteggio di Michelangelo*, ed. by Paola Barocchi/Renzo Ristori, Florence 1965–1983, V, p. 123).

[81] These accounts are collected in the so-called *Libretto II* and are a daily report of stone deliveries for the Laurentian Library vestibule from 11 December 1525 until 2 August 1526. See *I ricordi* (note 38), pp. 202–

from left to right, quickly testing new profile combinations or physiognomies and keeping them in close proximity to heighten possible associations and juxtapositions. Often these appear as free-floating profiles, as on a sheet for the Laurentian Library in the British Museum, inv. 1859-9-15-508v,[82] but they also may relate more closely with a horizontal movement that follows the datum lines of the profile in relief, as in CB 9Ar (Fig. 21) or in the *pietra rossa* profiles discussed already in the wall drawings of the Medici Chapel (Fig. 14). The linking of the profile to its relief condition produces a sophisticated morphological instrument for systematically examining moulding substitutions or more localized deformations or compressions. As has been shown, in tracing *modani* Michelangelo introduced an elastic approach to the profile line that was partially enabled by the sliding and nudging of the paper template across the sheet. This appears unequivocally in the ink smears on AB, XIII, 157, but it could have been utilized in the more subtle stretches and bumps on the profile edge found on CB 60A as well. Not incidentally, then, Michelangelo's sketching practices as demonstrated on CB 92Ar also relate to the conceptual framework activated by his paper *modani*, which he slid horizontally across the sheet in a process of shuffling, swapping, or stretching.

One profile that has yet to be examined on CB 92A is the actual cut edge itself. Rendered on the verso heavily on both the edge and in relief using *pietra rossa*, it also relates to the base moulding of the vestibule. The use of *pietra rossa* is possibly a clue that links it with the profile of the column base drawn in the same material, the one underneath the prominent profile in *lavata di bistro*, also on the verso. As observed by Maurer, both profiles appear to be scaled 1:1, as can be shown by comparing their measures to those of the in-situ construction.[83] One wonders, then, why to even cut the edge in the first place, since at first glance the likelihood of this *modano* going into the hands of the *scarpellini* seems slim. However, as it has been shown, one may not necessarily conclude that such a carefully sketched profile is to be excluded from use by the masons, nor that it might have had other creative uses. Clearly, the line between ideation and execution is significantly blurred, a fact that is magnified by the use of the scissors as a kind of sketching tool, a practice observed also on other *modani* and occasionally commented upon by scholars since the early 1990s.[84] On CB 92Av (Fig. 18b), this can be seen where, on top of the line in *pietra rossa*, a second line in ink acts as a cutting guide for the scissors for most of the profile length. The exception occurs at the scotia, where the scissors follow the *pietra rossa* instead of the ink, an indication that Michelangelo was not merely following a pre-determined line but continued to see disruptive potential in the use of the scissors themselves.

Concluding Remarks

The dialectic movement of *modani* operations at all stages of the design process effectively negate their function as solely formalized documents for theoretical or practical demonstration. In the hands of Michelangelo, they can be read more precisely as documents of displacement that enable an imaginative immersion into the sequencing and shaping of profiles *all'antica*. In this way, there is a convincing and fascinating symmetry between the operations inscribed within the *modani* and those associated with his profile sketches, the normal starting point when discussing his approach to the profile. The taxonomy of template operations – flipping, substitution, translation, and transposition – provides new insight into

211, no. CXCII. Wallace 1994 (note 20), pp. 160–165, discusses and analyzes these deliveries.

