

“BOZZETTO STYLE”

The Renaissance Sculptor's Handiwork^{*}

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It takes most people much time and effort to become proficient at manipulating the tools of visual creation. But to execute in advance sketches, studies, plans for a work of art is not a necessary and inevitable part of the creative process. There is no evidence for such activity in the often astonishingly expert and sophisticated works of Paleolithic art, where images may be placed beside or on top of one another apparently at random, but certainly not as corrections, cancellations, or “improved” replacements. Although I am not aware of any general study of the subject, I venture to say that periods in which preliminary experimentation and planning were practiced were relatively rare in the history of art. While skillful execution requires prior practice and expertise, the creative act itself, springing from a more or less unselfconscious cultural and professional memory, might be quite autonomous and unpremeditated. A first affirmation of this hypothesis in the modern literature of art history occurred more than a century-and-a-half ago when one of the great French founding fathers of modern art history (especially the discipline of iconography), Adolphe Napoléon Didron, made a discovery that can be described, almost literally, as monumental. In the introduction to his publication — the first Greek-Byzantine treatise on painting, which he dedicated to his friend and enthusiastic fellow-medievalist, Victor Hugo — Didron gave a dramatic account of a moment of intellectual illumination that occurred during a pioneering exploratory visit to Greece in August and September 1839 for the purpose of studying the medieval fresco and mosaic decorations of the Byzantine churches.¹ He had, he says, wondered at the uniformity and continuity of the Greek

^{*} This contribution is a much revised and expanded version of my original, brief sketch of the history of sculptors' models, Irving Lavin, “Bozzetti and Modelli. Notes on Sculptural Procedure from the Early Renaissance through Bernini,” in *Stil und Überlieferung in der Kunst des Abendlandes*, Akten des 21. internationalen Kongresses für Kunstgeschichte in Bonn 1964 (Berlin, 1967), vol. 3, 93-104. In abbreviated form this version was presented at a symposium titled *Creativity: The Sketch in the Arts and Sciences*, organized by myself and Henry A. Millon at the Institute for Advanced Study and the National Gallery of Art in May 2001.

¹ Adolphe Napoléon Didron, *Manuel d'iconographie chrétienne, grecque et latine, avec une introduction et des notes par M. Didron*. Traduit du manuscrit byzantin, le guide de la peinture par Paul Durand (Paris, 1845). A valuable edition of the text in English translation was published by Paul Hetherington, *The 'Painter's Manual' of*

pictorial tradition, and upon reaching Mount Athos, with its innumerable monastic churches covered with decorations, he was stunned by a creative spectacle he witnessed, quite by chance, at the very outset of his visit to the Holy Mountain.

The first convent we entered at Mount Athos was that of the Esphigménou. The great church, recently constructed, was at that very moment scaffolded; a painter from Caria, aided by his brother, by two students, and by two young apprentices, covered with narrative frescos the entire interior porch preceding the nave. The first of the students, who was a deacon and the eldest, was to take over the shop at the death of the master.

My joy was great at this happy chance that seemed to reveal to me the secret of these paintings and painters, and that thus responded to the useless questions I had asked at Salamis and in the city of Athens. I climbed up on the scaffold and I saw the artist, surrounded by his pupils, decorating the narthex of the church with frescos. The young brother spread the mortar on the wall; the master sketched the picture; the first student filled the contours traced by the master in the scene, which he had not had time to complete; a young student gilded the nimbuses, painted the inscriptions, made the ornaments; the two others, younger, ground and mixed the colors. Yet the master painter sketched his pictures as from memory or inspiration. In an hour, before our eyes, he traced on the wall a picture showing Christ giving to his followers the mission to evangelize and baptize the world. Christ and the eleven other personages were about life size. He executed his sketch from memory, without a cartoon, without a drawing, without a model. Examining the other pictures he had terminated, I asked him if he had executed them himself; he responded affirmatively, and added that he very rarely effaced a design once he had done it.

We were astonished because these paintings were incontestably superior to those of our second-rank artists who make religious paintings. Some people, including myself, would place the Mount Athos painter on the line with our best living artists, especially when they make religious painting.

This alert painter astonished me even further with his prodigious memory. Not only did he trace his sketches and complete them without a drawing or cartoon, but I saw him dictating to his second student the inscriptions and sentences that were intended for the pictures and various personages. He recited all that without a book or notes, and all that was exactly the text of the sentences and inscriptions that I had seen in Attica, in the Peloponnesus and at Salamis. I expressed to him my admiration, but my surprise also greatly astonished him, and he responded, with what I think was rare modesty, that it was quite simple and much less extraordinary than I thought. Then he went quietly back to work.²

*Dionysius of Fournia. An English translation of cod. gr. 708 in the Saltykov-Shchedrin State Public Library (Leninigrad and London 1974). On Didron see the apt remarks of Hans Belting, *Likeness and Presence. A History of the Image before the Era of Art* (Chicago and London, 1994), 17-19.*

² Didron 1845, XVI-XVIII:

In the course of the interview Didron discovered the “explanation” for this ordinary extraordinary pictorial feat when the Carian painter, Joasaph, mentioned to him a manuscript in which detailed prescriptions for such work were laid forth, *The Painter’s Guide*. The text itself, a translation of which Didron published in 1845, was recent, but it clearly codified the cumulative, unwritten experience of a millennial tradition of the painter’s craft. Didron extrapolated that such guidebooks lay at the heart of medieval art generally, although he was fully aware that art in the West varied much more than that of the East, from place to place and from time to time. (Hence, it is clear in any case that neither the spontaneous procedure nor the guidebook he discovered could in themselves be held responsible for the “conservative” character of Byzantine art.)

Didron’s insight, inspired by his accidental encounter with a living tradition of what would come to be called “alla prima” execution of monumental wall paintings, was repeated a

Le premier couvent où nous entrâmes, en pénétrant dans le mont Athos, fut celui d’Esphigménou. La grande église, nouvellement bâtie, était en ce moment même échafaudée; un peintre de Karès, aidé par son frère, par deux élèves et deux jeunes apprentis, couvrait de fresques historiées tout le porche intérieur qui précède la nef. Le premier des élèves, qui était diacre et le plus âgé, devait reprendre l’atelier à la mort du maître.

Ma joie fut grande de ce hasard heureux qui paraissait me livrer le secret de ces peintures et de ces peintres, et qui répondait ainsi aux inutiles questions que j’avais faites à Salamine et dans la ville d’Athènes. Je montai sur l’échafaud du maître peintre, et je vis l’artiste, entouré de ses élèves, décorant, de fresques le narthex de cette église. Le jeune frère étendait le mortier sur le mur; le maître esquissait le tableau; le premier élève remplissait les contours marqués par le chef dans les tableaux que celui-ci n’avait pas le temps de terminer; un jeune élève dorait les nimbes, peignait les inscriptions, faisait les ornements; les deux autres, plus petits, broyaient et délayaient les couleurs. Cependant, le maître peintre esquissait ses tableaux comme de mémoire ou d’inspiration. En une heure, sous nos yeux, il traça sur le mur un tableau représentant Jésus-Christ donnant à ses apôtres la mission d’évangéliser et de baptiser le monde. Le Christ et les onze autres personnages étaient à peu près de grandeur naturelle. Il fit son esquisse de mémoire, sans carton, sans dessin, sans modèle. En examinant les autres tableaux qu’il avait terminés, je lui demandai s’il les avait exécutés de même; il répondit affirmativement, et ajouta qu’il effaçait très-rarement un trait qu’il avait une fois tracé.

Nous étions dans l’étonnement, car ces peintures étaient incontestablement supérieures à celles de nos artistes de second ordre qui font des tableaux religieux. Par quelques personnes, et je suis de ce nombre, le peintre du mont Athos pourrait être mis certainement sur la ligne de nos meilleurs artistes vivants, surtout lorsqu’ils exécutent de la peinture religieuse.

Ce peintre si alerte m’étonnait encore par sa prodigieuse mémoire. Non-seulement il traçait ses esquisses et les achevait sans dessin ni carton; mais je le voyais dictant à son second élève les inscriptions et les sentences que devaient porter les tableaux et les divers personnages. Il débitait tout cela sans livre ni notes, et tout cela était rigoureusement le texte des sentences et des inscriptions que j’avais relevées dans l’Attique, dans le Péloponnèse et à Salamine. Je lui témoignai mon admiration; mais ma surprise l’étonna beaucoup lui-même, et il me répondit, avec ce que je croyais une rare modestie, que c’était bien simple et beaucoup moins extraordinaire que je ne le pensais. Puis il se remit tranquillement à l’oeuvre.

century later through a purely deductive process from the historical evidence of early Italian painting, by the German art historian Robert Oertel.³ In a drastically revisionary essay published in 1940, Oertel came to an exactly parallel conclusion, transforming our understanding of the amount and kind of preparation that lay behind the great mural decorations of the trecento. In the West, too, the fresco was executed directly on the wall, overlaying a rough sketch that served merely as a guide, not as a preliminary study, like the design first laid down by the master painter at Mount Athos. Oertel, however, took a very different view of the process that lay behind the execution of the wall painting. He questioned the fundamental role traditionally ascribed to the western artist's "model book," the visual equivalent of the Byzantine painter's handbook that "explained" for Didron the wondrous, unpremeditated process he had witnessed on the Holy Mountain. Oertel's intuition was confirmed with the discovery in the aftermath of World War II of great numbers of sinopias, the monumental and often astonishingly sketchy drawings executed directly on the wall beneath the fresco, not as a study but as a guide to the artist who covered it as he painted the fresco on top (Fig. 1).⁴ Oertel demonstrated, as well, that a new order was introduced by Masaccio who first used a grid and a full-size cartoon traced on the wall (Fig. 2).⁵ The old view that the medieval painter in the West worked by a more or less mechanical method of copying from prescribed models and patterns can no longer be maintained. Indeed, the chief controversy has been reduced at present to the question whether even small-scale compositional sketches were used before the Renaissance. There has taken place what amounts to a fundamental reversal in our understanding of how works of art were conceived. The medieval artist, formerly thought of as being bound by an ironclad system of servile copying, now emerges as the paragon of direct and unpremeditated creation. It was the Renaissance that sought to objectify and rationalize the artistic process into a fixed method and body of rules.

³ Robert Oertel, "Wandmalerei und Zeichnung in Italien," *Mitteilungen des kunsthistorischen Instituts in Florenz*, 5 (1940): 217-314; also his *Early Italian Painting to 1400* (New York and Washington, 1966), 70-77. The essential validity of Oertel's observations may be gauged from the vast literature and physical evidence gathered in the postwar period, surveyed Paolo Mora et al., *Conservation of Wall Paintings* (London 1987).

⁴ On the fresco by Taddeo Gaddi, see Millard Meiss, *The Great Age of Fresco. Discoveries, Recoveries, and Survivals* (New York, 1970), 56-57; Andrew Ladis, *Taddeo Gaddi. Critical Reappraisal and Catalogue Raisonné* (Columbia, MO, 1982), 156-7, No. 17.

