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GUARINO GUARINI'S SS. SINDONE CHAPEL:

BETWEEN RELIQUARY AND CENOTAPH

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of the degree of
Master's in Architecture

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Guarino Guarini's SS. Sindone Chapel and its relic offer the occasion to contemplate the paradox of the Incarnation in architecture--a dialectic of presence and absence. The thesis begins with a return to the Gospel accounts of the Empty Tomb, and examines the tradition of reliquary and martyria which the Chapel is inscribed in. The Incarnation theme is then traced to the late seventeenth century context of the Chapel and is considered in the Counter-Reformation context of Turin. The architectural organization of the theme of presence and absence is then explored in the Chapel. In Part II, an examination of *Architettura Civile*, Guarini's treatise on architecture, seeks to understand the theory of parallel projection *(ortografia)* with regards to the Chapel's themes. In the last stage Guarini's philosophical treatise sheds some interesting light on *ortografia* -- Presence and absence weave an architectural idea, a geometrical theory, a theological mystery.

La Chapelle du Saint Suaire de Guarino Guarini ainsi que sa relique, offrent l'occasion de méditer sur le thème de l'Incarnation en architecture et plus particulièrement sur une dialectique de présence et d'absence. La thèse part du récit évangéligue du Tombeau Vide, et étudie la tradition de reliquaires dans laquelle s'inscrit la chapelle. Le thème de l'Incarnation est ensuite étudié dans le contexte de la Contre-Réforme, à la fin du XVII siécle, à Turin. L'organisation architecturale de la "présence absente" est ensuite étudiée dans la chapelle. En deuxième partie le traité d'architecture de Guarini, *Architettura Civile,* est examiné; notamment, sa théorie géométrique, *l'ortografia,* est mise en rapport avec la chapelle et son théme dialectique. En dernier lieu c'est vers le traité philosophique de Guarini, La *Placita Philosophica,* que l'on se tourne, pour tenter d'éclairer *l'ortografia.* La présence et l'absence tissent une idée architecturale, une théorie géométrique, un mystère théologique.

In memory of Lynn-Marie Debanné

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Introduction

A fifth-century fresco in Baouît, Egypt, depicts the Madonna and Child, flanked by two angels. It appears as a little black and white photograph in André Grabar's compendium of early Christian reliquary and martyria *(Figure 1)*. The fresco, contained in a half circle motif, is damaged in parts, and bare rock shares the surface with those solemn faces of byzantium, with their dark eyes and parallel brows, centred in their halos. A prayerful image, it is typical in its iconography in every way, but for the fact that the Virgin is not holding a child in her arms. Rather, she is holding an *image* of the child, a depiction of Christ on a rigidly oval surface.[1] The ambiguities are manifold: with the Christ child appearing twice removed on a surface within a surface, the depiction suggests two different times for people who were contemporaries. More striking yet, the fresco reverses the usual evangelical chronology: it transposes Christ's timelessness, achieved as an adult in the Passion and Resurrection, to his infancy. The Virgin of the Baouît fresco therefore holds a premonition in her arms, a child that will never be taken from her, since as a projection, it is already out of the realm of the mortal. On the oval *clipeus*, the prophetic image is of a Christ that has already died and come back--an image of restituted eternity. As an emphatic statement of *praesens Deus*, it fulfils the primary purpose of a religious image, yet the spirit of the fresco remains ambiguous: is the Virgin sadly presenting the image as a reminder of the fate of her Son--a fate so glorious in heavenly terms yet so tragic in human terms--or is she reassured to be holding a thing more enduring than human flesh?[2] Does she, in other words, prefer the image to the human? The Christ-in-image of the fresco seems in any case to present us with a resolution of the dilemma posed by the dual nature of Christ: his

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[1] A. Grabar, *Martyrium - Recherches sur le culte des reliques et l'art chrétien antique.* This image is Plate LIV of the *Album* that accompanies Grabar's text. pp. 176-179. Grabar notes that the *imago clipeate* (image on clipeus) tradition is also found in Italy and Byzantium, and that it may refer to the monarchical ritual of presenting a triumphal portrait of a young sovereign to the people. Ibid., pp. 176-179.

[2] "From image to image in the antique Palestinian Ascension series, the details of the vision change. But the desire to represent God present, or Emmanuel, in an eschatological vision is constant: everywhere, the final theophany that will ensure God's presence for eternity is depicted." Grabar, op. cit., p. 179. (My translation. Note: henceforth, all translations from French, Italian and Latin sources are by Janine Debanné, and will no longer be indicated.)

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bodily presence in, and absence from, the world.

With the Baouît fresco acting as an early example, art and architecture in the West can be seen to delineate the long and eventful drama of the image. It is a drama that is played out in Christian architecture in the Incarnation, death, and Resurrection of Christ, since through these events, God took on and subsequently shed an image. The Christian struggle with this concept is encapsulated in the recurring debate of iconoclasts and iconophiles, regarding the cherishing of imagistic reminders of faith. Attachment to images persisted, despite recurring challenges, and were often indeed emphatically reaffirmed following such challenges. Throughout the debate, at different times, in different places, Christian architecture has not ceased to offer reflections on the dilemma inherent in the physical mortality and spiritual eternity of the Body of Christ. Because these reflections encompassed broader notions of human embodiment, this thesis examines one event of this drama in order to investigate the empathetic slippage between "Body of Christ" and "body."

Late in his life, late in the seventeenth century, a philosopher-theologian-mathematician named Guarino Guarini would be met with this very paradox of the Incarnation with the building of a chapel in Turin.[3] He would work on the chapel until his death in 1683.[4] It was to house the "Holy Shroud" relic, a piece of linen purported to have wrapped the Body of Christ and to be stained with His figure. At the most immediate level, the chapel's relic-narrative concerns the moment when Christ's body was passing between death and life, unaccounted for one might say, wavering between presence and absence.

The seventeenth century was a dynamic century for Christian worship. Aside from the scientific revolution, it was the century of the Catholic Counter-Reformation . In

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[3] "Philosopho, Theologo, atque R. C. Sabaudiae Ducis Mathematico" are the titles that appear on the frontispiece of *Caelestis Mathematica* written by Guarini in 1683, his second-to-last work. Guarini's early philosophical work, *Placita Philosophica*, (1665) features the title "Sacrae Theologiae Professoris." Guarini was not formally trained as an architect, but came to practice architecture through commissions for churches for the Theatine Order, of which he was a member. Meek, op. cit., pp. 6-8.

[4] Guarino Guarini, 1624 (Modena)-1683 (Milan).

the years following the Reformation, the question of holy places and holy things was central. Counter-Reformation architecture remained close to images, relics and reliquary, as a strategy for the *propaganda file*, and the Baroque world expounded an architecture of surface and lustre focused on making present the kingdom of God on earth.[5] The term "baroque," characteristically elastic in meaning, requires some precision at this point. Its characteristic inflexions and curvature, concavity and convexity, have invited Wölfflin's description of the baroque as a place where "matter becomes soft and masses fluid, structural cohesion is dissolved."[6] It has also been referred to as the "beauty of Catholic Rome."[7] In the present context, the term is taken to describe work of the sixteenth and seventeenth centuries concerned with mediation between the visible and invisible realms, that requiring passage through the folds of matter. Bernini's sculptures provide an encapsulating image of the word as it is used in the present context.[8] But the Santa Sindone stands on the periphery of baroque exuberance, and orchestrates the *presence* of God in a manner never quite seen before: it stages it continually alongside the experience of *absence*.[9] The following study is an attempt to understand the particular way in which the chapel organizes this dual experience on several registers of meaning: theologically, architecturally, and phenomenally.

Existing scholarship on Guarini and the SS. Sindone frequently describes the chapel in terms of architectural illusionism. This study begins with the intuition that these descriptions do not accurately render the "world of the work." "The view on looking

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[5] "More distance or too much distance. . . . The absence of bridges between humans and their God explains the role of the work of art within the project of the Counter-Reformation." Christine Poletto, *Art et Pouvoirs à l'age baroque*, p. 20. V. Tapié describes this as the common task of Bernini and Borromini, *Baroque et Classicisme*, p. 131.

[6] Wölfflin, *Renaissance and Baroque*, p. 46.

[7] V. Tapié describes this as the common task of Bernini and Borromini: "ils furent associés à la beauté de la Rome Catholique". *Baroque et Clacissisme*, p. 131.

[8] In particular, Bernini's *Apollo and Daphne*, 1622-25.

[9] J. A. Maravall has offered a more subtle definition of baroque, indeed as an expression of either "exuberance" or "sobriety", but always "in the extreme". See *Culture of the Baroque*, pp. 207-213.