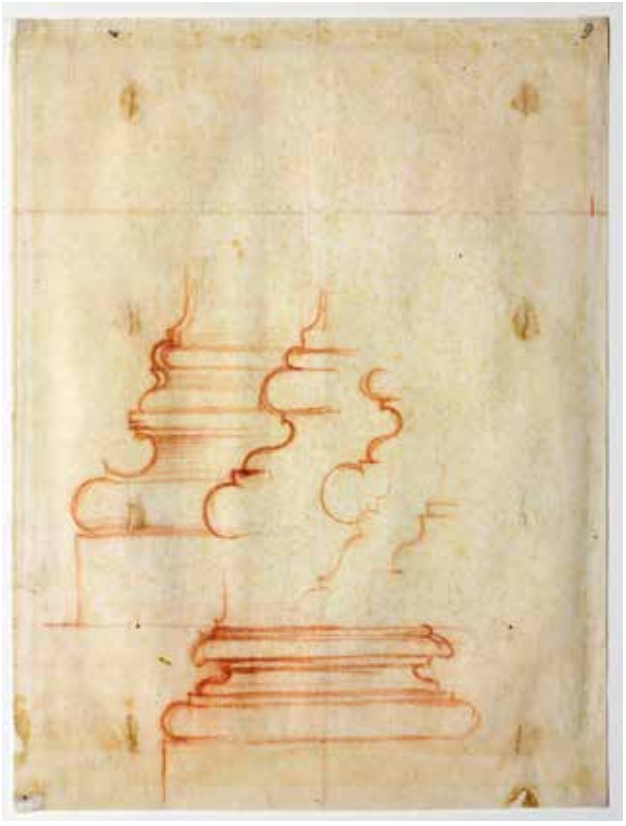
[82] De Tolnay (note 3), no. 528v.

[83] Maurer 2004 (note 25), pp. 180f.

[84] Of note here are Payne (note 22), p. 69, Joannides (note 21), and Brothers (note 35).

the artist's enigmatic approach to the antique lexicon; one that has long been acknowledged, in various ways, since Vasari.[85] The remarkable use of paper *modani* to generate new offspring *modani* may be considered a kind of occultation, where formal reference devices such as Vitruvian conventions or antique precedent are deliberately ousted through a witty use of paper. Unlike constructing a drawing with compass and rule, in which the measured lines and arcs are always visible, the act of tracing copies an outline while simultaneously concealing what is underneath. While this may be considered a formal limitation of the tracing procedure, it could also be viewed as an imaginative device for dislocation, in which the paper object itself is used as an instrument of invention. In many ways this follows, conceptually speaking, Michelangelo's use of the Codex Coner, where the normally rote procedure of copying was overturned to realize a creative surplus through flipping and omission.[86]

The *modani* show that the conventional operations of architecture, as described by Vasari, were treated by Michelangelo in a thoroughly unique, chiastic way: a first sketch may be a drawing for construction, but it can also be the other way around, where a construction tool (i.e., a *modano*) serves in a way that would be consistent with a sketch. We have just seen in CB 92A how a rapidly determined profile in *pietra rossa*, drawn with no apparent aid from compass or rule, is converted instantly into a natural-scale, construction-ready tool with the cut of the scissors. The erosion of these distinctions may rely on the importance of the scissors themselves as a tool of invention, or they may rest on a desire to create a parent template, ready to be traced onto a new sheet. They might point simply to the goal of bringing the drawing directly onto the building site as some kind of in-situ model.[87] At the same time, so-called finished *modani* were still active in ongoing design considerations, as was seen in CB 53A, the sheet of traced *modani*, where the soffit width was extended in the very act of recording a finished profile.[88]



21 Michelangelo Buonarroti, profile studies for the Medici Chapel. Florence, Casa Buonarroti, inv. 9Ar

These revelations add complexity to enduring yet open questions surrounding Michelangelo's so-called "licenzia", and they advance the importance of paper

[85] Caroline Elam has provided a recent assessment in her article "The Significance of the Profile in Michelangelo's Architectural Drawing", in: *Michelangelo e il linguaggio dei disegni* (note 23), pp. 85–99.

[86] For the standard practice of tracing in the cinquecento, devoid of creative potential, see Carmen C. Bambach, *Drawing and Painting in the Italian Renaissance Workshop: Theory and Practice, 1300–1600*, Cambridge 1999, pp. 127–137.