⁵ Eve Borsook interprets the grid, which occurs only in the figure of the Madonna, as a scheme for calculating the foreshortening of the head (*The Mural Painters of Tuscany from Cimabue to Andrea del Sarto* [Oxford, 1980], 69-60). This explanation, however, does not preclude the use of the grid in conjunction with a cartoon, and in any case does not affect Oertel's demonstration of Masaccio innovative approach to mural painting.

A corollary of this development is that the rules that emerged in the Renaissance and flourished in a great body of theoretical as well as practical art-literature were of an entirely different nature than those prescribed in the medieval handbooks. The latter were essentially of two kinds, often combined in a single treatise. One format was technical, consisting essentially of recipes and other directions, including geometric prescriptions, for actually constructing and executing the work of art; the second type was essentially iconographical, providing by way of description or illustration details of how a given subject was to be represented. What the Renaissance created were guides to the creative process itself, conceived as a progressive articulation and refinement of a preliminary thought to a finished prototype, of which the final work was, insofar as possible, a permanent duplicate. The Renaissance evolution was rooted in a fundamental paradox. On the one hand, there emerged for the first time in the history of art what can properly be called an articulate theory of creation that would lead the practitioner step by step from the set task to the final execution, in a reasoned and orderly fashion. On the other hand, by the same token, the process elicited and led to the conscious preservation of a more or less complete repertory of preliminary studies that record what might be called the artist's inner dialogue with the problems presented by the task at hand. What became visible, as never before, and part and parcel with the elaborate theoretical structure, was the artist's premeditation, the process of planning, whether spontaneous or self-conscious, that led from an initial idea to the final work.

These phenomena have their counterparts in sculpture, though they have received far less attention in this domain. A useful point of departure is provided by the pioneering study by Carl Bluemel of Greek sculptural technique, first published in 1927.⁶ On certain unfinished pieces of ancient statuary there is preserved a number of small protuberances or knobs, with tiny holes in the center (Fig. 3, especially on the head and above the knees; Fig. 4, on the chest and knee). By analogy with modern sculptural practice, it is evident that these knobs are what are called "points," fixed reference marks by means of which measurements are made in copying from a model or another sculpture. Such examples prove beyond question that a system of mechanical

⁶ Carl Bluemel, "Griechische Bildhauerarbeit," *Jahrbuch des deutschen archäologischen Instituts*, Ergänzungsheft XI (Berlin, 1927): 1-78, published independently thereafter (third edition, Berlin 1940) though omitting valuable documentation; English edition, "*Greek Sculptors at Work*" (London 1955). Further observations by Bluemel appear in "Modelle zu griechischen Giebelskulpturen," *Archäologischer Anzeiger* 54 (1939): 302-13. For a general survey of sculptural procedure from antiquity to modern times, see Rudolf Wittkower, *Sculpture. Processes and Principles* (New York, 1977).

pointing-off was known and used in antiquity.⁷ On this basis, Bluemel made an observation that is of fundamental significance. It concerns an inherent difference in procedure between sculpture that is executed free and directly in the stone, and sculpture produced by pointing off from a model. In the former case, characteristic of archaic and classical Greece, the artist tends to carve the statue uniformly in the round (Fig. 5). He removes, as it were, a series of “skins” from the figure, and at any given stage in the execution it will show a more or less uniform degree of finish. With the technique of pointing-off, particularly by the Romans for copying Greek statuary, the tendency is to work the figure from one side at a time, and to bring some parts to a state of relative completion before others.

What little evidence there is for the practice of medieval sculptors comes mainly from the Gothic period.⁸ But the limited evidence is of great value because it speaks with a single and unequivocal voice. Bluemel himself cited several unfinished sculptures, such as the small female figure, probably an allegory of Fortitude, from the late fourteenth century in Orvieto (Fig. 6). The technique is basically similar to that of archaic Greek sculpture; indeed, all the medieval examples show the characteristics of direct carving, without pointing from a model.⁹ Even more striking is the consistency of the documentary evidence, which for the late 14th and early 15th centuries, particularly in Italy, is rather extensive. We have the abundant records of both Florence and Milan cathedrals. And they show by repeated instances, and without exceptions,

⁷ Recent bibliography and examples: Peter E. Corbett, “Attic Pottery of the Late Fifth Century from the Athenian Agora,” *Hesperia* 181 (1949): 305-306, 341; Gisela M. A. Richter, *Ancient Italy* (Ann Arbor, Michigan, 1955), 105-111; Evelyn B. Harrison, “New Sculpture from the Athenian Agora, 1959,” *Hesperia* 29 (1960): 370, 382; Gisela M. A. Richter, “How were the Roman Copies of Greek Portraits Made?,” *Römische Mitteilungen* 69 (1962): 52-58.

⁸ An important extension of Bluemel's analysis to the development of Egyptian sculpture was made by Rudolf Anthes, “Werkverfahren ägyptischer Bildhauer,” *Mitteilungen des deutschen Instituts für ägyptische Altertumskunde in Kairo* 10 (1941): 79-125.

⁹ After Bluemel see Theodor Müller in *Reallexikon zur deutschen Kunstgeschichte*, 9 vols. (Stuttgart 1937-), vol. 2, 608-614, s.v. “Bildhauer”; also Fritz V. Arens in *Reallexikon* 1937- , vol. 2, 1062-1066, s.v. “Bosse, Bossenkapitell.” On medieval sculptural procedure generally, see Pierre du Colombier, *Les chantiers des cathedrales* (Paris, 1973), 113-34, with bibliography, though much more study is necessary. Needless to say, considerable variation in degree of surface finish on a given work is possible within the general principle of “uniform, in-the-round-” carving in medieval sculpture. Yet, there are real exceptions. On certain incompleting Romanesque capitals, parts were brought to a final finish before the rest of the carving was even roughed out (suggesting the use of a repeated pattern?); Jean Trouvelot, “Remarques sur la technique des sculpteurs du moyen-Age,” *Bulletin monumental* 95 (1936): 103-108. John White, in his exemplary study of the Orvieto facade reliefs, showed that a uniform working technique was used only in the initial stages of blocking-out; execution of the subsequent stages progressed at varying rates (“The Reliefs on the Facade of the Duomo at Orvieto,” *Journal of the Warburg and Courtauld Institutes* 20 (1959): 254-302). In this case however, we are not dealing with an artist's “creative procedure,” but, as White concludes, with a workshop system in which specific kinds of secondary tasks were assigned to “specialists” once the main forms had been established by the leading masters.

that the monumental sculptures of these buildings were executed at this period not from models but from drawings. The drawings were not provided by the executing sculptors themselves but by other artists; and these other artists were usually not sculptors at all, but painters.¹⁰ The evidence concords perfectly with what the preserved examples suggested, for sculpture executed exclusively from drawings is of necessity carved directly.

This then was the situation in the period immediately preceding the emergence of the great masters of the early Renaissance, and it was the system under which they grew up. It is astonishing how rapidly and completely things changed. We cannot even remotely conceive of Ghiberti or Donatello or Luca della Robbia executing sculpture as a general practice after someone else's drawings, especially a painter's. And as the sculptor began to provide his own designs, the documents show with equal consistency that these designs now normally took the form of models.¹¹ Drawings continue to be used, of course, but they are no longer the distinctive basis upon which works were commissioned or appraised.¹²

¹⁰ On sculptor's drawings generally Harald Keller, in *Reallexikon* 1937-, vol. 2, 625-639, s. v. "Bildhauerzeichnung." On the painters' drawings for sculpture in Milan and Florence, Oertel 1940, 267-270. (also, for Milan, Ugo Nebbia, *La scultura del Duomo di Milano* [Milan, 1910], 45-7, 59-66.). This suggests a link between the Milanese and Florentine series of "giganti" as regards working procedure, as well as program (Raghna and Nicolay Stang, "Donatello e il Giosue per il Campanile di S. Maria del Fiore alla luce dei documenti," *Acta ad archaeologiam et artium historiam pertinentia. Institutum Romanum Norvegiae* 1 [Rome 1962] 119). Needless to say, drawings by sculptors are documented in the trecento: Nino Pisano, Scherlatti tomb, Pisa, 1362, Igino B. Supino, *Arte Pisana* (Florence, 1904): 230-231; wooden choir-stall, Siena cathedral, 1377ff., Gaetano Milanesi, *Documenti per la storia dell'arte senese*, vol.1 (Siena, 1854-56), 332, 356, etc., Richard Krautheimer, "A drawing for the Fonte Gaia in Siena," *Bulletin of the Metropolitan Museum of Art* 10 (1952): 272. It must be emphasized that, regardless of who made them, the question whether there were true preparatory studies, as distinct from commission or working drawings, remains open.

¹¹ On models and bozzetti generally, see. Harald Keller and Anton Röss, in *Reallexikon* 1937-, vol. 2, 1081-1098, s. v. "Bozzetto," and Theodor Müller, *Reallexikon* 1937-, vol. 2, 600-607. This writer must report that so far he has encountered no certain example, either preserved or documented, of a model in whatever scale for monumental stone figural sculpture before the fifteenth century. It should be emphasized, however, that there was an important trecento practice of making models for architectural elements which may or may not have included sculptured decorative details (documented at Prague, Xanten, Bremen, Milan, Florence, and Bologna; see Keller (as above) and Ludwig H. Heydenreich, in *Reallexikon* 1937-, vol. 1, 918-940, s. v. "Architekturmodell"); to this tradition presumably belongs the plaster model made by Claus Sluter for the "maconerie et facon" of the fountain at Dijon (Henri David, *Claus Sluter*, [Paris 1951], 86). Terracotta sculpture, including models, was the subject of a recent exhibition, Bruce Boucher, ed., *Earth and Fire. Italian Terracotta Sculpture from Donatello to Canova*, exh. cat. (New Haven and London, 2001). On wax models in particular, see Charles Avery, "'La cera sempre aspetta': Wax Sketch Models for Sculpture," *Apollo* 119 (1984): 166-76.