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up at the dome from the floor of the chapel is an extraordinary *coup de theatre.* . .
. An illusion is produced of almost endless distance, an infinite shimmering recession
where architecture is suspended in space."[10] It is not that these words do not
accurately convey a contemporary experience of the space; it is rather that the terms
used seem to suggest a purely visual experience, thus reducing the potential meaning
of the work. Guarini is aware of, and writes about perceptual variation in vision and
optical correction;[11] however, his concern was not to manipulate "i'lusions," but
rather to reveal "true proportions."[12] Indeed, Guarini himself was extremely critical
of perspectival illusionism in *Architettura Civile*, where he warns against the perils of
perspective, "because it fools the eye" and because its only care is "to please the
eye."[13] Illusionism after all has to do with wilfully confounding the viewer with an
appearance that diverges from expectation.[14] It is true that from the outside, the
dome manifests itself as a relatively shallow stone accretion from out of the
Cathedral roof plane, and that the space under the dome does seem enigmatically
deep. But what are the just terms to describe the experience that the space beneath
the dome of the SS. Sindone proffers to the upward-gazing viewer, inhabitant or
pilgrim?

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[10] H. A. Meek, *Guarino Guarini And His Architecture*, p. 75. "Guarini's highest development of this technique (of exaggerated foreshortening) will be encountered in the dome of the Chapel of the Holy Shroud at Turin, where coloured stone is used to simulate the softening of tone values that occurs at a great distance." Ibid, p. 32. A similar argument is made for Ste Anne La Royale, where the visitor "will derive an impression of exaggerated distance from the two farther faces, since not only are they foreshortened by perspective, which the visitor knows, but they are also narrower in actuality, which he does not know." Ibid, p. 32. "The intention for Guarini was to satisfy by architectonic means the baroque feeling for mystery and infinity." Gideon, *Space Time and Architecture*, p. 125. Mario Passanti even provides optical diagrams to demonstrate how the illusion of infinity is achieved, *Nel Mundo Magico de Guarino Guarini*, p. 180.

[11] Guarino Guarini, *Architettura Civile*, Tratt. III, cap. 21 and 22, pp. 242-259. (henceforth abbreviated as *A. C.*)

[12] "Per serbare le dovute proporzione in apparenza, l'Architettura devesi partire dalle regole e dalle vere proporzioni." Guarino Guarini, *A. C.*, Tratt. III, cap. 3, oss. 7, p. 17.

[13] "La Prospettiva dapoi non ha da riguardare all solidita e fermezza del'opra, ma solamemte a dilettare l'occhio." Guarino Guarini, *A. C.*, Tratt. I, cap. 3, pp. 19-20.

[14] The term "illusion" in contemporary dictionaries implies deception; one says "illusion" when one has lost ones faith. The tenor of the word hence has the effect of reducing the experience to a purely retinal one. "Illusion = error," *Dittionario Imperiale Nel Quale le Quattro Principali Lingue d'Europa...*, 1700.

Wittkower has remarked in his *Studies in the Italian Baroque* on the long silence about Guarini's work, having been rejected by neoclassical sensibilities in the eighteenth century.[15] Renewed interest in the twentieth century spawned research once again, which is largely collected in the *Atti* of an international convention on Guarini, held at the Academy of Science of Turin, in 1968.[16] "The works of the great masters of the baroque afford no key to the phenomenon of Guarini...But Guarini's architectural language is so fantastic, original and strange, that it defies any attempt to classify it. Guarini, in a word, is not the product of an ambience: he is the creator of one'"[17]. With these provocative words, bearing in mind that Guarini's works, because not in Rome, are often not included on the architectural journey through baroque Italy, Meek begins the only comprehensive work on Guarini available in the English language.[18] Carefully researched, the book presents all of Guarini's known built works and writings, and traces sources and influences of Guarini's work, with an art historical emphasis. It remains however at the surface of the hermeneutic concerning Guarini's use of projective geometry, and the relation between the latter and the built works.[19] The work of Jacqueline Gargus[20] and Alberto Pérez-

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[15] "Everything about (his buildings) is arbitrary, without rule, contrived. He died to the benefit of art, in 1683," from *Dizionario degli architetti, scultori, pittori...* Milan, 1831, pp.223-24, cited in Wittkower, *Studies in the Italian Baroque,* p.178. Quatremère's evaluation is almost as harsh: "L'idée du Baroque entraîne avec soi celle du ridicule poussé à l'excès. . . . Guarini peut passer pour le maître du baroque. La chapelle du Saint Suaire à Turin, bâtie par cet architecte, est l'exemple le plus frappant qu'on peut citer de ce goût." *Encyclopédie Méthodique,* 1788, cited in Vapié, op. cit., p. 56.

[16] *Guarino Guarini e L'Internazionalità del Barocco,* (henceforth abbreviated as *GGIB*) a two tome publication of the Accademia Delle Scienze, 1970. The publication gathers the writings among others of Argan, Griseri, Portoghesi, Millon, Passanti, Battisti, Fagiolo, Carboneri, Tavassi La Greca, among others. Augusta Lange's exhaustive archival research, *Disegni e documenti di Guarino Guarini,* a valuable research tool, is also included.

[17] Meek, *Guarino Guarini,* op. cit., p. 2.

[18] H. A. Meek, *Guarino Guarini And His Architecture,* Yale University Press, 1988. The first monograph on Guarini was Paolo Portoghesi, *Guarino Guarini 1624-1683,* (1956).

[19] Meek rejects symbolic interpretations of Guarini's work, citing Argan's unsubstantiated remark that "no one more than Guarini has affirmed the non-symbolic, non-allegorical, non-metaphorical character of architectural form," three times in the course of his monograph. Meek, op. cit., pp. 108, 149, 154; Argan, "La Tecnica del Guarini," *GGIB,* Vol. 1, p. 36. This argument, based Guarini's defininition of architecture as an "arte adulatrice," overlooks the epistemological framework that Guarini wrote and built in.

[20] J. Gargus, "Geometrical Transformations and the Invention of New Architectural Meaning," *Harvard Architecture Review,* Vol. 7, pp. 117 - 131.

Gómez[21] in English, and in Italian, most notably that of Eugenio Battisti, Enrico Guidoni and Marcello Fagiolo,[22] probe the philosophical dimension of geometry more directly, consider Guarini in the larger context of his writings in philosophy and mathematics, and offer fruitful counterpoints to the teleology of formal ingenuity[23] and to the illusionism that Guarini is often associated with.

The SS. Sindone Chapel already had a long history at the time that it was conceived, in its association with a defining moment of Christianity. Part I of this thesis therefore returns to the scriptural moment that the chapel commemorates, in order to reinscribe the relic and its "Body" into the building. This historical analysis leads up to the seventeenth-century context of the SS. Sindone, and to the newly born Savoyan Duchy. There, a baroque notion of imaging the body is elucidated. We then come to the chapel proper, whereupon the architectural organization of elements is observed as a culmination of a trajectory toward presence. In Part II a hermeneutic of Guarini's *ortografia* (projective geometry) is undertaken as delineated in the text of *Architettura Civile*.[24] Finally, an examination Guarini's philosophical treatise, *Placita Philosophica*, attempts to ellucidate the meaning of this geometry in relation to the chapel. The paired notions of presence and absence will guide the study in all its facets: theological, historical, architectural, and experiential. In the investigation into the SS. Sindone Chapel which follows, dialectical questions of vision and appearance, transparency and opacity, reason and sensual experience, will also arise.

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[21] Pérez-Gómez, "Geometrical Operations as a Source of Meaning, in *Architecture and the Crisis of Modern Science*, pp. 87-129.

[22] Enrico Guidoni, 'Modelli Guariniani' *GGIB*, Vol. 2, pp. 237 - 239, 243-248. M. Fagiolo, 'La 'geosofia' del Guarini' and 'La Sindone e l'enigma dell'eclisse' *GGIB*, Vol. 2, pp. 179-227. E. Battisti, 'Schemata nel Guarini' *GGIB*, Vol. 2. pp. 107-177

[23] For example, S. Gideon, who sees in Guarini's work: "Architectural vision pushed to the limit of constructional resources in striving to produce the impression of infinity." Op. cit., p.124. See also D. Watkin, p. 254. Kostov also presents Guarini's work as a culmination of a rational progress in construction methods: "Only in Peidmont did the patronage of the House of Savoy and the talent of a Theatine Monk named Guarino Guarini, nurture a style that was the immediate successor of Roman design, especially the example of Borromini, and advance well beyond it." Op. cit., p. 519.

[24] Wittkower alludes to projective geometry as "an indirect clue" to Guarini's world view because of its prominent role in *Architettura Civile*: "More than one-third of the text is concerned with a new kind of geometry. . . ." *Art and Architecture in Italy 1600-1750*, p. 413.