[87] Michelangelo made frequent use of models at San Lorenzo, often in-situ. One of the most famous was the natural-scale wooden model of the ducal tomb for the Medici Chapel. See Wallace 1994 (note 20), p. 88.

[88] Also relevant is the observation that the upper *cavetto* present on the CB 53A *modani* tracings has been omitted in the finished stone work.

as a critical support medium for his approach. Unlike in his sculpture, the *lavoro di quadro* was invariably carried out by the hands of assistants, leading to a great demand on the part of the intervening documents – *modani* – to act as surrogate building materials.[89] Certainly, Michelangelo capitalized on one of the key aspects of *lavoro di quadro*, namely that the relief conditions are imagined and communicated through a sectional cut, perpendicular to the façade. This meant adjustments to a flat cornice *modano* had immediate spatial consequences, since it might guide several *braccia* of stone work. The ability of paper to extend beyond its surfaces has already been explored through the analysis of the translocation of profiles in CB 92A. Paper supports a similar expansion when Michelangelo imagines the particular task of working through the hands of others in the *lavoro di quadro*. This is not a question of formalizing communications with the *scarpellini*, where the line of the artist's authority is solidified, although this is also a consequence.[90] Rather, it is a matter of Michelangelo himself reaching into the paper and extending his hands as closely as possible into the actual carving.[91]

Central to this, of course, is Michelangelo's formative connection between material and conceptual subtraction, his idea of working "per via di levare".[92] By translating it into an object capable of being flipped and carried about, the paper *modani* collapse the relief condition of stone into a line-based profile. The two activities extend and contain each other, which is the source of their imaginative potency. This leads to a more robust understanding of the importance placed by previous scholars on the role of the scissors, as a reciprocal act of removal borrowed from sculpture, in the invention of new profiles.[93] It seems plausible that removing paper, sometimes in multiple passes, had a metonymical relationship with removing stone, and in this way the *modani* assume an absolutely critical role, not only in communication, but in conceiving the work. Making multiple cuts along the edges of paper *modani* would certainly be consistent with Michelangelo's sculpting practices, where, in approaching the block from one side only rather than the four-sided approach typically enacted by sculptors, he could leave material available for adjustments in the work as it emerged.[94]

The free movement of *modani*, both locally on the drawing board as well as more broadly on the building site or between different projects, helps connect the animating and physiognomic approach to the profile line more convincingly with familiar sculptural operations. The manoeuvring of paper templates follows a concerted attempt by the artist to arrive at a properly tempered profile edge that satisfies the *giudizio dell'occhio*. The incremental flipping, sliding, and cutting allowed for a practical approach to making small adjustments, a preoccupation related to sketching, but perhaps also to techniques borrowed from painting in *buon fresco*.[95] What is more, the *modani* enact the physical movements of the body itself in making profiles, through scissors but also in sliding and flipping, creating a convincing link between the gestural quality of his architectur-

[89] As is well-documented, Michelangelo made copious use of assistants in his figural work, although contracts record Michelangelo's hand as a demand from patrons in certain parts of the work. See, for example, *Le Lettere di Michelangelo Buonarroti*, ed. by Gaetano Milanesi, Florence 1875, pp. 671f., no. XXXIII. The *lavoro di quadro* was probably rarely, if ever, undertaken by Michelangelo. Ornamented architectural carvings, as in the Medici Chapel, were executed by *intagliatori* (Wallace 1994 [note 20], p. 120).

[90] A forthcoming essay by the author in a book edited by Cara Rachele and Dario Donetti explores the role of *modani* in this respect.

[91] This builds on the claims of Thoenes 2009 (note 23), p. 30.

[92] This has been examined in a separate essay by the author, "Extracting Desire: Michelangelo and the *forza di levare* as an Architectural Premise", in: *The Material Imagination: Reveries on Architecture and Matter*, ed. by Matthew Mindrup, London 2015, pp. 29–45.