¹² Jenő Lányi was apparently the first to draw attention to this fact, and stressed the marked contrast between the Florentine masters on the one hand and on the other Jacopo della Quercia, in whose work drawings play a leading role ("Quercia-Studien," *Jahrbuch für Kunstwissenschaft* 23 [1930]: 25-63). But in this effort to establish Quercia's originality, Lányi overlooked the fact that, in this respect at least, Quercia was carrying on a medieval tradition that was no less firmly rooted in trecento Siena than it had been in Florence and Milan (Oertel 1940, 263). Lányi was

The first evidence we have of what must be regarded as a methodological and conceptual sea-change comparable to that inaugurated by Masaccio the painter, is a documentary notice referring to one of the famous series of colossal statues, or *giganti*, commissioned for the cathedral of Florence, the series that resulted ultimately in the *David* of Michelangelo. A partial payment was made in 1415 jointly to Donatello and Brunelleschi for a small figure of stone, draped with gilt lead (*una figuretta di pietra, vestita di piombo dorato*); they were to execute the figure “for a test and illustration of the large figures that are to be made upon the buttresses (*per pruova e mostra delle figure grandi che s’anno a fare in su gli sproni*).¹³ As far as I can discover this is the first reference to a model made in preparation for a piece of freestanding monumental sculpture since classical antiquity. The chief reason for making the model was probably of a technical nature. We know that considerable difficulties were experienced with the giant that Donatello had made a few years earlier out of terracotta; it had to be repaired on several occasions within a few years after it was completed.¹⁴ Chances are that Donatello and Brunelleschi were trying out what would indeed have been a novel combination of stone with a protective cover of metal in the form of drapery. But even if it was primarily a technical rather than an aesthetic experiment it represents a radical new departure in the way of conceiving a work of sculpture.¹⁵

right, however, in emphasizing Quercia's departure, along with the Florentines, from the late trecento tradition of monumental sculpture executed on the basis of drawings supplied by painters. Lanyi (1930, 53-54) also misinterpreted the passage in which Vasari discusses Quercia's equestrian monument for the catafalque of Giovanni d'Azzo Ubaldini (Rosanna Bettarini and Paola Barocchi, eds., *Le vite de' più eccellenti pittori, scultori e architettori : nelle redazioni del 1550 e 1568* [Florence, 1966-97], Testo, III, 21-22) to mean that Vasari attributed to Quercia the invention of the full-scale sculptor's model. Vasari in fact is referring specifically to the material construction of the piece, which in the sixteenth century was used for large models. Quercia's monument, however, was not a model in the sense of being preparatory to execution in more permanent form, but belongs to the category of large scale decorations executed in temporary materials for special occasions such as funerals and festivals. The subject of early Renaissance sculptors' use of drawings and models has been surveyed recently by Gary M. Radke, “Benedetto da Maiano and the Use of Full Scale Preparatory Models in the Quattrocento,” in *Verrocchio and Late Quattrocento Italian Sculpture*, ed. Stephen Bule, et al. (Florence 1992), 217-24.

¹³ Giovanni Poggi, *Il Duomo di Firenze* (Berlin, 1909), doc. no. 423.

¹⁴ Horst W. Janson, “Giovanni Chellini's 'Libro' and Donatello,” in *Studien zur toskanischen Kunst. Festschrift für Ludwig Heinrich Heydenreich*, eds. Wolfgang Lotz and Lise L. Möller (München, 1964), 134; reprinted in his *16 studies* (New York, 1973), 107-16.

¹⁵ Brunelleschi's participation and the fact that what was being planned was, after all, a piece of architectural sculpture, may not be fortuitous. It is my feeling that this experiment, and the development of the sculptor's model generally was closely related to the earlier tradition of architectural models (see n.11 above).

From the foregoing it should be clear that in order to grasp fully the nature and significance of the creative process as it evolved in the Renaissance, it is important to understand that sculpture of the highest order can be created without first making a model of any kind, indeed without any externally manifested premeditation at all. The model is an invention and has a history of its own, and a corollary of this fact is that it embodies a history of style in its own right, related to, but also independent of that of the finished work for which it was made. One strand of this history is the development of what might be called the “prototypical” style, in which the model is conceived as a fully developed preconception of the final work. Here it is important to note that the preliminary designs, whether drawings or models, mentioned in the documents were made as the basis for commissions and were often intended to be kept as a standard against which the completed work would be judged, and hence it seems probable that they were highly finished.¹⁶ This assumption receives some support from examples from the second half of the century that have a (by no means certain) claim to be regarded as authentic models. Whatever the terracotta “Forzori altar” attributed to Donatello may be, it coincided perfectly with the rough and sketchy character of Donatello’s version of the rilievo staccato (Figs. 7, 8);¹⁷ at the opposite end of the scale, but equally undistinguishable from the version as executed, are the highly finished models of Benedetto da Maiano related to the reliefs on his pulpit in S. Croce of around 1475; the executed sculptures show only slight variations from the models (Figs. 9, 10).¹⁸ In the end, it seems likely that the models of the early Renaissance were presentation pieces, “illustrations” or “try-outs,” rather than preliminary studies.

One begins to get the sense of a distinctive “sketch” style with Verrocchio who, in addition to modeling the forms smoothly, used a sharp tool to trace certain shapes in the soft clay with the same vigor and impetuosity that permeates all his work (Fig. 11). His terracotta model in the Victoria and Albert Museum for the Forteguerri monument in Pistoia (ca.1475), though hardly a sketch, is very different from such highly finished models as those of Benedetto da Majano.¹⁹ And if the London relief was actually a presentation piece, submitted for the patron’s

¹⁶ See for examples Cesare Guasti, *Il pergamo di Donatello pel Duomo di Prato* (Florence 1887), 13; Allan Marquand, *Luca della Robbia* (Princeton, 1914), 78, 197; Poggi 1909, doc. 1099.

¹⁷ See Boucher 2001, 108-111.

¹⁸ Radke 1992; Boucher 2001, 136-138.

¹⁹ On the model for the Forteguerri monument see Boucher 2001, 126-29.

approval, it marks the appearance of a new attitude in this domain. I think it not coincidental, however, that the first true “bozzetto-style,” that is, a “preliminary” manner of execution in a preliminary study, should have been developed by Michelangelo, the first sculptor who made the preliminary model a deliberate, integral, and consistent part of his creative process.

Michelangelo’s small figures in wax and clay have the quality of directness that prompts us to speak for the first time of real sculptured sketches, or “bozzetti” (Figs. 12, 20).²⁰ In the terracotta torso in the British Museum, the creative act is everywhere evident in the very personal striated surface treatment that was, in a manner of speaking, Michelangelo’s creative signature.

Throughout the whole prior history of European sculpture there is nothing that conveys in this way the sense of being confronted with the artist’s most inward and private searchings.

Moreover, the sources and preserved examples together leave no doubt that he made such studies regularly for all sorts of projects — in painting as well as in sculpture — so it can also be said that with Michelangelo the three-dimensional sketch became an essential part of the artist’s creative machinery. His bozzetti so impressed his contemporaries as characteristic of his *modus operandi* and as models of inspiration, that they included one as the chief attribute of the allegory of Painting (sic!) on his tomb in Santa Croce (Fig. 13).²¹

Nor is it coincidental that this technique coincides with Michelangelo’s development of a “preliminary manner” in other media. It would seem that at the beginning of his career, in his very first drawings, copies after Giotto and Masaccio, Michelangelo went back to the very origins of “modeling” in the modern sense of suggesting three-dimensional form, and invented a revolutionary new technique for doing so (Figs. 14, 15). The intersecting grids of parallel cross-hatchings suggest, without fully describing, the shapes they represent and thus explicitly

²⁰ This usage is, however, anachronistic. Following such root forms as “boza” and “abbozzare,” which focus on the preliminary or unfinished state of a work, the diminutive “bozzetto,” referring to a small, rapidly executed sketch, in contradistinction to a “modello,” became current only in the eighteenth century. See Oreste Ferrari, “La fortuna (e sfortuna) critica del ‘bozzetto’ nel Settecento, in *Studi in onore di Giulio Carlo Argan* (Florence, 1994), 253-258. For a succinct discussion of earlier terminology for preparatory works in sculpture, see Dario Covi, “Reinterpreting a Verrocchio Document,” *Source. Notes in the History of Art*, 12, No. 4 (1993): 5-12.

²¹ See Ludwig Goldscheider, *A Survey of Michelangelo's Models in Wax and Clay* (London, 1962) (with many problematic attributions), esp. Note on the Frontispiece, and notes on figs. 1-2, where Michelangelo’s use of sketch-models for work in both media is emphasized. On the history of the tomb and its ideology, see Zygmunt Wazbinski, *L'Accademia medicea del disegno a Firenze nel cinquecento: idea e istituzione*, 2 vols. (Florence, 1987), vol. 1, 155-176; Kathleen Weil-Garris Brandt, “Michelangelo's Monument: an Introduction to an Architecture of Iconography,” in *Architectural studies in memory of Richard Krautheimer*, ed. Cecil L. Striker (Mainz, 1996), 27-31. The use of a sculptural model for Painting was among contemporaries, and continues to be a subject of debate (see Herbert von Einem, “Ein verlorenes Sklavenmodell Michelangolos?,” *Rivista d'arte*, 28 (1953): 145-155.

declare their preliminary nature in so many words, or so many lines, as it were. The same graphic style became literally incisive in the preliminary stages of his work in sculpture, the claw-toothed tool animating the surfaces of his unfinished marbles, and his models (Fig. 16).²² The “interdisciplinarity” of this technique in Michelangelo’s oeuvre makes it quite impossible to attribute priority to one medium or the other; and the degree to which this autonomous, purely graphic manner was a deliberate, conscious, invention is evident from an astonishing drawing in which Michelangelo drew his own right hand in the act of drawing the cross-hatched rendering of a left hand clutching a soft material, which coincides with the left hand grasping the cloth of the perizonium in the newly rediscovered first version of the Risen Christ for S. Maria sopra Minerva in Rome (Figs. 17, 18).²³

At the opposite end of preparation is the equally dramatic fact that with Michelangelo we are able, again for the first time since antiquity, to prove the use of large-scale models for monumental stone sculpture. I refer of course to the Medici tombs; large models for the figure sculptures are amply documented in Michelangelo’s own Ricordi, and one, the River God in the Accademia is still preserved (Fig. 19).²⁴ Here, too, the procedural revolution coincided with a corresponding innovation in technique. Michelangelo also developed a new “plastic” modeling style at the opposite end of the preliminary scale from the line-based, graphic mode: using his fingers to mould the clay or wax he created continuous, consistent, smooth undulations that replace the grids as the surface, suggesting instead a sort of skin that pneumatically envelops the

²² On Michelangelo’s “graphic” mode in drawing and sculpting, see the article and corrective addendum by my former student Martha Dunkelman “Michelangelo’s Earliest Drawing Style,” *Drawing* 1 (1980): 121-26 and “Correction to “Michelangelo’s Earliest Drawing Style,” *Drawing* 2 (1980): 7.

²³ Silvia Danesi Squarzina, ed., *Caravaggio e i Giustiniani. Toccar con mano una collezione del seicento*, exh. cat. (Milan, 2001), 246-251. On the attribution of the famous and much-discussed drawing of hands, see Charles de Tolnay, in *Le Cabinet d'un grand amateur, P.-J. Mariette, 1694-1774, dessins du XVe siècle au XVIIIe siècle*, exh. cat. (Paris, 1967), 24 - 5.

²⁴ For the Ricordi, see Lucilla Bardeschi Ciulich and Paola Barocchi, eds., *I ricordi di Michelangelo* (Florence, 1970). The frequency with which he used large models for sculpture is not so evident as with the bozzetti; Cellini (cited in the following note) says that Michelangelo had worked both with and without full-scale models, and that after a point he used them regularly. On the other hand, in a letter of 1547 Bandinelli reports Pope Clement as having said that Michelangelo could never be persuaded to make such models (Giovanni Bottari, *Raccolta di lettere sulla pittura, scultura ed architettura scritte da' più celebri personaggi dei secoli XV, XVI, e XVII*, ed. Stefano Ticozzi, 8 vols. [Milan, 1822-25], vol. 1, 71). But that Michelangelo himself thought of them as a means of facilitating the work is apparent from his letter of April 1523 concerning full-scale models for the Medici tombs: Paola Barocchi and Renzo Ristori, *Il carteggio di Michelangelo. Edizione postuma di Giovanni Poggi* (Florence, 1965-73), vol. 2, 366-367.

volume beneath (Fig. 20). Similarly, on paper, again using his fingers and eschewing lines altogether, he rubbed and modeled charcoal to create carefully finished and smoothly undulating forms. The result is something between a preliminary drawing and a fully developed painting or sculpture, a sort of intermediate formal and conceptual category in its own right (Fig. 21). The sheets were in fact conceived as independent works of art, and Michelangelo actually presented them to his friends as such. Michelangelo's smoothly executed models surely inspired the perfectly executed small bronze sculptures, many of them actual models for monumental works, that were then coming much into vogue, especially at the hands of Giovanni Bologna.