In seeking the terms with which to describe the SS. Sindone Chapel, we shall be asking the questions: what kind of vision is assumed in Guarini's writings and architecture, and how is the relation of "appearance" to "surface" to be understood?

The Gospel Narratives of the Empty Tomb

One enters the SS. Sindone from the Duomo, ascending one of two long dark staircases. In the penumbra, each of these yields to a circular antiroom of dark marble. The domed rotunda is not very large, measuring twenty meters in diameter. The stones of the radially patterned floor are worn unevenly, and inlaid bronze stars now swell slightly above the grey and white stone floor. This rounded erosion of footsteps lessens toward the center of the chapel. A low balustrade measuring seven and a half meters in diameter draws a circle around the central realm, elevated four steps above the chapel floor. Therein, a triumphant reliquary, massive, dark and inescapably present, extends bronze rays vertically toward a dove in the dome lantern.

Prior to a more detailed exegesis of Guarini's chapel, it is important to observe that it is fundamentally indissociable from the relic it houses, and much of its meaning is lost when analysed as an autonomous architectural entity. To this end, we return to the Gospel narratives where the shroud is mentioned[1] in order to anchor the experiential qualities of the relic in its textual sources, qualities that the architecture will come to embody.[2]

From the moment the empty tomb of Christ was discovered, there was a question of how to tell the story of this 'impossible' and per force unnarratable event of the Resurrection, that no one had seen happen. Four Gospel stories written between thirty and seventy years after the event offered varying renditions of the

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[1] For an in-depth exegesis of these passages, see H. Hendrickx, *Resurrection Narratives*, and M.J. Nicolas, *Théologie de la Résurrection*, pp. 102-127.

[2] The poetically charged relic-chapel relationship has often been alluded to in passing. Writings which investigate the later in more detail are Gargus, op.cit., p.127-128, and M. Passanti, *Nel Mundo Magico de Guarino Guarini.*

Resurrection.[3] These are the Synoptic Gospels--those of Matthew and Luke, generally assumed to be based on Mark, and the Gospel of John, which is of a different tradition.[4] The narratives differ in the degree to which the physical Body of Christ was priviledged or de-emphasized, notably: the desire to embalm the body, the emptiness of the tomb, the place where the body lay, the absence of the body, the angelic verbal announcements, the appearances of Christ after the resurrection, and the cities where the appearances took place.[5] Thus the four accounts structure each of these elements differently, to formulate an "announcement" of the Resurrection, a "kerygmatic narrative."[6] Specifically, the apostles had to decide how to interpret the nature of the event: were they faced with a spiritual resurrection, a physical ressucitation, a transformation of the body?

The texts of Matthew and Luke are structured in such a way that the emptiness of the tomb becomes meaningful as a retroactive sign of the Resurrection, after Christ's appearances. Although the women[7] believed from the moment they saw the empty tomb and heard the angel's voice that Christ had risen, the other disciples, upon hearing the women's story, did not, "because their words seemed to them like nonsense."[8] Thus for many, the connection between the empty tomb and the Resurrection was made only after Christ had been seen after the crucifixion. John's

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[3] The synoptic Gospels of Matthew, Mark and Luke, and the Gospel of John.

[4] These assumptions are widely accepted in contemporary exegesis. *New Catholic Encyclopedia*, Vol. 7, pp. 401 - 427.

[5] The Resurrection narratives comprise a rich and vastly written-about field in apologetics. Some clear hermeneutics thereof include: Hendrickx, op. cit.; P. Ricoeur, "Le récit interprétatif - Exégèse et Théologie dans les récits de la Passion," *Recherches en Science Religieuse*, 73.1; M.J. Nicolas, *Théologie de la Résurrection, (1982)* pp. 115-127; S. Barton, G. Stanton, *Resurrection - Essays in Honour of Leslie Houlden*, (1994), in particular F. Watson, "He is not here - Towards a Theology of the Empty Tomb," pp. 95-107.

[6] This is the term used to describe the resurrection stories, as they effectively "announce" the Resurrection (*kerygma* = gr. announcement). See M. J. Nicolas, *Théologie de la résurrection*.

[7] The women who had gone to the tomb with spices, that is, "Mary Magdalene, Joana, Mary the mother of James, and the others with them." Luke 24:1-10.

[8] Luke 24:11. See "The Women's Resurrection Testimony," in Barton and Stanton, op. cit., pp. 34-44.

narrative is the only one that clearly places the beginning of the disciples' faith in the Resurrection with the sight of the empty tomb, the burial sheets, and the body's absence; upon entering the tomb, Simon Peter "saw and he believed."[9] The tempered Marcan narrative, believed to have originally ended with the description of the flight of the women immediately following their discovery of the empty tomb, would not have included a narration of appearances at all in its original form.[10] Indeed, Paul Ricoeur has written about a "parsimony of presence" with regards to Mark's narrative because the disciples, the guards and Jesus himself, who are mentioned in the other accounts, are not present in Mark's Gospel. Instead, the women are alone inside the empty tomb. Ricoeur shows that the kerygmatic structure in Mark's Gospel relies on loneliness and absence rather than on presence of the body.[11] This is seen to support the prevalent hypothesis that the original Marcan text ended before the mention of post-resurrection appearances. Operating through negation, absence and silence, the story would hence have ended in the following manner: a man dressed in white, "who represents Jesus but is not Jesus"[12] voices: "Do not be alarmed. You seek Jesus the Nazarene who was crucified. He has woken. He is not here. See the place where they lay him. . . . Trembling and bewildered, the women went out and fled from the tomb."[13] It is therefore seen as a "proclamation based on emptiness,"[14] a *via negativa*, not needing the evidence of presence.[15]

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[9] John 20:8.

[10] Many of the oldest manuscripts of Mark's Gospel do in fact end at the eighth verse rather than extending to the accepted twentieth verse. P. Ricoeur, op. cit., p. 37. See also H. Hendrickx, op. cit., p. 3.

[11] "The risen Lord, according to the kerygma, has as its only narrative trace the absence of Jesus." Ricoeur, op. cit., p. 37.

[12] Ricoeur notes the fact that this man in unidentified, celestial, and in the end, more a voice that a physical presence. Op. cit., pp. 37, 38.

[13] Marc 16:6. "If one admits that the evangelical narrative historicizes the kerygma of the risen Christ, must we not say that the genius of Mark's Gospel is to have put all resources of *negativity and even obscurity of narrative art*, at the service of his christology of a suffering and crucified Son of Man?" Ricoeur, op. cit., p. 38.

[14] H. Hendrickx, *Resurrection Narratives*, pp. 3-19; Ricoeur, op. cit., p. 37; Also, "Mark's theology was very different. Instead of the apparition tradition, he offers us an absent Jesus in his newly created anti-tradition of the Empty Tomb." J. D. Crossan, "Empty Tomb and Absent Lord," in *The Passion of Mark*, p. 152.

Beyond certain discrepancies in the unfolding of the events, and concerning the shape and configuration of the shroud relic, the Gospel narratives display a privileging of absence (especially in Mark) over presence as carrier of the Resurrection announcement. In all four accounts, a vision of the emptiness of the tomb, a vision of absence, is the first stage of the disciples' movement towards faith in the Resurrection. In all of the accounts, an angel intercedes with words to help them link the emptiness of the tomb to the Resurrection,[16] and except for the Marcan text, the appearances confirm the news.[17]

In analyzing Guarini's Chapel of the Holy Shroud, an archeology of meaning of the emptiness of the tomb and absence of the body of Christ is of interest. The chapel, in effect, constitutes a late seventeenth-century *kerygma,* which focuses on the burial shroud as the physical evidence that fuels faith. If one views Matthew and Luke's extension of Mark's narrative (i.e., the addition of appearances episodes) as stemming from an impulse toward presence, the chapel prolongs the story in this direction: its center is filled with an imposing and very full-looking tomb, which we know narratively to be constructed around emptiness. The chapel shares in the spirit

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[15] F. Watson, "He is not here - Towards a Theology of the Empty Tomb," Barton and Stanton, op. cit., p. 103.

[16] Hendrickx, op. cit., pp. 6, 16-17.