[93] Thoenes 2009 (note 23), p. 30, writes of CB 92A that Michelangelo puts it "davanti a sé come se dovesse lavorarlo con lo scalpello".

[94] These practices are discussed by Paula Carabell, "Image and Identity in the Unfinished Works of Michelangelo", in: *RES*, 32 (1997), pp. 83–105: 96–101.

[95] As Bambach (note 86), pp. 262f., has discussed, Michelangelo first incised his cartoons in the wet plaster and subsequently deviated from them as he worked.

al profiles and the gestural movements embedded in making *modani*. This connection seems important, as Michelangelo himself commented on the limitations of measured proportions in understanding the human body. Speaking through his biographer Ascanio Condivi, the artist famously criticized the human bodies drawn by Albrecht Dürer in his *Vier Bücher von menschlicher Proportion*: "Alberto non tratta se non delle misure e varietà dei corpi, di che certa regola dar non si può, formando le figure ritte come pali, quel che più importava, degli atti e gesti umani non ne dice parola."[96]

These lines into theoretical ideas have been taken up by others at great length. Rather than expanding the boundaries into complex terms, such as the *forza di levare* and *giudizio dell'occhio*, this paper connects them in a concrete way back to the *modani*, the somewhat hermetic documents for the building site that actually conceal fascinating findings. As has been discussed in various places throughout, this essay should be read as a strengthening of several existing lines of scholarship that have been developing since the early 1990s, when analysis into Michelangelo's working methods assumed an increasing importance. By offering new close readings of the physical conditions of Michelangelo's *modani*, emerging ideas about the artist's drawing process, the criticality of the medium of paper, and the significance of the building site are supported and reinforced. Previous assertions, such as the criticality of the scissors and the witty planning 'by eye', emerge as having even greater validity. At the same time, hitherto observed drawing factures on the *modani* take on new significances when placed into a coherent narrative of paper manipulations.

[96] Ascanio Condivi, *Michelangelo: la vita raccolta dal suo discepolo*, ed. by Paolo d'Ancona, Milan 1928, p. 176.

Abbreviations

AB	Florence, Archivio Buonarroti
CB	Florence, Casa Buonarroti
GDSU	Florence, Gallerie degli Uffizi, Gabinetto dei Disegni e delle Stampe

Abstract

This paper opens an inquiry into Michelangelo's unusual, yet highly ordered exercise of the classical vocabulary through a close examination of his natural scale paper *modani* for San Lorenzo. Following a re-examination of these documents, new assertions are made about how Michelangelo generated his *modani* via a complex taxonomy of physical operations, thereby using the *modani* themselves as paper tracing devices to produce new, altered *modani*. In doing so, he relied on techniques such as flipping, transposition, and sliding to enable a creative manipulation of the antique lexicon based on substitution, reversal, and stretching. Up until now, the practice of making *modani* and Michelangelo's idiosyncratic approach to the profile line have not been directly connected. However, in positing a stronger link, remarkable findings emerge. What arises from the present analysis is that his *modani*, as paper object-models, encroach on the technical domain normally associated with sketching, while, at the same time, the sketching process mimics the physical operations of template usage, such as flipping and substitution. A re-assessment of the *modani* leads to a new understanding of their central role in the artist's unconventional development of the architectural profile.

Photo Credits

Casa Buonarroti, Florence: Figs. 1–4, 6–13, 15, 16, 18, 21. – Gallerie degli Uffizi, Gabinetto dei Disegni e delle Stampe, Florence: Fig. 5. – Author: Figs. 14, 17, 19, 20.

Umschlagbild | Copertina:

Michelangelo Buonarroti, *modano* für die Biblioteca Laurenziana | modano per la Biblioteca Laurenziana
Florenz, Casa Buonarroti, Inv. 92 Ar |
Firenze, Casa Buonarroti, inv. 92 Ar
(Abb. 18a, S. 66 | fig. 18a, p. 66)

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