Both these innovations should be kept in mind when one considers still another aspect of Michelangelo's working procedure (Fig. 16). This is his habit, described by Vasari and Cellini and confirmed by the works themselves, of attacking the block from one side only, uncovering the projecting forms first and proceeding only gradually deeper into the block.²⁵ The significance of this technique has not I think been clearly grasped, though Vasari himself supplies the explanation. He says that its purpose was to avoid errors by leaving room at the back of the block for alterations. In other words, should the artist encounter any flaws in the marble as he proceeds, should he make a mistake, should he alter his conception, he will be in a much better position to make any necessary allowances or changes than if the opposite side were already hewn away.

I need hardly point out the similarity of this to the later classical procedure, which Bluemel showed was based on making copies by pointing-off. This would indicate that Michelangelo's technique, too, developed in relation to his use of models. Indeed, Vasari gives his description of the procedure in a passage dealing with the use of models. The description is even couched in terms of the famous analogy of a wax model slowly withdrawn from a pail of water. I do not mean to imply that Michelangelo actually pointed off in a modern way, as has been claimed,²⁶ or even that he necessarily made models, on whatever scale, in every case. Rather, I suggest in general terms that these two most salient features of his working procedure — his one-sided approach to the block, and the unprecedented role of bozzetti and modelli in his

²⁵ Bettarini and Barocchi 1966-97, Testo I, 90; Testo VI, 110; Benvenuto Cellini, *Trattato della Scultura* in Arturo J. Rusconi and Antonio Valeri, eds., *La Vita di Benvenuto Cellini* (Rome 1901), 780; these are the most important among numerous allusions to Michelangelo's procedure.

²⁶ Franz Kieslinger, "Ein unbekanntes Werk des Michelangelo," *Jahrbuch der Preussischen Kunstsammlungen* 49 (1928): 50-54.

work — should be viewed as interconnected phenomena, the one proceeding directly from the other. Considered in this light it might be said that Michelangelo's way of carving and chiseling stone extended into the domain of this notoriously recalcitrant, Alpine (his term) material the preliminary experimentation, trial-and-error, indeed sketching, that characterized his creative procedure generally. This quality of procedural continuity was perhaps best encapsulated in Vasari's beautiful appreciation of the perfection seen in the imperfection of the work, "*ancora che non siano finite le parti sue, si conosce, nell'essere rimasta abbozzata e gradinata, nella imperfezione della bozza la perfezione dell'opera.*"²⁷ Michelangelo's revolutionary technique may thus be understood against the broad background of sculptural procedure since the early fifteenth century. The development that began with Donatello's and Brunelleschi's quasi-scientific experiment reaches here, a hundred years later, a kind of threshold.

In the course of the sixteenth century this threshold was crossed and the creative process became, as it were, so self-conscious and articulate as to be virtually autonomous. The treatises of Cellini and Vasari on sculpture give detailed accounts involving a series of clearly defined steps from small study through the full-scale model, to the final work. Michelangelo himself could be cited as authority: the Medici chapel is Cellini's chief witness when insisting on the desirability of the full-scale model.²⁸ Characteristically, they both give as much attention to the preparatory stages, the making of the models, as to the final execution. This attitude has its visual corollary in the fact that the preliminary studies and models now become independent and highly finished works of art in their own right. No doubt it was for this reason that two of Giambologna's full-scale models, the Florence *Triumphagnt over Pisa* and the *Rape of the Sabines*, were preserved along with the executed works themselves (Fig. 22).²⁹ And of course the small studies for, or versions of, large scale works were often cast in bronze as "Kleinkunst" (Fig. 23).³⁰ This by no means signifies that true bozzetti were not produced in the sixteenth

²⁷ Bettarini and Barocchi 1966-97, vol.1, 57.

²⁸ Rusconi and Valeri 1901, 778-780.

²⁹ On Giambologna's models and working procedure see Charles Avery, *Giambologna : The Complete Sculpture* (Oxford, 1987), 63-72; "Giambologna's Sketch-Models and his Sculptural Technique," *Connoisseur* 199 (1978): 3-11.

³⁰ On the bronze model of the Neptune and its place in the history of the fountain in Bologna, see chapter three, "Giambologna's *Neptune* at the Crossroads," in Irving Lavin, *Past-Present. Essays on Historicism in Art from Donatello to Picasso* (Berkeley, CA, 1993), 62-83.

century; although the highly finished studies form the backbone of Giambologna's preparations for a work of art, under certain circumstances at least, he produced sketches that go as far beyond Michelangelo in freedom of handling as do the finished works in elegant, superfine surfaces. In fact, Giambologna played a key role in our history by creating what I would call an "iconographic" bozzetto-style. Both his studies for the colossal figures of the Nile (unexecuted) and the Appenines in the Medici garden at Pratolino, offer brilliant displays of inchoate freedom and spontaneity, subtly differentiated so as to evoke, respectively, the liquid and craggy wildness of untamed nature itself; in this sense the "rough" sketches are actually quite finished (Figs. 24, 25, 26).

To my mind, Bernini's terracotta sketches are inconceivable without the precedence of Giambologna, whose studies he must have studied in detail, possibly in the Medici collection in Florence, while in turn greatly expanding the stylistic, technical and thematic reach of the "bozzetto-style."³¹ Moreover, Bernini continues and even surpasses the late sixteenth century in working out his conception fully in advance. Sandrart reports he saw in Bernini's studio no less than twenty-two bozzetti for the St. Longinus alone.³² Sandrart was himself astonished, and observes that the number of studies was far greater than the one or two models other sculptors were wont to produce. Eleven bozzetti for the angels of the Ponte Sant' Angelo are preserved still today, and in them we follow the development of Bernini's ideas with a degree of intimacy that can only be described as startling. Even in the famous case where we know Bernini worked

³¹ Bernini's acquaintance with the Medici collections seems evident from a comparison of his *Rape of Proserpine* with the bronze by Pietro da Barga in the Bargello (Giacomo de Nicola, "A Series of Small Bronzes by Pietro da Barga," *Burlington Magazine* 29 [1916]; pl. III, Q), a relationship I hope to enlarge upon in another context. (The *Proserpine*-Barga relationship, first noted by me, has recently been explored by Matthias Winner, in *Bernini scultore: la nascita del barocco in casa Borghese*, eds. Anna Coliva and Sebastian Schütze, exh. cat., [Rome, 1998], 192-193.) On Bernini's many Florentine connections see further Lavin "Five Youthful Sculptures by Gianlorenzo Bernini and a Revised Chronology of his Early Works," *The Art Bulletin* 50 (1968): 242 n.125; Lavin 1993, 172-175; "Ex Uno Lapide: The Renaissance Sculptor's Tour de Force," in *Il cortile delle statue. Der Statuenhof des Belvedere im Vatikan*, ed. Matthias Winner (Mainz, 1998), 191-210.

Our knowledge of Bernini's sculptural studies has been greatly increased, but also somewhat confused, by several recent exhibitions and technical studies: Androssov, Sergej O., ed., *Alle origini di Canova. Le terrecotte della collezione Farsetti*, exh. cat. (Venice, 1991); Ian Wardropper, ed., *From the Sculptor's Hand, Italian Baroque Terracottas from the State Hermitage Museum*, exh. cat. (Chicago, 1998); Gaskell, Ivan, and Henry Lie, eds., *Sketches in Clay for Projects by Gian Lorenzo Bernini*, Harvard University Art Museums Bulletin, 6, No. 3 (Cambridge MA, 1999).

³² Arthur Rudolf Peltzer, *Joachim von Sandrarts Academie der Bau-, Bild- und Mahlerey-Kunst von 1675. Leben der berühmten Maler, Bildhauer und Baumeister* (München 1925), 286. Sandrart notes the studies were all three spans high (c. 68cm) and made of wax; the material seems doubtful, since this would be the unique instance of Bernini studying in wax.

the marble directly, the bust of Louis XIV, he did so only after the most painstaking study, which included besides drawings, many clay models.³³

No less clear is the evidence for Bernini's commitment to the full-scale model. In every case where the documents for his larger commissions are preserved they show that he used full-scale models; it was through them that he was able to control and give his personal stamp to vast undertakings executed largely with the help of assistants. Symptomatic of this development is that by far the most elaborate and practical description to date of techniques of model-making, measurement and proportional enlargement comes in a treatise on sculpture written around 1660 by one Orfeo Boselli. Boselli, though a pupil and follower of Duquesnoy, worked under Bernini on the decoration of St. Peter's, and his account may well reflect the practice in Bernini's studio. But the treatise is mainly concerned with the restoration and copying of antique statuary, and it is significant that one of his methods seems to have entailed the use of fixed raised points on the marble comparable to those found on unfinished Roman sculptures.³⁴ Symptomatic, too, is the fact that with Bernini and his school we begin, as we shall see, to get bozzetti that show ample evidence of measurement and calibration for the purpose accurate transfer and enlargement.

I do not believe one could duplicate this kind of advanced preparation in the work of any previous sculptor. We are faced with the paradox that behind Bernini's revolutionary effects of freedom and spontaneity there lay an equally unprecedented degree of conscious premeditation. In a sense, of course, it may be said that Bernini simply carries to a new level the tendency to

³³ The best account of the making of the bust remains that of Rudolf Wittkower, *Bernini's Bust of Louis XIV*, Charlton Lectures on Art, 33 (Oxford 1951): esp. 8. See further Cecil Gould, *Bernini in France. An Episode in Seventeenth-Century History* (Princeton, 1982), 35, 41-45, 80-7; Helga Tratz, "Werkstatt und Arbeitsweise Berninis," *Römisches Jahrbuch für Kunstgeschichte* 23-24 (1988): 466-478.