[17] The fact that there are no records of a veneration of the burial shroud in the years immediately following the Passion of Christ leads R. Drews, in *In Search of the Shroud of Turin,* to advance a theory that the shroud was in the hands of gnostic groups (Carpocratian Gnostics) who believed in a spiritual, not "bodily" resurrection, and remained initially far more open to images than the orthodox Christians. (Drews believes them to have in fact painted the shroud themselves, a kind of death mask, substantiating that "orthodox Christians saw the cloth as an obstacle and not as proof of their belief that Jesus' body had arisen from the grave," ibid, p. 106.) The gnostic fabrication would have been transfered to orthodox custodians and retroactively christianized as a miraculous relic only as of the sixth century, ibid, p. 101. Drews' research reveals textual evidence that the second century gnostics believed the shroud to be manmade: "The Shroud was not regarded by its earliest custodians as a document of a miracle," and the same for the fourth century Christians. The oddity is that suddenly in the sixth century, it comes to be declared *acheiropolton* by the Christians of Edessa (ibid, p. 102); in this light, the advent of the shroud could be read as the fiction of a burning desire for presence that reached a paroxical moment when enough time had passed. The conclusion of this story: "Exalted to supernatural status, the Edessan Icon weathered the century of Iconoclasm, during which most representational art of the Orthodox world disappeared. In 944, the Mandylion was removed to Constantinople (in this version, shroud and Mandylion are seen as the same relic). . . . Constantinople, too, eventually fell to the Turks, but by that time the Mandylion had been stolen and taken to France. Emerging there as the Holy Shroud . . . from France the Shroud was taken to Turin. . . ."

of Mark's Gospel in its focus on absence as announcement, and in the spirit of the other texts in their impulse to retroactively give a physical dimension to an incomprehensible spiritual event, indeed to endow it with "appearance." Without claiming that Guarini made direct use of these texts and their nuances, for he never wrote about scripture,[18] the architecture of the Santa Sindone seems to incarnate this dual tendency toward and away from the body. It can be shown that this tension, already present in these earliest texts, offers a useful historical paradigm for the evolution of the history of Christianity, and for discussions that will occupy sacred architecture. Within this ebb and flow between *logos* and flesh, whose moments of crisis were the iconoclastic debates (e.g., iconoclastic controversy in the East, Reformation in the West), Guarini serves as a poignant middle point.

The Shroud - a wavering relic

The Holy Shroud, believed by many to have been the production of a miracle, has provoked many acts of devotion over the centuries, even to this day. When studied through the lens of a modern viewing device at the dawn of the twentieth century, the relic's ambiguous "aura" was retroactively elevated.[19] Sindonology begins mainly after the exhibition of the shroud in 1898, during which the shroud was photographed for the first time, by Secondo Pia.[20] The negative, as the story goes, astounded the photographer to the point of almost causing him to faint, by displaying a clear and positive image of a bearded man with a look of pain. A curious cooperation between

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[18] And therefore it would be impossible to prove. Guarini's play, *La Pieta Trionfante*, is the writing closest to theological speculation. It is noted however that Guarini does use Scripture as "hypothesis" in his writings on astronomy and philosophy. See M. Nasti, "Il Sistema del Mundo di Guarino Guarini," in *GGIB*, vol.2, pp. 563-564. For a link between *La Pietà Trionfante* and Guarini's architecture, see Enrico Guidoni, "Modelli Guariniani" *GGIB*, Vol. 2, pp. 237 - 239, 243-248.

[19] The famous photograph not only was "the sanction of an unprecedented sort of expository value for this relic heretofore hidden from view, it reestablished the *aura* of the shroud, investing the object itself with a counterpart to its semiotic status. The holy shroud became the *negative imprint* of the body of Christ, its *luminous* index miraculously produced and miraculously inverted in the very act of resurrection, henceforth to be conceived of in photographic terms." Didi-Huberman, "Index of the Absent Wound," *October*, op. cit., Vol. 29, p. 41. It is interesting that what gave back the shroud its "aura" for the twentieth century was photography - tool of vision of the modern world.

[20] R. Drews, *In Search of the Shroud of Turin*, p. 3.

scientific and religious communities would soon yield several theories regarding the manner by which the image had been produced, including that it had been painted, and that it was the "vaporograph"[21] of a victim of crucifixion.[22] Georges Didi-Huberman has recently contributed yet another name for the piece of cloth, calling it a "luminous index" of an absent body, a surface which "raises the very question of the advent of the visible."[23] Whether the image was miraculously produced while Christ was in the tomb or whether it was fabricated after that is of little or no importance here. The main lines of the debate held by sindonologists are noted only to bring to light an issue relevant to the discussion of Baroque architecture: humankind's eagerness to behold physical traces of the divine, and their reliance on these for mediation between the visible and invisible realms. The persistence of this eagerness is pointed to by the enduring devotion to the shroud, and by the many who have not yet rescinded the pleasure of belief in this comforting stain.

The shroud itself is mentioned in two contexts in the last chapters of each of the canonic resurrection narratives.[24] The accounts of Matthew, Mark, Luke and John

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[21] The thesis of Vignon at the time of the photograph was that the image was "the result of vapors produced by the combination of burial ointments and the urea-laden sweat secreted during severe torture." Ibid., p. 4-5.

[22] As a counterpoint to the enthusiasm with which Pia's photograph was met, the Abbé Chevalier, aware of fourteenth century documents that denounced the shroud as a forgery, the work of a local artist, maintained a strong voice. Ibid, p. 3.

[23] "The holy shroud became the *negative imprint* of the body of Christ, its *luminous* index miraculously produced and miraculously inverted in the very act of the resurrection, henceforth to be conceived of in photographic terms." Didi-Huberman, op. cit, p.41. The shroud is compared to the *Veronica* in St. Peters, also rarely displayed, and always kept at a distance: as such it is the believer's straining gaze much more than the icon itself which invests the dialectic of gazes with its power and transcendance. Didi-Huberman argues that the stain on the shroud is more to do with a willingness to see figuration than to actual resemblance: "Sometimes - though very rarely - it is carried in a procession, an ostentation of the object in person. . . . But even then nothing can be seen. All the faithful express the same dissatisfaction: ". . . I was disappointed; *non si vede niente* (you can't see anything) everyone was saying. We tried . . ." But the dissatisfaction and the attempt to see constitute *something*. In fact almost *nothing* was visible. "We tried to see something else," the spectator goes on to say, "and little by little we could see." Almost nothing was visible, that is to say: already something other than *nothing* was visible in that *almost*. One actually saw, then, something else, simply in the looking forward to it or the desiring of it. Ibid, p. 39.

[24] The synoptic gospels of Matthew, Mark and Luke, and that of John. The term "resurrection narratives" is contradictory since the resurrection itself, by nature a hidden event, is never written about or described. See Hendricks, op. cit., pp. 1, 2; see also S. Barton, "The Hermeneutics of the Gospel Resurrection Narratives," Barton and Stanton, op. cit., pp. 45-57.

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describe the Deposition and Entombment, where the *soma* of Jesus is wrapped in a *sindona* and placed in a *mnemeion*, according to Jewish burial custom.[25] The second mention occurs at the discovery of the empty tomb, in some of the Gospels. Luke for example writes of linen strips, found upon entering the tomb and realizing the absence of the body: "it was in them to be perplexed *(aporeistai)* about this and behold, two men in clothes that gleamed stood beside them. . . . Stooping down, (Peter) saw the strips of linen lying by themselves *(othonia mona)*."[26] It is in John's Gospel which provides the most details as to the configuration of the burial cloth proper: Peter stoops and "beholds the sheets lying *(othonia keimena)*, and the kerchief *(sudarion)*[27] which was on the head of him, not with the sheets lying, but apart *(khoris)*, having been wrapped up in one place."[28] The pathos of these scenes, as the disciples are confronted by this strange aporia, is moving and perennial *(Figures 2, 3, 4)*.[29] *Keimena, mona, khoris:* a figure is evoked that is unmistakably recumbant, alone and apart. Negotiating the absence of Christ's body with its recent presence, Mary Magdalene's words as she stands outside the tomb weeping, "they took the Lord of me, and I know not where they put him" reveal the complexity of the sentiments at play.[30] Added to the grief of the death itself and the fear that her faith may have been disappointed, there is the trauma associated with the loss of

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[25] Matthew 27:58, 59; Mark 15:43-46; Luke 23:52, 53; John 19:38-40. The first three mention a *sindona*, whereas the last describes binding the *soma* in *otoniois*, that is, sheets or strips. The *sindona* is defined as a "piece of unused linen." The etymological relation of the word *for* "tomb" *(mnemeion)* with "memory" is potent: the tomb, as the reliquary, is essentially commemorative in nature. References are from the *Zondervan Interlinear Greek-English New Testament.*

[26] Luke 24:2-12.

[27] In the cult of relics, this piece was of equal value to the shroud, since as the later, it had the merit of bearing a God given image (a portrait) not made by hand: it was thus an acheiropoieton, *(a-cheiro-poieton* = "not by hand made"). For a study of the burial head-piece and other "portraits" of Christ, notably the Mandylion of Edessa, please see Ewa Kuryluk's engaging work, *Veronica and Her Cloth.*

[28] Literal translation of Nestle Greek Text of John 20:2-7, *Zondervan Interlinear Bible*, op. cit., p. 454.

[29] It is captured poignantly in a series of Palestinian martyria *(Figures 2, 3 & 4)* depicting the women surrounding the *Anastasis Rotunda* built by Constantine. These bas-reliefs of the fifth and sixth centuries show the iconography of the Empty Tomb: two heavy doors with one left half open. These have the added interest of depicting the architectural form of the Holy Sepulchre rotunda on square base. See Grabar, op. cit., Vol. 1, p. 271, and Vol. 2, p. 266.

[30] John 20:13.

knowledge of the body's whereabouts. As for the shroud, it is implied in the description of the "lying strips" that the body has risen out of them and that they, emptied of the body, simply receded in direct vertical projection onto the floor, a direct result of the *anastasis* of the body. It is not difficult to draw analogies between such notions of projection and the steretomy employed in the Chapel.[31] The elements of the women's discovery, an empty tomb, an absent body, an angel's announcement, imply an intimate motion leading away from the body towards the word. An angel is always needed to interpret and confirm the meaning of the event.[32] As the body decreases, the word increases, in order that the body become *logos* once again, and completes the circle begun in John's Gospel in which "the word was made flesh and dwelt among us."[33] Accordingly, after Christ's death, a return to the realm of *logos* is sensed on many registers.[34] The sight of the empty tomb and burial shroud signify the end of the material phase of the Incarnation and the beginning of the decrease of the figural.[35] Saint Paul's description of the Incarnation as requiring a necessary *kenosis*,[36] an emptying out of the divine powers, comes to

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[31] Sindonologists have toyed with the riddle of the image, some coming to the conclusion that the shroud must have been pulled taut as a screen above the body, to receive the frontal image as a projection: A first, essential condition for what is visible on the Shroud has to be that the position of the cloth was relatively flat over the body." Peter Wilson, *Shroud,* p. 246. This was also the conclusion of research conducted at NASA, with a "VP-8 Image Analyzer;" see R. Drews, *In Search of the Shroud of Turin,* pp. 99, 123, n.4.

[32] This frequent theme is developed in H. Hendrickx, *Resurrection Narratives of the Synoptic Gospels.*

[33] John 1:14.

[34] The Temple becomes idea, Christ's body becomes celestial, the law once written on tablets of stone would henceforth be etched on human hearts. "The time is coming where I will make a new convenant with the house of Israel. . . . I will put my laws in their minds and write them on their hearts." Hebrews 8:8-10. (I Jer 31:33).

[35] Paul Ricoeur writes of the "disparition progressive du corps tout au long du récit de la Passion" and a "croissance de la parole." Op. cit., p. 37. Considering modernism's impulse to extricate figuration from architecture, the resonance of themes such as the 'end of the Incarnation' readily expand into contemporary existential constructs.

[36] "kenosis: the renunciation of the divine nature, at least in part, by christ in the Incarnation, the strategy of emptying as the most extreme gesture of devotion. Gr. *kenos* - empty." *The Oxford English Dictionary.*

mind."[37] It is a dual sign, a trace of emptiness and of the Incarnation.[38]

The shroud was perceived as the most substantial remain of Christ's earthly passage, well into the time of Guarini's life; an engraving of the exhibition of the shroud in 1613 *(Figure 5)* points to the meaning that the relic carried for the age.[39] In the late seventeenth century, the blood-stained relic stood as an inverted sign of life, of the "greatness of the light, glory and majesty of the resurrection."[40] One notices however that the *Acts of the Apostles* displays not the least concern for relics, and there are no accounts of the first believers scavenging pieces of the cross or burial shroud. If a cult of relics in early Christianity is conspicuously absent from the writings of Saint Paul, testifying to a gracious acceptance of the nature of the new testament between humans and God, a desire for reminders of presence and memorabilia would increase with the passage of time, as of the third century.

Reliquary, Martyria and the Persistence of Presence

Inscribed in a history to resist the finitude of corporeal presence, and built around the trace of a beloved mortal's remain, the SS. Sindone chapel is a martyria, and a late instance of the cult of the saints. To understand the full intentions of the Chapel, one must first see it in this light. The cult of relics has been the focus of much study,

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[37] *ékénosen éauton*, "He made himself into nothing" or "He emptied himself." Ph.2:7. This complex theological theme concerning the parenthesis in the life of Jesus and suspension of the exercise of his divine powers is the subject of M. J. Nicolas, *Théologie de la Résurrection*.

[38] The semantic association of shroud and Incarnation is made very clear in early Christian iconography. In particular, there is mention in Grabar's *Martyrium* of the practice of inserting anachronistic depictions of the shroud laid flat on an empty tomb, into Nativity and Resurrection scenes in late antiquity. Depictions of the *Anastasia Rotunda* to which the shroud is associated were also often anachronistically inserted. Grabar, op. cit., Vol. 2, p. 158.

[39] See M. Pollak, *Turin 1564 - 1680*, p. 64 and Figure 29. The author also recounts the importance of exposing the shroud at all important festivals in the Savoyan Duchy throughout the seventeenth century, p. 137.

[40] Camillo Balliani Milanese, *Ragionamenti sopra la Sacra Sindone di N.S. Jesu Christo*, (Torino, 1624), reprinted in part in E. Battisti, *Rinascimento e Barocco*, op. cit., p. 277. Battisti suggests that Guarini would have been familiar with this text. On the perception of the shroud in the seventeenth century, see Battisti, ibid., pp. 276-278.

and has generated valuable insights for the study of sacred architecture.[41] For the present purposes, only the salient moments which most forcefully illustrate the idea of a trajectory toward presence will be remarked upon. A relic, "fragment of an upper world left here below,"[42] is a material thing or body which would have been in contact with Christ or a saint, a dual entity endowed both with corporeality and with transcendence." It is the *presence* of the intelligible in the material relic that is its essential fact."[43] The relic is circumscribed in the material realm, and possesses a necessarily physical relation to its referent. It could therefore be termed in more contemporary language as an "index" of the body of the saint."[44] Materialization of the axis between relic and saintly referent is iterated a second time with the construction of a martyrium above the relic."[45] The organization of such, with grave, tomb, basilica and church, describes the history of Christian architecture as it unfolded recurring thematics of Incarnation and Resurrection.

In the order of things, the impulse towards presence begins at the martyr's grave, a place partaking of two worlds: from there, as of the first hours of Christianity at the

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[41] Notable works on the early Christian cult of relics are André Grabar, *Martyrium - Recherches sur le culte des reliques et l'art chrétien antique*, op. cit., an exhaustive inquiry into both the history of architecture and of iconography of martyria, which traces the cult in the East and West, from Constantine to Calvin; Richard Krautheimer's works on early Christian architecture and urbanism; Peter Brown, *The Cult of the Saints - Its Rise and Function in Latin Christianity*, which studies the period from the late fourth to late sixth centuries; Ewa Kuryluk, *Veronica's Veil*, which investigates the tradition of icons and portraits of Christ.

[42] "Fragment d'un monde supérieur égaré ici bas, la relique offre au fidèle le moyen de frôler le surnaturel. En remplaçant le personnage saint ou l'évènement providentiel qui continue en elle, la relique invite le fidèle à imaginer sous une forme concrète les manifestations d'un Dieu transcendental." Grabar, op. cit., Vol. 1, p. 12.

[43] Grabar, op. cit., p. 13.

[44] I am borrowing Rosalind Krauss' term 'indexes.' "They are marks or traces of a particular cause, and that cause is the thing to which they refer. . . ."; R. Krauss, "Notes on the Index," in *The Originality of the Avant Garde*, p.198. As distinct from the symbol, which can be of completely foreign source with relation to the meaning generated, the index - signifier pair relies on a tangible rapport.

[45] *Martyrium* = "a site which bears witness to the Christian faith, either by referring to an event of Christ's life or Passion, or by sheltering the grave of a martyr, a witness by virtue of having shed his blood; the structure erected over such a site," from the glossary of R. Krautheimer's *Early Christian and Byzantine Architecture*, p. 361.