³⁴ *Osservazioni della scoltura antica*, Rome, Bibl. Corsini, ms. 36 F 27, fol. 60 verso: "salvarai sempre le doi cime del sasso, grosse tre dita, ben riquadrate, tanto nel di sopra, quanto nel fianco, perche perse quelle, sarebbe vano il tutto; ne le levarai mai sin tanto, che non habbi posto a loco certo tutte le parti principali" (fol. 60 verso). The methods described by Boselli were studied in an unpublished paper by a former student of mine, Martin Weyl, *A History of Pointing Techniques from the Early Renaissance Through Modern Times*, unpublished Qualifying Paper, Institute of Fine Arts, New York University, Fall 1968, 11-13. On the treatise, see Michelangelo Piacentini, "Le 'Osservazioni della scoltura antica' di Orfeo Boselli," *Bollettino del R. Istituto di Archeologia e Storia dell'Arte* 9 (1939): 5-35. Following my suggestion the text was published by Phoebe Dent Weil, ed., *Orfeo Boselli. Osservazioni della scoltura antica : dai manoscritti Corsini e Doria e altri scritti* (Florence, 1978). Based on additional manuscripts, the text has been edited anew by Antonio O. Torresi, ed., *Orfeo Boselli. Osservazioni sulla scultura antica. I manoscritti di Firenze e di Ferrara* (Ferrara, 1994). On the dating, see the important observations by Donatella Livia Spati, "Tecnica e teoria del restauro scultoreo a Roma nel Seicento, con una verifica sulla collezione di Flavio Chigi," *Storia dell'arte*, No. 92 (1998): 65-66.

On the recognition of Roman pointing method see n.50 below.

externalize and articulate the creative process that had begun in the early Renaissance. But there are a number of factors that taken together point to a profound difference from earlier procedure and have some bearing upon what I have elsewhere termed, oxymoronically, Bernini's "calculated spontaneity." As regards full-scale models the examples recorded were made either for the benefit of assistants, or as a means of trying out the projected work in situ.³⁵ There is no evidence that Bernini used full-scale models as part of his own personal working procedure, as Vasari and Cellini had recommended. Interestingly enough, Boselli says specifically that whereas it had previously been the custom to make full-scale models, he considers a small model sufficient, except for larger works requiring try-outs for size.³⁶

With regard to smaller models, in Bernini the relationship between developed studies and sketches is reversed as compared with Giambologna. Rapidly executed bozzetti, instead of being relatively rare, form by far the greater portion of the corpus of known Bernini terracottas.

Conversely, highly finished studies are exceptional in Bernini's work, and those that exist can usually be linked to special circumstances such as execution by assistants. Very few, if any, of Bernini's small models were cast in bronze as independent art works.³⁷ The loose and very personal sketch, then, was his characteristic instrument of creation.

It is also remarkable that his bozzetti do not necessarily become more highly finished as they approach the final conception. A striking case a bozzetto for the angel carrying the superscription on the bridge (Figs. 27, 28, 29):³⁸ the terracotta is very close to the executed figure and is actually scaled for enlargement (along the side of the support), yet it is not much

³⁵ On Bernini's use of full-scale models see the important studies by George C. Bauer: "From Architecture to Scenography: The Full-Scale Model in the Baroque Tradition," in *Scenografia barocca*, Atti del XXIV Congresso Internazionale di Storia dell'Arte, Bologna 1979, 5 (Bologna, 1982), 141-149; "Bernini e i 'modelli in grande'," in *Gian Lorenzo Bernini architetto e l'architettura europea del sei-settecento* eds. Gianfranco Spagnesi and Marcello Fagiolo (Rome, 1983-84) 279-290; "Bernini and the Baldacchino: On Becoming an Architect in the Seventeenth Century," *Architectura* 26 (1996): 144-165.

³⁶ *Osservazioni* (as in n. 34), fol. 56 recto.

³⁷ The two outstanding candidates, a unique equestrian *Constantine* at Oxford, and the *Countess Matilda of Tuscany*, of which more than a dozen casts are known, record major public monuments and were likely intended as commemorative souvenirs rather than as works of art in their own right. The subject has been studied by Francesca G. Bewer in Gaskell and Lie 1999, 162-7.

³⁸ On the attribution of this figure, Rudolf Wittkower, *Bernini: The Sculptor of the Roman Baroque* (London, 1966), 249. On the Hermitage model and the importance of its enlargement scale, see Lavin 1967, 103.

more highly finished than studies produced at an earlier stage in the planning (Fig. 30).³⁹ To be sure, Bernini's chief purpose in making the models was to study the general disposition of pose and drapery, rather than to work out details. But there is also, I think — and this can be shown in many other ways as well — a deliberate effort to retain, or actually to increase the sense of immediacy and freshness. These qualities, which had previously been, so to speak, incidental by-products of the creative process, become part of its very purpose, a goal toward which Bernini's elaborate preparations were aimed.

In this way one can also understand the vast gulf separating Bernini's conception of sculpture from that of Michelangelo, despite the many points they have in common. For Michelangelo sculpture was a matter of taking away material to reveal the form in the stone. And he was obsessed with the difficulties of the task - such phrases as *dura* and *alpestra pietra* occur repeatedly in his poems in reference to sculpture.⁴⁰ Sculpture was not an easy business for Bernini either; one of Michelangelo's own dicta that he applied to himself was "nelle mie opere caco sangue."⁴¹ But for him a major challenge was to preserve in the final execution the momentary quality, though not the roughness, of a sketch. Hence he thought of sculpture as a process of molding the marble, rather than hewing it away; and he said precisely that one of his greatest achievements was to have succeeded in rendering the marble "pieghevole come la cera."⁴²

This enhanced and intensified style-meaning, as I would call it, reaches a climax in two interrelated and immediately successive commissions Bernini received in the 1670's, toward the end of his long life: the unprecedented series of heroic angels for the Ponte Sant'Angelo and for the Sacrament altar in St. Peter's (Figs. 31, 32, 33, 34). Nothing like them, so free and spontaneous, had been created before. The point I want to emphasize here is that the manner in which they were conceived and executed was intimately related to the fact that they are angels,

³⁹ Lavin 1967, 103-4; one of a pair of bozzetti for the angels, first illustrated and discussed in my dissertation, *The Bozzetti of Gianlorenzo Bernini*, Harvard Univ. (Cambridge, Massachusetts 1955), 184-185, now in the Kimbell Art Museum at Fort Worth, Texas. The newly restored bridge angels and the preparatory studies have been discussed most recently by Angela Negro and Marina Minozzi, in Claudio Strinati and Maria Grazia Bernardini, eds., *Gian Lorenzo Bernini. Regista del Barocco. I restauri* (Rome, 1999), 67-75, 77-84.

⁴⁰ Erwin Panofsky, *Studies in Iconology* (New York and Evanston 1962), 178 and n.16.

⁴¹ Paul Freart de Chantelou, *Journal du voyage du Cavalier Bernin en France*, ed. L. Lalanne (Paris 1885), 174.

⁴² Domenico Bernini, *Vita del Cavalier Gio. Lorenzo Bernino* (Rome 1713), 149; Filippo Baldinucci, *Vita del cavaliere Gio. Lorenzo Bernino*, Florence, 1682, ed. Sergio Samik Ludovici (Milan, 1948), 141.

specifically intended to evoke the immaterial essence of those ethereal creatures, who by their very nature fulfill a two-fold role, to move fleetingly and effortlessly on divine errands, and to adore in perpetual ardor the divinity whose glory they reflect and manifest.

The figures all display the kind of voluminously folded and agitated draperies for which Bernini was, and sometimes still is, roundly criticized, in a spectacularly demonstrative and meaningful array, for in this case the clay has been metamorphosed into the very stuff of angels. But the two sets of creatures are also quite different from one another, and quite naturally so, if one can speak of nature in relation to angels, if one follows the inspired perorations of the greatest of all Christian angelologists, the Pseudo-Dionysius the Areopagite. In his *Celestial Hierarchies* Pseudo-Dionysius defined the essence of these purely spiritual beings in terms of three fundamental metaphors: as the *wind*, for the angels who waft at instant speed through space and time — “they operate everywhere, coming and going from above to below and again from below to above”; as *clouds*, “to show that the holy and intelligent beings are filled in a transcendent way with hidden light”; and as *fire*, for “the shining and enflamed garments that cover the nudity of these intelligent beings of heaven, symbolizing the divine form.” For Bernini these references were much more than metaphors. His figures complement each other not only in form but also in their very essence — they *are* wind, they *are* clouds, they *are* light.

The ten marble angels, placed high on the balustrades of the bridge leading across the Tiber to St. Peter’s and the Vatican, are perceived as luminous apparitions against the blue, cloud-flecked Roman sky, whence they descend and alight to display their melancholy, bittersweet instruments of the Passion of the Redeemer. Delicately poised, with graceful, lilting movements, they appear like momentarily congealed visions of the events they represent. Their wind-filled drapery floats, flutters, billows, and curls, and they hover weightlessly suspended on cloud-puffs of their own. These are the angels of wind and clouds, the motion and the light of the divine spirit, described in the *Celestial Hierarchies*.⁴³

⁴³ Pseudo-Dionysius, *The Complete Works* (New York, 1987), 187-188. (*Celestial Hierarchies*, 15, 6):

They are also named “winds” as a sign of the virtually instant speed with which they operate everywhere, their coming and going from above to below and again from below to above as they raise up their subordinates to the highest peak and as they prevail upon their own superiors to proceed down into fellowship with and concern for those beneath them. One could add that the word “wind” means a spirit of the air and shows how divine and intelligent beings live in conformity with God. The word is an image and a symbol of the activity of the Deity. It naturally moves and gives life, hurrying forward, direct and unrestrained, and this in virtue of what to us is unknowable and invisible, namely the hiddenness of the sources and the objectives of its

Then came a pair of gilded bronze angels shown kneeling and adoring the Holy Sacrament in St. Peter's itself. In their form, Bernini's shimmering creatures display mankind's highest aspirations to perfection, and in their expressions they evoke the joy that unites humanity and the angels at the Resurrection. Their effulgent and flamboyant drapery seems to consume their very essence in a pyrotechnical display of pure, coruscating energy. Both the fiery nature of these ethereal creatures and the ardor of their love are doubly fused from earth into terracotta into the golden bronze of which they are made, itself purified and formed by fire into the ever-shifting golden light which is their true medium. Whereas the windblown angels of the Passion on the bridge are epiphanic, the angels of the Sacrament are devotional, eternally fixed in the ecstatic bliss of their *visio dei*. In this sense they seem literally to reflect the description in the *Celestial Hierarchies* of "the shining and enflamed garments that cover the nudity of the intelligent beings of heaven, as symbolizing the divine form."⁴⁴

These distinctive qualities of form and meaning inhabit the preparatory studies so profoundly and so consistently that one can speak in Bernini's case almost literally of a vocabulary of bozzetto styles. The undulating and serpentine crevasses and striated surfaces of the terracottas of the bridge angels match the billowing and tightly wrapped folds of their wind-swept drapery, and it is no accident that in the one preserved drawing for a clothed bridge angel the same effects are achieved with a fine-tipped pen and ink (Fig. 35). The many autograph preliminary studies for the Sacrament angels, drawn as well as sculpted, also testify to the painstaking labor that lay behind the chiaroscuro effects that serve also to "dematerialize" the Sacrament figures.⁴⁵ Here, however, the continuous, predominantly linear definition of form in the bridge angels is replaced by a flickering pattern that arises from the juxtaposition of discrete

movements. "You do not know," says scripture, "whence it comes and whither it goes." This was all dealt with in more detail by me in *The Symbolic Theology* when I was explicating the four elements. The word of God represents them also as clouds. This is to show that the holy and intelligent beings are filled in a transcendent way with hidden light. Directly and without arrogance they have been first to receive this light, and as intermediaries, they have generously passed it on so far as possible to those next to them. They have a generative power, a life-giving power, a power to give increase and completion, for they rain understanding down and they summon the breast which receives them to give birth to a living tide.