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empty tomb, the entire cult of relics can be traced back.[46] Grabar's research offers copious substantiation of the fact that both architecture and iconography of martyria were derived from sepulchral traditions, and these in turn influenced the broader strokes of ecclesiastical architecture.[47] Succinctly, it would seem that grave and relic triggered one of two responses: to construct an altar, or alternately, to make an image, in reaffirmation of the body's presence and of the *praesentia* of a healing and salvific spirit remaining inside it after death.[48] It was indeed in order to permit the proliferation of occasions for *praesentia* that saint's bodies were dug up, dismantled and disseminated outside the cemeteries and throughout the land. As these migrated progressively toward the realm of the altar and eventually into the churches, a Christian "topography" of sacred places annexed itself to the holy *loci* of Judea.[49] In a final movement, these would detach themselves from the church, and an autonomous centralized structure would develop as of the late fourth century.[50]

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[46] Grabar's erudite study substantiates the fundamental principle that mediation is made to occur at the hinge point of spirit and flesh: the grave. For the cemetery as site of the first images, see Grabar, op. cit., Vol. 2, p. 12; as site of the first martyria, ibid., Vol. 1, pp. 11-44. Regarding the proliferation of martyria in cemetery areas outside the Roman walls, these becoming ecclesiastical centers: "This was because the saint in Heaven was believed to be 'present' at his tomb on earth." Brown, op. cit., p. 3; and also: "The rise of the cult of saints was sensed by contemporaries, in no uncertain manner, to have broken most of the imaginative boundaries which ancient men had placed between heaven and earth, the divine and the human, the living and the dead, the town and its antithesis. . . . It designated dead human beings as the recipients of unalloyed reverence, and it linked these dead and invisible figures in no uncertain manner to precise visible places and, in many areas, to precise living representatives." Ibid, p. 21. A link to pagan practices of feasting at the family grave and to hero worship is fairly certain; Grabar, op. cit., Vol. 1, pp. 31-38.

[47] Much of Grabar's research aims to substantiate that martyrium, mausoleum and baptistry all derive from funerary architectures of antiquity. See Grabar, op. cit., Vol. 1, chap. 1 & 2; Vol. 2, p. 251. See also E. Baldwin Smith, *The Dome - A Study in the History of Ideas*, p. 151. Smith continues this investigation, and specifies the funerary origins of the dome.

[48] See "Praesentia" in Brown, op. cit., pp. 86-105.

[49] This term is borrowed from R. Krautheimer, *Three Christian Capitals*.

[50] "As a rule, martyria in the Holy Land were unattached circular structures whose obvious prototype was the rotunda of the Anastasis in Jerusalem. The church of Anastasis, i.e., the Resurrection, rose in the courtyard behind Constantine's martyrium-basilica, and it enclosed the sepulchre of Christ which Constantine had decorated. Whether begun under Constantine or built by his sons, the Anastasis seems to have been in use by 350 or at the latest by 380. Despite frequent remodellings its original plan can be roughly ascertained: it is a huge rutunda, 16.84 m. (55 ft 3 in.) in diameter, its center enveloped by an annular ambulatory. In the very middle of the structure - both its focus and its *raison d'être* - rose the cone of Christ's sepulchre below Constantine's baldacchino. . . . Outside the Holy Land 'copies' of the Anastasis and of its filiations were frequent in medieval Europe. . . ." Krautheimer, *Early Christian and Byzantine Architecture*, pp. 50-51. On the Holy Sepulchre, see E. Baldwin Smith, op. cit., pp. 16, 24-

However, a demand for visual assurance of corporeal presence, a visible link between altar and relic, would summon the body back into the space of the altar, from beneath the floors or from outside, in later dates.[31] The cult attracted such passion and possessiveness that an official redistribution of relics was required during the eighth and ninth centuries for purposes of equity, testifying to the desire for presence which drove the cult. The relic's presence was effectual as well, imbued with the power to heal and to transcend death, because it had itself overcome death, avoided decay, and become holy, despite its perishable origin. In the sixteenth century, Calvin wrote of so many crosses that if he were to have counted all the pieces he would have filled a book; as for the shroud, "there are half a dozen cities that boast possessing the entire sepulchral shroud."[32] In order to satisfy the need for several churches to claim the same relic, new relics were being claimed at astonishing rates, and saint's bodies' multiplied to the point that the numbers no longer added up at the end of the day. Calvin reports: "some kind of reason has meritted St. Anthony to have his relics multiplied. . . . With his two bodies he has a knee in the Augustins of Albi, in Bourg, in Macon, in Châlons."[33] The desire for *praesens*, for the union of

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[31] In martyria of the Constaninean era, unfinished stairs often led to a space below the floor where the saint's body remained invisible: "A Byzance comme à Rome, les constructeurs des *martyria* constantiniens ne sont point souciés de faire apparaître les tombeaux des saints, comme ce sera l'usage ultérieurement, lorsqu'on ne se contentera plus de la certitude d'une présence de reliques sous le dallage du sanctuaire, mais qu'on exigera un aménagement qui eût permis de les voir ou, au moins, de les approcjer de plus près." Grabar, op. cit., Vol. 1, p. 306.

[32] Jean Calvin, *Traité des Reliques, ou avertissement très utile... (circa 1523)*, pp. 272, 280.

[33] Calvin, Ibid., pp. 319-320. "Avisons maintenant lesquels ont deux corps ou trois. Saint André a un second corps a Amalfi; saint Philippe et saint Jacques-le-Mineur, chacun aussi à Rome." Ibid, p. 309. Calvin's attack on the cult of relics is undertaken by demonstrating a litany of discrepancies in the inventory of body parts. The reformer Collin de Plancy uses the same methodology in his nineteenth century *Dictionnaire Critique des Reliques et des Images Miraculeuses* (1821). This "critical dictionnary" contains an inventory of relics of all known saints, with relic name or Saint's name appearing in alphabetical order. The result is a curious set of tomes in which one is privy to information regarding the location of any body part of a given saint. For example, Saint Francis' body more than once. There are thirteen for John the Baptist (Vol. 2, p. 15). As for shrouds, "the two most famous are in Turin and Besançon. . . . Although Jesus must surely only have had one, and that we have already counted four, there are still many more. The holy shroud will be found in Rome. It is revered in St. John Lateran, Ste Maria Magiore, and St. Peter's. They are all whole, and each sacristy assure that their's is real, that is, that is was bought from Joseph of Arimathea." Ibid, Vol. 1, pp. 99-105. As for the body of Christ which rose from the dead, leaving little reliquary material, de Plancy's inventory lists every possible remain: navel, footprints, sweat, foreskin, breath, etc. Ibid., Vol. 1, 2 & 3.

heaven and earth on specific physical *loci*, and the necessity of the human figure for this meeting to occur, are the operative principles of the cult of relics.[34] These are reenacted on a smaller scale in the shroud itself, whose questionable authenticity, if nothing else, testifies to a strong desire for a visible presence of God on earth.

The space between *logos* and flesh is intimated by relics themselves, in that some are actual body parts, others are objects that simply touched a saintly body ("contact relics"). A qualitative difference between the Latin and Byzantine cults is that the former cultivated the first category, whereas the East had a marked preference for the second. Indeed, as pointed out by André Grabar, if sacred instance in the West resulted from the association of a body to an altar, Byzantine devotion was transferred from the relic to the image as of the fourth century.[35] This supplanting of body by image is echoed in the cult of icons, and recorded by the absence of dedicated places for bodies in Greco-Byzantine churches.[36] The *iconostasis*, this wall of icons whose eyes were as surrogates through which the pilgrims could see God, inserted itself between public and altar.[37] Similarly, images came to detach themselves miraculously from their subjects and supports, "transporting onto themselves all the virtues of the relics and saints and the cults that were destined to them."[38]

The burial shroud of Christ belongs a special category of contact relics, "true images," that relate miraculously to the body through contact. It thus had heightened value because of the miraculousness of its production: it is an *achéiropoïeton*, an image

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[34] This is what Peter Brown has called "a chapter in the 'homonization' of the natural world;" op. cit., p. 126.

[35] "La ferveur religieuse passe de la relique à l'image, et c'est là, sans doute, l'un des faits les plus saillants de l'histoire du culte des reliques, puisqu'il marque le moment d'une séparation entre les églises grecque et latine." "Des reliques aux icones," in Grabar, op. cit., Vol. 2, p. 357. See also Stephen Wilson, *Saints and their Cults*, p. 5.

[36] Grabar, op. cit., Vol. 1, p. 43.

[37] "The saints represented are not looking at us, but are looking at God." G. Dagron, "Le culte des images dans le monde byzantin," *Histoire vécue du peuple chrétien*, Vol. 1, p. 133.

[38] Grabar, op. cit., Vol. 2, p. 349.