⁴⁴ 15, 4: Pseudo-Dionysius 1987, 186.

⁴⁵ On the paradox of Bernini's "calculated spontaneity," see Lavin 1978a. On the bozzetto illustrated in Fig. 31, see Lavin "Bernini-Bozzetti: One More, One Less. A Berninesque Sculptor in Mid-Eighteenth Century France," in *Ars et scriptura*, Festschrift für Rudolf Preimesberger zum 65. Geburtstag, eds. Hannah Baader, et al. (Berlin, 2001), 143-156 (reprinted in *Accademia Nazionale dei Lincei. Atti dei convegni lincei* 170. Convegno internazionale La cultura letteraria italiana e l'identità europea Roma, 6-8 aprile 2000, [Rome, 2001], 245-284).

patches of light and dark. The sculptures are full of jibes and jabs and excavations with scoops and fingers, while in the latest of the preserved drawings for the figures the lines are replaced by patches of light and dark (tinted brown, as in bronze) achieved almost exclusively with brush and wash (Fig. 36). In both cases, for different reasons and in different ways, the materials become as transcendent as the images they represent.

I want also to consider briefly the seemingly different but fundamentally related question of how Bernini's preliminary models were used and what functions they served. Here I want to acknowledge the extraordinary achievement of Anthony Sigel in his study of the technique of Bernini's bozzetti. Particularly dramatic is Sigel's recovery of the system of measurements for transferal or enlargement, using compasses, from many tiny punctures and incisions made in the wet clay (Fig. 37).⁴⁶ The number of marks varies greatly, but it is clear that the process was quite painstaking and probably quite reliable. The discovery adds substantially to the evidence previously discerned in graduated scales marked on the support or base of the model (Figs. 29, 33), that Bernini inaugurated a studio procedure that would evolve into the modern mass-production methods used by professional craftsmen to produce copies on virtually any scale from a small model provided by the creative artist.⁴⁷ We should be careful, however, not to overestimate the efficacy or accuracy of the method, which had two inherent limitations. Most of the measurements were taken on the figure itself and were thus interconnected; some points were used more frequently than others and there was some external reference in the calibrated scales, but the system was largely a house of cards dependent ultimately on the judgment of the operator. Moreover, because the clay was wet the same hole could be used only sparingly, and shifting from one spot to another, albeit in the near vicinity, introduced deviations that were greatly augmented in the very process of enlargement. All this was in contrast to the ancient Roman system where the protuberances projecting from the figures provided fixed points from which measurements could be taken repeatedly, and even more so to later systems that took measurements from an external frame or "pointed off" from external fixed points that permitted a much more accurate process of triangulation (as do the modern apparatuses that use laser beams).

⁴⁶ See Sigel's contributions in Gaskell and Lie, 1919, 48-118.

⁴⁷ Lavin 1967, 103.

Finally, it is noteworthy that this *modus operandi* using novel, mechanical methods of measurement and enlargement, including compass points and calibrated external scales, was developed in Bernini's studio during his later years. We have nothing like it earlier, and I suspect that this degree of precision was in fact unprecedented. In part the technique was surely useful in fulfilling large and complex works involving many assistants to whom, in this way, Bernini needed only supply a sketch model. The measurements would thus have served primarily for enlargement, and I suspect that the marks were not made by Bernini himself but by assistants charged with blocking out or even bringing to near completion sculptures he intended to finish himself, or executing the work on their own.⁴⁸ Even so, however, it is significant that the technique was evidently developed hand in hand with the development of Bernini's "late style." Technical method and expressive function were mutually responsive. In this sense, it might be said that Bernini greatly intensified the paradox that had been inherent in the evolution of the Renaissance creative process from the outset: he achieved an unprecedented effect of immediacy and spontaneity through an unprecedented degree of advance calculation — what I have elsewhere called "calculated spontaneity." As to the purpose of this creative exercise, his sculptures speak for themselves, for they, in turn, make it perfectly clear that Bernini's ultimate goal was to carry over to the final work, whoever the executant, the freshness and vitality, though not the roughness, of the sketch.

The paradox continued to evolve. It is disconcerting that the bozzetto style of Canova, the supreme neo-classicist, was deeply indebted to Bernini (as was his art generally, in my view). In fact, Canova's terracottas are even freer and more fluid than Bernini's, qualities that reached an apogee toward the end of his life as he approached death: in a veritable paroxysm of expressive power he sketched of a group of *Adam and Eve Mourning over the Dead Abel*, the first fruit of man's fall from grace, and a *Pietà* embodying the agonizing cost of redemption (Figs. 38, 39). One senses that Canova's bozzetto style had become a procedural metaphor for God's own, prototypical act of human creation, with full knowledge of its consequences: "And the Lord God formed man of the slime of the earth: and breathed into his face the breath of life, and man became a living soul." (Gen 2, 7) Moreover, so far as I know, Canova's terracotta

⁴⁸ Mark Weil, in Gaskell and Lie 1999, 148-149, asserts that the back of the Hermitage bozzetto, including the scales incised on both sides of the support, was finished by Bernini's assistant, Giulio Cartari, who worked on the statue as executed.

sketches do not show any pointing marks at all; they were, evidently, intensely private, truly independent studies, not intended to be directly copied or enlarged.

When the work entered the public domain, however, an entirely new procedure was set in motion. Canova's method of pointing up using a wooden frame with hanging plumb lines from the which the horizontal measurements were taken (Fig. 40), was more "objective" and accurate than Bernini's internal, interlocking measurements and calibrated scales incised on the perimeter of the work itself.⁴⁹ Canova also adopted a new, much more reliable method of assuring that in the transfer of measurements his ideas would be accurately reproduced. The sketch bozzetti were made into highly detailed models in gesso, a relatively stable but easily penetrable material into which infinite numbers of fixed metal points could be inserted from which virtually every detail of the surface could be reproduced (Fig. 41).⁵⁰ Canova's procedure brought into even sharper focus than had Bernini's the historical conjunction of opposites that began in the Renaissance: inspired sketch and deliberate planning. A further irony lies in the fact that the trajectory of Canova's procedure is exactly the reverse of Bernini's. While Bernini sought to preserve in the final work the fleeting qualities of the sketch, Canova moves toward an austere

⁴⁹ See Hugh Honour, "Canova's Studio Practice- I: The Early Years," *The Burlington Magazine* 114 (1972): 146-59, and "Canova's Studio Practice-II: 1792-1822," *The Burlington Magazine* 114 (1972): 214-229; on Canova's work in clay, Honour, in Boucher 2001, 69-84. Our illustrations are from Francesco Carradori, *Istruzione elementare per gli studiosi della scultura* (Pisa, 1802), pls. VIII-X; ed. with English translation by Matti Kalevi Auvinen, preface by Hugh Honour, introduction by Paolo Bernardini (Los Angeles, 2002).

⁵⁰ Hugh Honour has observed that although Canova despised the practice, his system was probably developed in relation to the veritable industry of copying and restoring antiquities in Rome (the methods described in Boselli's treatise were intended primarily for this purpose). Canova himself noted that in his Venetian years, he worked "con assai pochi punti nell'abbozzo di marmo," and that "l'arte di cavar da punti" was not understood in Venice; others reported that Canova had worked without pointing in Venice (Honour 1972, 153). As far as I am aware, Winckelmann was the first to note the protuberances on unfinished Roman sculptures and the analogy with contemporary methods: Johann Joachim Winckelmann, *Geschichte der Kunst des Altertums* (Dresden, 1764), ed. Vienna, 1776, 513: "An der beynahe colossalischen weiblichen Figur eines Flusses, in der Villa Albani, die ehemals in der Villa des herzoglichen Hauses Este zu Tivoli war, siehet man, daß die alten Bildhauer ihre Statuen, wie die unsrigen zu thun pflegen, angeleget haben: denn der untere Theil dieser Statue ist nur aus dem gröbsten entworfen. Aus den vornehmsten Knochen, die das Gewand bedeckt, sind erhabene Punkte gelassen, welches die Maaße sind, die nachher in völliger Ausarbeitung weggehauen worden, wie noch itzo geschiehet." ("It is evident from the colossal female figure of a River in the Albani villa, formerly in the villa of the ducal house of Este, at Tivoli, that the ancient sculptors draughted their statues as the moderns do theirs; for the lower portion of it is merely sketched out in the roughest manner. On the principal bones, covered by the drapery, raised points have been left; these are measures, which at a more advanced stage of the execution were cut away, as the case is at the present day." Winckelmann 1881, vol. 2, 56). Cited by Weyl 1968, 22-23.

simplification in which the sensuality of living form has been instantaneously frozen in an ideal of perfection.⁵¹

With Canova the personal, informal, spontaneous sketch model becomes part of a truly academic procedure. There is more to this observation than metaphor. It is now practically certain when and how Canova came to know Bernini's bozzetti so well. The most important collections of bozzetti by Bernini and his immediate followers are those in the Fogg Museum and at the Hermitage, and both groups include works that appear in the inventories of the great collection of models assembled in Rome in the latter part of the eighteenth century by the sculptor and restorer extraordinary, Bartolommeo Cavaceppi (1717-99).⁵² Cavaceppi was above all a purveyor of antiquities, and a first inventory was made in the 1760's when, under financial duress, he thought but failed to sell a small portion of his vast collection. His primary motivation as a collector, however, was to establish a school, an academy, in which the figurative tradition and indeed the cultural tradition it represented, handed down from antiquity, especially in sculpture, would be carried on. On his death in 1799 he left his entire collection for this purpose to the Accademia di San Luca in Rome, which promptly sold it.

In the meantime, another great collection of models had been formed, partly no doubt with material supplied by Cavaceppi, by another voracious collector who, though not an artist himself, had the instincts of one. The wealthy Venetian Abbot Filippo Farsetti (1703-74) evidently realized that his native city, despite its own noble antiquarian tradition, did not share the grand sculptural heritage that was the particular glory of Rome in the age of Neo-

⁵¹ Much of what I have said here about the relationship between Canova and Bernini with particular regard to their sketch models, was said with great perceptivity by Fred Licht, *Canova* (New York, 1983), 227, 230. The comparison with Bernini recalls the paradoxical relationship Wittkower pointed out between Bernini and Poussin: Bernini starts classical, as with a drawing of the *Antinous* for the angel with the Superscription, and ends Baroque, whereas Poussin starts Baroque, with his very loose and rapid wash drawings, and ends deliberate and classical in the paintings (Rudolf Wittkower, "The Role of Classical Models in Bernini's and Poussin's Preparatory Work," in *Studies in Western Art: Latin American Art and the Baroque Period in Europe*, Acts of the Twentieth International Congress of the History of Art, 3, [Princeton, 1963], 41-50; reprinted in Wittkower, *Studies in the Italian Baroque*, [London, 1975], 103-114; and see my "Bernini and Antiquity - The Baroque Paradox. A Poetical View," in *Antikenrezeption im Hochbarock*, eds. Herbert Beck and Sabine Schulze [Berlin, 1989] 9-36).

⁵² Following the pioneering work of Seymour Howard, *Bartolomeo Cavaceppi. Eighteenth-Century Restorer* (New York 1982), the splendid investigative task of recovering Cavaceppi's operations and their legacy, was accomplished by Carlo Gasparri and Olivia Ghiandoni, "Lo studio Cavaceppi e le collezioni Torlonia," *Rivista dell'istituto nazionale d'archeologia e storia dell'arte* 16 (1993). The correlation between the Cavaceppi inventory and known bozzetti, including those now in the Fogg, was also provided by Maria Giulia Barberini in *Bartolomeo Cavaceppi scultore romano*, eds. Maria Giulia Barberini and Carlo Gasparri, exh. cat. (Rome 1994), 117-37.

Classicism.⁵³ Farsetti spent 1750-3 in Rome, feverishly commissioning and acquiring everything he could in the way of antiquities, copies in marble, plaster, and terracotta, and models — including many by and attributed to Bernini — with the idea of turning his own villa into a museum and an academy for the training of aspiring artists and the education of the public. It is surely significant that Farsetti appointed to curate, and no doubt augment by making copies, his collection a Bolognese sculptor, Bonaventura Furlani, who specialized in that city's ancient tradition of modeling in stucco and clay.⁵⁴ Farsetti opened his academy-villa in 1755 and returned to Rome for more acquisitions in 1766-9, precisely when Cavaceppi was preparing his sale.⁵⁵ Coincidentally, in 1799, the same year the Accademia di San Luca sold Cavaceppi's collection, the Farsetti collection was purchased for the czar of Russia, to be installed again in an academy, the Academy of Fine Arts in St. Petersburg, where it remained until it was transferred to the Hermitage in 1919.

In other words, we are here faced with the remarkable coincidence that both the Fogg and Hermitage collections have overlapping histories that stem ultimately from Bernini's own studio and shared the same destiny, to serve as models for training young sculptors. In our context another coincidence is of primary importance: Farsetti's villa was precisely where Canova studied the collection and learned the art of sculpture.⁵⁶ After the Farsetti sale Canova wrote a passionate letter urging the acquisition or at least a prohibition against exportation from Venice of what remained of the collection, to serve as the "basis of study by professors and students."⁵⁷

⁵³ On Farsetti see most recently Androssov 1991, and in Wardropper 1998, 2-13; an excellent paper setting in context the model collections of Cavaceppi and Farsetti is that by Dean Walker in Wardropper 1998, 14-29. The nature of Farsetti's interest and the passion with which, as it is now clear, he collected and had copies made of ancient and contemporary sculpture, especially bozzetti and modelli, have reinforced the suspicion I have always had that the Hermitage's highly finished and slightly precious terracottas of well-known works by Bernini and others, are in fact copies made expressly as and for academic exercises in Farsetti's Venetian villa. Further to this subject in Lavin 2001.

⁵⁴ Eugenio Riccòmini, *Vaghezza e furore: la scultura del Settecento in Emilia* (Bologna 1977), 136.

⁵⁵ Barberini and Gasparri 1994, 116.

⁵⁶ See Hugh Honour, "Antonio Canova and the Anglo-Romans. Part I: The First Visit to Rome," *Connoisseur* 143 (1959): 245; Walker in Wardropper 1998, 27.

⁵⁷ "Ma io voglio sperare che il nostro Savio Regio Governo non vorrà lasciarsi fuggire sì bella occasione di dare un insigne monumento della sua benigna protezione e favore alle Belle Arti, o acquistando per esse codesti oggetti, che restano, o almeno inibendone espressamente l'estrazione da Venezia; giacché questi così possono fornire ampia materia, ed essere come base agli studj de'Professori e degli allievi." Letter of 1805, quoted after Giovanna Nepi Scirà, "Le reliquie estreme del Museo Farsetti," in Androssov 1991, 24.

So it was that the paradoxical extremes of spontaneous sketch and systematic study touched, appropriately, in the academy.

In a metaphorical sense, at least, the ultimate act was played at the turn of the century by Rodin, the anti-classicist, anti-academic par excellence. Rodin made sketch models whose unprecedented ephemerality extended even to the fragmentary and inherently unstable, hence not conceivable as independent, “free-standing” sculpture; yet they were cast in bronze and exhibited (Figs. 42, 43).⁵⁸ And the models for his monumental works were copied and enlarged by a pointing assistant who was a great expert, using elaborate devices whose accuracy was equally unprecedented (Fig. 44).⁵⁹ More precisely and more vividly than anyone before, but surely with Canova in mind, Rodin articulated the nature of the sculptor’s personal intervention in the creative process with his portrayal, in marble, of the hand of God “manipulating” a block of stone as if it were a bozzetto for Adam and Eve in flesh and blood (Fig. 45).⁶⁰

⁵⁸ Albert E. Elsen, *Rodin* (New York, 1963), 173-190; and his *The Partial Figure in Modern Sculpture from Rodin to 1969*, exh. cat. (Baltimore, 1969).

⁵⁹ Albert E. Elsen, “Rodin’s ‘Perfect Collaborator,’ Henri Lebossé,” in Albert E. Elsen, ed., *Rodin Rediscovered*, exh. cat. (Washington and Boston, 1981), 249-59.

⁶⁰ On the genesis (including the cast hands of other artists), the many variants, and the significance Rodin attached to the sculpture, see Jacques de Caso and Patricia B. Sanders, *Rodin's Sculpture. A Critical Study of the Spreckels Collection, California Palace of the Legion of Honor* (Rutland, VT. and Tokyo, 1977), 69-71; John L. Tancock, *The Sculptures of August Rodin. The Collection of the Rodin Museum, Philadelphia* (Philadelphia, 1976), 622-3; *Rodin, les mains, les chirurgiens*, exh. cat. (Paris, 1983), 72-3. On the concept of the artist’s hand as an instrument of divine creation, see my essay “The Story of O from Giotto to Einstein,” forthcoming in my Mellon Lecture series for 2003 at the National Gallery.

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Fig 02. Masaccio, Trinity, detail (head of the Virgin showing incised grid). Santa Maria Novella, Florence

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Fig 03. Unfinished group, Dionysus and Satyr. National Museum, Athens

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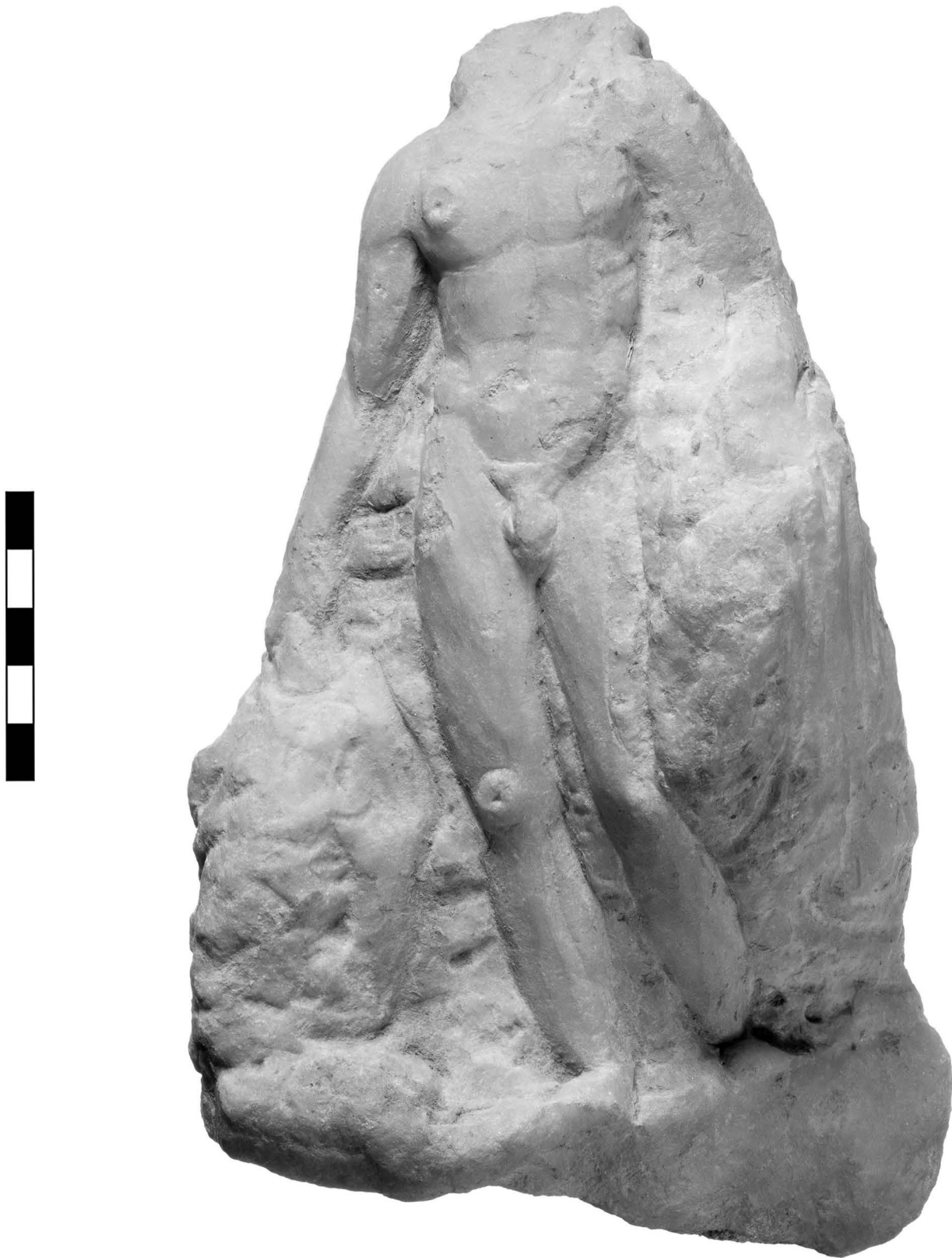


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Fig 05. Unfinished archaic Kouros. National Museum, Athens

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Fig 06. Unfinished statuette. Cathedral Museum, Orvieto

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Fig 07. Attributed to Donatello, "Forzori altar," terracotta. Victoria and Albert Museum, London

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Fig 08. Donatello, Christ before Pilate and Caiaphas. Pulpit, San Lorenzo, Florence

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Fig 10. Benedetto da Maiano, Confirmation of the Order of St. Francis. Pulpit, Santa Croce, Florence

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Fig 11. Verrocchio, Model for the Forteguerri monument, terracotta, Victoria and Albert Museum, London

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Fig 12. Michelangelo, Torso, terracotta. British Museum, London

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Fig 13. Battista Lorenzi, Allegory of Painting. Tomb of Michelangelo, Santa Croce, Florence

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Fig 14. Michelangelo, Study after Giotto, drawing, pen and ink. Musée du Louvre, Paris

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Fig 15. Michelangelo, Study after Masaccio, drawing, pen and ink. Albertina, Vienna

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Fig 16. Michelangelo, St. Matthew. Galleria dell'Accademia, Florence