"not-by hand-made," a true image given by God.[39] Not incidentally, a claim that an epistolary correspondance existed between Christ himself and King Abgar of Edessa belonged to the third century, and in this legendary correspondance a supposed portrait of Christ was requested.[40] The story concludes with Christ washing his face on a towel, leaving on it a miraculous imprint, the Mandylion, inaugurating the tradition of the achéiropoïete icon. Along with the *Veronica*, the cloth St. Veronica used to wipe Jesus' face on the road to Calvary, and the apocryphal Edessan portrait of Jesus, the shroud belonged to that special category of relics that were true, God-given, "almost an image" but not quite. It commemorated the absence of a body, and in this way it migrates into the realm of the non-figural. In its liminal degree of figuration, the *sindone* in many ways synthesizes byzantine and latin notions of hallowedness. Its mid-point status is also interesting in the context of the iconoclastic debates of the Reformation, and is responsible for the resonance the shroud has for the present.[41]

It is possible to delineate in both tendencies (Western dissemination of body parts, Eastern detachment of the image) the same operative principle: an impetus to multiply occasions of *preasens deus*, in increasingly readily available form.[42] Both

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[39] "It seems that around the middle of the sixth century this desire for the specific had a share in the appearance of a new kind of representation: a likeness derived directly from Christ, and therefore called *acheiropoietos*, 'not made by [human] hands.'" Ewa Kuryluk, *Veronica's Veil*, op. cit., p. 29. Kuryluk substantiates the neo-platonic origins of the term, that is, the notion that all objects possess a prototype in heaven which God's spirit can cause to imprint on earth. See also R. Drews, *In Search of the Shroud of Turin*, op. cit., p. 101. "Holy faces" and "Holy bricks" of Edessa and Heliopolis are cited in A. Grabar, op. cit., Vol. 2, p. 347. G. Didi-Huberman offers interesting remarks on the *acheiropoiete* in *Devant L'Image*, in reference to Ugo da Carpi's depiction of 'Veronica with St. Peter and St. Paul' displaying a miraculous portrait, where the technique ("fata senza penello") attempts to recreate a non-manual process: p. 234 note 128, and p. 235. The term *acheiropoiete* is found in the New Testament with reference to the Temple and to a House: 1 Cor 15:45-7 and 2 Cor 5:1.

[40] The story of King Abgar of Edessa and the *vera imago* of Christ in reccounted in E Kuryluk, pp. 38-47. See also H. Chadwik, *The Early Church*, pp. 61-103; R. Drews maintains Peter Wilson's theory that the Mandylion of Edessa was in fact the Shroud (folded); see Drews, op. cit., pp. 31-75.

[41] The shroud can be seen to emblematize modernism's impulse to extricate the figure from representation. See Georges Didi-Huberman, "The Index of the Absent Wound - Monograph on a Stain," in *October*, Vol. 29.

[42] A gravitation from *logos* to image operates on yet another level in the Eastern cult: Grabar has identified that images cohabitated with prayer inscriptions on many frescoes of early Christianity (coptic in particular) but that as of the late fourth century, the inscriptions were superceded by the image: the

practices situate themselves on a trajectory between the body's disappearance in death, and commemoration of any physical traces Christ and the saints' bodies may have left behind.

The SS. Sindone Chapel in the Context of the Counter-Reformation

Guarini's theories on architecture are better understood in the context of the Counter-Reformation, which held specific regard for the tangible presence of the Body of Christ in spiritual life, precisely the concern of Sacred architecture. The relevance of the Counter-Reformation to the SS. Sindone is directly traceable. Indeed, at the very moment that the Savoyan Duchy was taking possession of the Shroud, the Reformation was preparing its vehement attack on the cult of images.[43] It was through the central role of Charles Borromeo in the Tridentine debates in the 1560's that Northern Italy would take part in their defense.[44] Specifically, it was the eagerness of Borromeo[45] to venerate the shroud which summoned Guarini's chapel into being in the first place.[46] With Borromeo's health waning, the Shroud was transfered from Chambéry to Turin by an obliging Emanuele Filiberto, to make the

transition "answered to a need to fix divine presence in the chapel." Grabar, op. cit., Vol. 2, p. 302.

[43] Karlstadt's *On the Removal of Images* appeared in Wittenberg in 1522, followed by Jean Calvin's *Christianae religionis institutio* of the 1536, in which a war against "idolatry" is launched. Calvin's *Traité des Reliques, ou avertissement très utile...* vehemently combats the cult of relics, "so that is put behind the carnal aspect of Jesus Christ, a thing of the past, and place all affections in knowing and having Him through the spirit," p. 255.

[44] A.D. Wright, *The Counter Reformation*, pp. 103, 191. The contribution of the Theatines to the Council of Trent decrees is also outlined in Kunkel's *The Theatines in the History of Catholic Reform*, pp. 155-159. Wittkower cites Charles Borromeo among those who influenced the writings of the Council of Trent and who worked to implement them: *Art and Architecture in Italy*, pp. 21, 25.

[45] The cardinal and archbishop of Milan died in 1584 and was cannonized in 1610. Along with St. Ignatius, Ste Therese of Avila, and Philip Neri, he remains a legendary saint of the Counter-Reformation, and the object of a passionate devotional cult to this day. See A. D. Wright, *The Counter-Reformation*, op. cit., and A. Deroo, *Vie de Saint Charles Borromée - Cardinal Archevêque de Milan*.

[46] "The immediate excuse for moving the Holy Shroud to Turin was to shorten the pennance of Cardinal Charles Borromeo, who had made an ex-voto to walk barefoot to the relic from Milan." Pollak, op. cit., p. 14, note 3; Meek, op. cit., p. 62. "The final assertion of the status of sacred representation, as opposed to human art, came with the pilgrimage made by Charles Borromeo to venerate the Holy Shroud, brought to Turin for him. . . ." A. D. Wright, *The Counter-Reformation*, p. 240.

pilgrimage more feasable.[67] Thus, the SS. Sindone chapel was born out of a desire for a tangible form of *praesens Deus* and is tightly enmeshed in Counter-Reformation impulses.

The landscape in which Guarini wrote and built was one deeply imbued by this spirit of reassessment and renewal which had been sweeping Europe in the form of the Reformation. As a member of the Theatine Order,[68] Guarini partook in the Catholic reformation movement that had been gradually unfolding in the fifteenth century, and that was climaxed by the Council of Trent and the foundation of new Orders in the first half of the sixteenth century.[69] The Theatine Order was one of several responses to the arrival of Lutheranism in Italy,[70] and would partake in an effort to cleanse the church of impurities accumulated over time within the folds of ecclesiastical tradition. But beneath the disciplinary activity that characterizes Reformation and Counter-Reformation theologies, the fundamental concern was the cleft between material and spiritual aspects of daily life. Founding members of the Theatine Order had endeavoured to outline guidance principles and spiritual exercices to aid the faithful in negotiating this contentious fine line.[71] It is precisely this cleft, indeed a concern for mediation between invisible and visible realms, that guides the structure and content of all of Guarini's writings, whether in architecture, philosophy or mathematics.

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[67] Meek, op. cit., p. 62. See also Wright, op. cit., p. 240; Pollak, op. cit., p. 14; as well as *Vie de Saint Charles Borromée*, p. 27.

[68] The "Cherici Regolares, detti Theatini," founded by Cajetan of Thiene, received Papal confirmation in 1524. See P. Kunkel, *The Theatines in the History of Catholic Reform*, p. 5. Guarini began his novitiate at the age of fifteen. See H. A. Meek, p. 6.

[69] Notably the Jesuits, the Capuchins, the Barnabites, the Somachanss. Kunkel, p. 5.

[70] Preceding the foundation of the Society of Jesus of 1540, the Theatines also had their origin in the Oratory of Divine Love. See Paul Kunkel, *The Theatines in the History of Catholic Reform...*, p. 18.

[71] The *Scrittori de'Cherici Regolari detti Teatini* is a compendium of all the writings of the Theatine priests from their foundation to their disbanding. Several titles of books of spiritual exercices appear: for example, *Il Combattimento Spirituale del P.D. Lorenzo Scuoli Ch.Regolari, ridotto in x.Giorni di Esercizi Spirituali...* of 1747, is one such example of the Ignatian model. The enumerated titles appear by author, followed by a brief description. All of Guarini's writings are mentioned therein.

Guarini wrote on almost all topics of knowledge, the sciences, philosophy. In contrast to the Reformation's focuss on scriptural interpretation Guarini's writings reveal his concern for practice. This concern is echoed the Counter-Reformation approach, as repeatedly testified to by the titles figuring in *Scrittori de'Cherici Regolari Detti Teatini,* a comprehensive catalogue of Theatine writings. In title after title, a concern for rendering tangible the gap between God and nature is manifested.[72] The Theatines remained deeply attached to the material insertions between the faithful and the divine in spiritual life. With regards to the aformentioned cleft between *logos* and flesh, they undisputedly sided on the side of "flesh". Cajetan of Thiene, the founder of the Order, was prone to recurring visions of being personally handed the Christ Child by the Virgin,[73] as well as of the resurrected Christ appearing to him,[74] and it was he who, intent on creating an environment conducive to vision and image, instituted the "Forty Hours."[75] This devotion to the forty hour parenthesis in the life of Christ is thematically linked to the SS. Sindone Chapel.