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Fig 19. Michelangelo, Model of a River God, clay, 180cm. long, c. 1525. Casa Buonarroti, Florence

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Fig 20. Michelangelo, Bozzetto for Hercules and Cacus, terracotta. Casa Buonarroti, Florence

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Fig 21. Michelangelo, Tityus, drawing, rubbed charcoal. Royal Library, Windsor Castle

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Fig 22. Giambologna, Model for the Rape of a Sabine, clay, whitewashed. Galleria dell'Accademia, Florence

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Fig 23. Giambologna, Cast model for the Bologna Neptune fountain, bronze. Museo Civico, Bologna

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Fig 24. Giambologna, River God, terracotta. Victoria and Albert Museum, London

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Fig 25. Giambologna, The Appenine, terracotta. Museo Nazionale del Bargello, Florence

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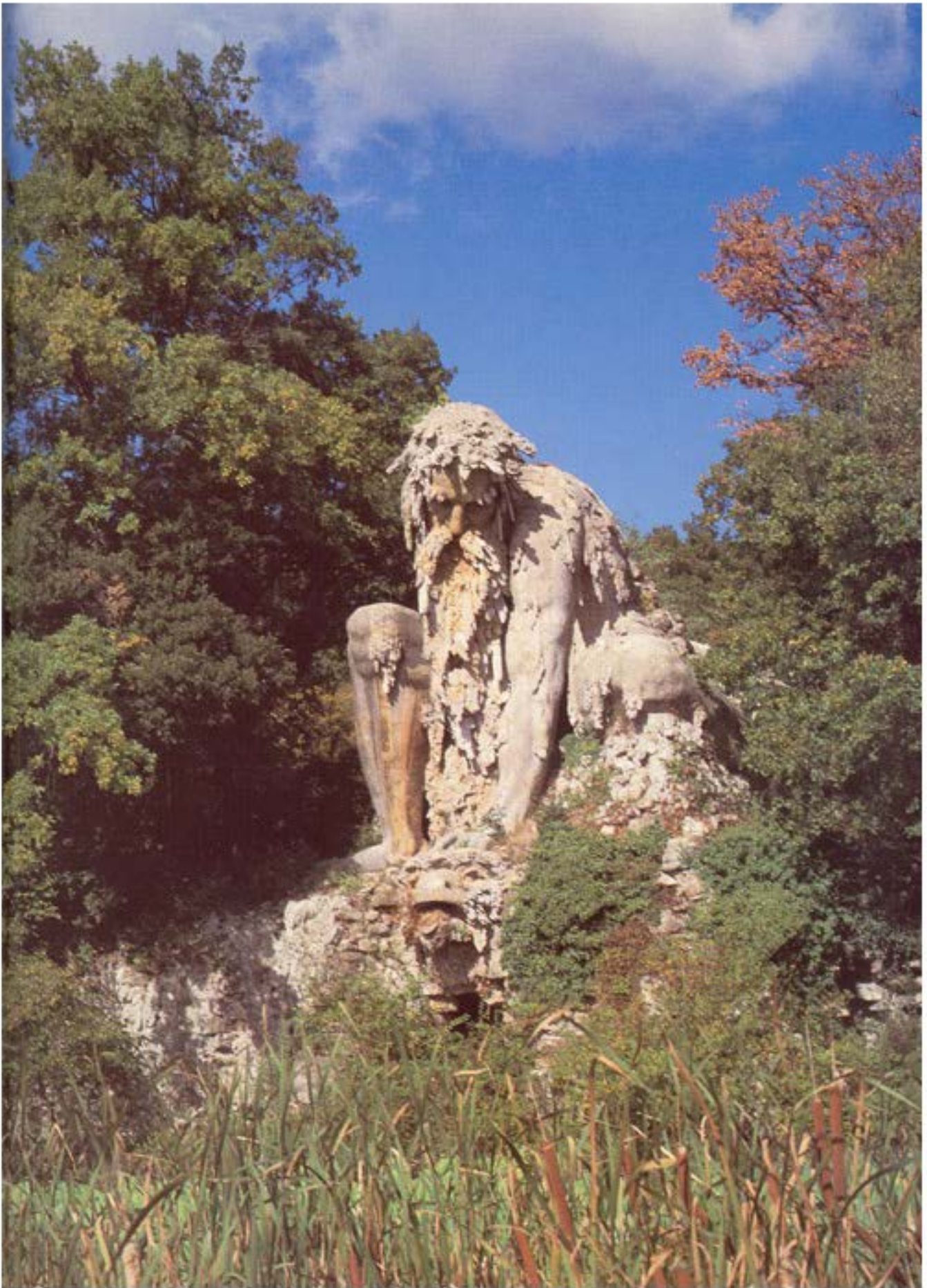


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Fig 27. Bernini, Angel with the Superscription. Ponte S. Angelo, Rome

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Fig 28. Bernini, Angel with the Superscription, terracotta. Hermitage, St. Petersburg

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Fig 29. Bernini, Angel with the Superscription, terracotta, side view. Hermitage, St. Petersburg

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Fig 30. Bernini, Angel with the Superscription, terracotta. Kimbell Art Museum, Fort Worth, TX

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Fig 33. Bernini, Angel adoring the Sacrament, terracotta, side view. Fogg Art Museum, Cambridge, MA

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Fig 34. Bernini, Angel adoring the Sacrament. Altar of the Sacrament, St. Peter's, Rome

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Fig 35. Bernini, Angel with the Crown of Thorns, drawing, pen and ink. Museum der Bildenden Kunst, Leipzig

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Fig 36. Bernini, Angel adoring the Sacrament, drawing, charcoal and brown wash on brown prepared paper. Royal Library, Windsor Castle

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Fig 37. Anthony Sigel, Compass point measurements, Angel with Crown of Thorns, terracotta. Fogg Art Museum, Cambridge, MA...

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Fig 38. Canova, Pietà, terracotta. Gipsoteca, Possignano

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Fig 39. Canova, Adam and Eve Mourning over Abel, terracotta. Gipsoteca, Poggiano

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This engraving, labeled 'IX' at the top, depicts a mechanical apparatus used for medical treatment. A man is shown operating the device, which consists of a large, curved arm (D) that can be moved vertically along a rod (C). The arm is connected to a mechanism (A) that appears to be a pump or a source of fluid. The patient lies on a table (A) positioned between two vertical frames (B and E). The entire apparatus is supported by a base (H). The diagram is a detailed technical illustration of a medical device from the 18th century.

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Fig 41. Canova, The Three Graces, detail, gesso with pointing pins. Gipsoteca, Possignano

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Fig 42. Rodin, Torso of Adèle, bronze. Coll. Mrs. Alexander C. Speyer

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Fig 43. Rodin, Cast of Rodin's Hand with Torso #3, bronze. Coll. B. Gerald Cantor

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Fig 44a. George Bigel using pointing machine of Rodin's "perfect collaborator," Henri Lebossé (after Elsen 1982, 251, fig. 10.3, 252, figs. 10.4-10.6)

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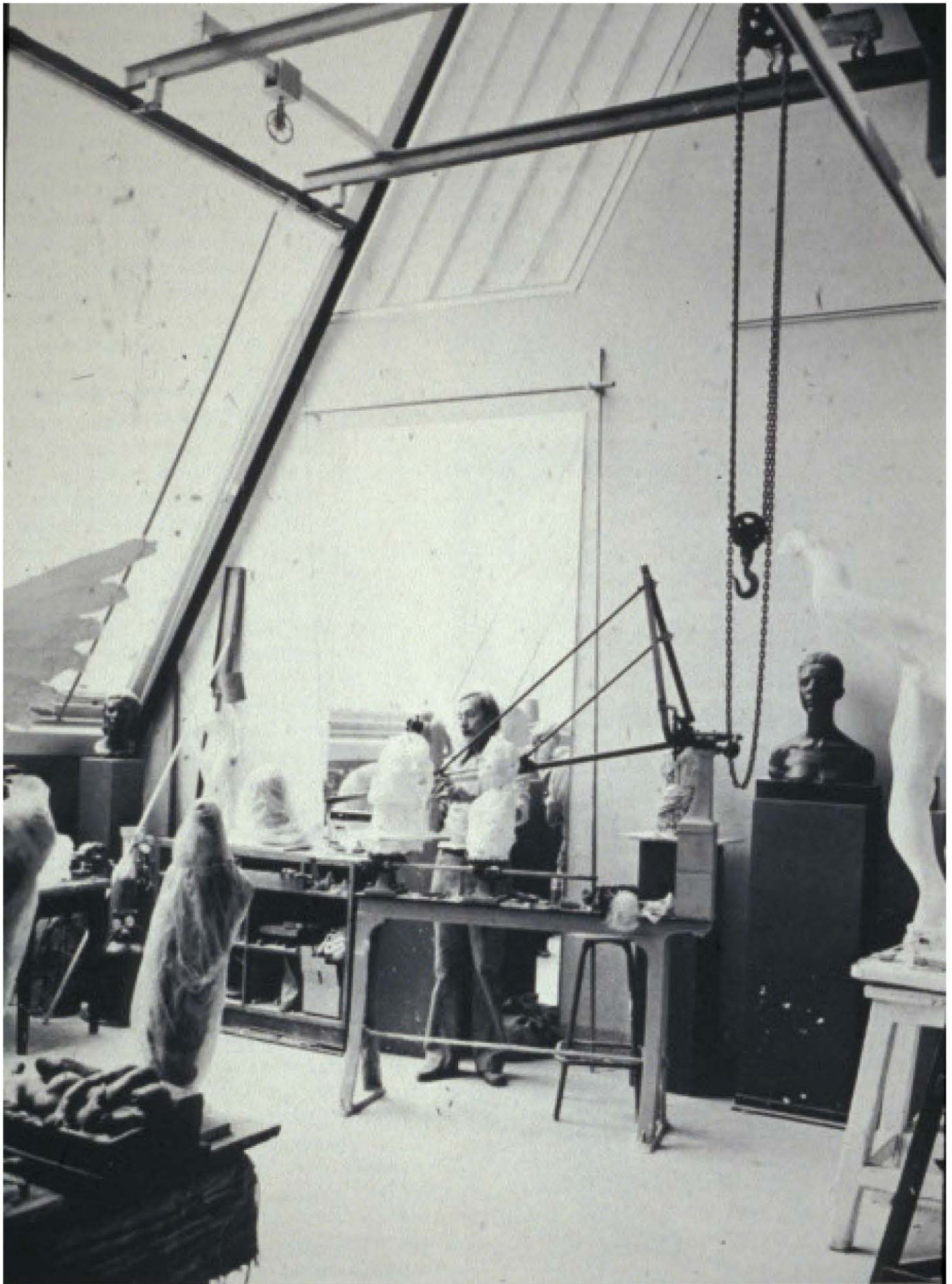


Fig 44b. George Bigel using pointing machine of Rodin's "perfect collaborator," Henri Lebossé (after Elsen 1982, 251, fig. 10.3, 252, figs. 10.4-10.6)

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Fig 45. Rodin, The Hand of God, plaster cast. California Palace of the Legion of Honor, San Francisco

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