In a climate where the image of the body of Christ was invited by Calvinism to take

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[72] These include numerous scholastic philosophies and spiritual exercices such as A. Maineri's *Esercizio Spirituale per la mattina e per la sera* (Torino, 1662: ibid., Vol. 2, p. 25) and S. C. Tomasi's *Ritiro Spirituale d'un quarto d'aro da farsi ogni giorno da ogni Cristiano* (Palermo, 1670: ibid., Vol. 2, p. 357). The same Theatine was also the author of "The presence of the Virgin Mary in seven Angelic salutations corresponding to the hours of the Day" (Ibid.,). Any spiritual treatises that are mentioned are focussed on action rather than interpretation, such as the *Trattato dell'utile spirituale per quelli che sanno, o procurano limosine per li poveri infermi,* (Padova, 1705: ibid., Vol. 2, p. 231). A "Spriritual Agriculture" by the Theatine Giovan Batista Magnavacca, appears in Rome in 1643, and aims to teach how to weed out sin and plant virtue. Ibid., Vol. 2, p. 24, 25. There is also a *Summa Theologica,* "un corso de Teologia non Morale ma Scolastica e Dogmatica" (1655: ibid., Vol. 1, p. 115), which would no doubt have drawn on patristic church tradition whose credibility had been severely undermined in Reformation theology.

[73] Herbert, op. cit., p. 37-38. See also, R. DuMortier, *Saint Gaetan de Thiene,* p. 280.

[74] DuMortier, op. cit., p. 283. In this vision, upon seeing the Lord, the Saint began to drink a "delicious" healing liquid directly out of the lance wound in Christ's side: "Le saint but à longs traits une liqueur délicieuse que le dédommagea amplement de toutes les peines de l'âme et du corps qu'il avait souffertes."

[75] An adoration of the Eucharist practiced perpetually throughout the year, in commemoration of the forty hours that Chist spent in the tomb. The devotion began in Venice and spread throughout northern Italy, to Guarini's Modena. R. Dumortier, *Saint Gaetan de Thiene,* p. 233. The Theatines also had a special devotion to the souls in purgatory, condemned prisoners, the sick and poor. On the devotion to the souls in purgatory see the *New Catholic Encyclopedia,* Vol. XIV, p. 6; L. Herbert, *Life of St. Cajetan - Count of Thiene, Founder of Theatines,* p. xvi; see also DuMortier, op. cit., p. 265.

on a more spiritualist configuration, one that tends in the direction of absence, Guarini, with the Theatines, would partake almost obsessively in gestures that reified the spiritual in the material on a daily basis. "The spread of public adoration of the Blessed Sacrament at this period in Italy was due in large measure to their example and influence. The frequent exposition of the Sacrament and the brilliantly lighted and elaborately decorated altar to accompany such public veneration -- all was due to the initiative of the Theatines."[76] The Theatines' devotion to "the extraordinarily frequent reception of the Sacraments" and in particular the Eucharist,[77] is significant in that it was the site of another tumultuous Reformation debate: how to interpret Christ's own words, "This is my body, this is my blood."[78] Decrees on the Eucharist and on Transubstanciation were articulated by the Counter-Reformation in the Thirteenth Session of the Tridentine Council[79] and offer a way to speak about the persistance of God's real presence in the human realm, insisting that "after the consecration of bread and wine, our Lord Jesus Christ, true God and true man, is truly, really and substantially contained in the august sacrament of the Holy Eucharist under the appearance of those sensible things."[80] And of those who deny the "wonderful and singular change" that takes place in the Eucharist, and the entire presence of Christ in every consecrated host and cup, "let them be anathema."[81] So

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[76] Ibid., p. 127. A Theatine's description of the success of Catholic reform in Verona is described the following way: "Love for sacred things was increased and the majesty of the divine cult aided. . . . The morals, splendor and decorum of the diocese was renewed." J. Silos, *Historianum Clericonum Regularium a congregatione condita*, Rome, 1650. Cited in Kunkel, op. cit., p. 154.

[77] "The priests were exhorted . . . to say mass devoutly and were directed . . . as to the administration of the sacraments . . . Priests were urged, especially by Cajetan, never, in spite of their pressing studies and their frequent preaching, to omit saying their mass daily." Kunkel. op. cit., p. 48, pp. 84-86.

[78] Matt. 26:26-28, Mark 14:22-24, Luke 22:19.

[79] H.J. Shroeder, *Canons and Decrees of the Council of Trent*, op. cit., pp. 71-76.

[80] ". . . For there is no repugnace in this that our Saviour sits always at the right hand of the Father in heaven according to the natural mode of existing, and yet is in many other places sacramentally present to us in His own substance." Schroeder, op. cit., p. 73.

[81] Ibid., p. 79. The Thirteenth Session dealing with the tricky doctrine of the Eucharist and Transubstanciation adamantly stresses whole and complete coesistance of God's "true body" in the bread and wine with a conclusion in five canons, all ending with "let him be anathema."

too, Guarini shall explain transubstantiation in *Placita Philosophica*[12].

These observations regarding the Theatines coalesce in a general notion that to experience *praesens Deus* one needs to reaffirm the material presence of the body of God in the world in human terms and in human time. Baroque expression can be seen to opt for a language of material excess, an abundance of signs.[13] In contrast, the approach in the Reformation, more accepting of the body's absence and of the scriptures as the only legitimate carrier of meaning, would procede to suppress the sign, to weed it out. Images would be removed.[14] With this, one finds oneself treading in the province of the iconoclastic debate.

Between Image - The Chapel in the Context of the Iconoclastic Debates[15]

On a very immediate level, Guarini's chapel was a response to a human desire for presence, and is directly associated with the iconoclastic debate of the Reformation, by its very *raison d'être*, through the aforementioned role of Charles Borromeo in the broader context of the Counter-Reformation. The Archbishop of Milan, who patronized many pilgrimage churches, was influential in the Twenty-Fifth Session of the Council of Trent, where the decree which defended "the intercession and invocation of the saints, the veneration of relics, and the legitimate use of images"

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[12] "Corpus Christi in hotia, existit totum et toto, & totum in qualibet parte. . . ." *Placita Philosophica*, p. 797.

[13] "Here we hit the nerve-center of baroque: it is only able to manifest itself on a grand scale. . . . It is a kind of intoxication with which baroque architecture fills us. . . ." Wölfflin, op. cit., p. 86. The author points out the characteristics of the "baroque body," notably, the "massiveness, the enormous weight, the lack of formal discipline and thorough-going articulation, the increased animation, the restlessness, the violent agitation." Ibid., p. 82.

[14] A. Karlstadt, *On the Removal of Images*, 1522, is the first treatise admonishing the removal of images in churches. See D. Mangrum and G. Scavizzi, *A Reformation Debate*, where a translation of Karlstadt's text is reprinted.

[15] Christine Poletto sets her analysis of Jesuitical scenography decidedly against the backdrop of the iconoclastic debate. *Age et Pouvoirs à l'Age Baroque - Crise mystique et esthétique aux XVIe et XVIIe siècles* is a clairvoyant investigation into baroque notions of image, pain, death. The idea of the incarnation is well within the center of the debate which opposes Rome to the Reformation; the iconoclasts are represented as murderers of God, it is they who make the crucified images bleed." Poletto, op. cit., p. 21-22.

was formulated.[86] This fact draws a clear line between the SS. Sindone and the burning issue of representation in the Reformation debates. The reliquary chapel, in both its theological and historical genesis, explicitly unfolds the tension between *logos* and image.

Succinctly, the iconoclastic debate centers on a disagreement about what is allowed to be inserted between God and nature, in order to help believers sense God's presence. The debate is sited at the surface of the image itself, and asks the question, what indeed is taking place there—veneration or idolatry? The Counter-Reformation, even into the late seventeenth-century, encouraged a specific role of the visual and the tactile in worship. Teresa of Avila's belief that to love God was to love his images, and Karlstadt's stance that "Pictures are loathsome (and that) we also become loathsome when we love them,"[87] based on the Old Testament prohibition of images, summarize the iconoclastic debate of the sixteenth century, and delineate a contrast between tactile and spiritual vision.[88] Iconoclasts regarded images as useless and mute in comparison to Scripture, to which they had bestowed sole authority for truth.[89] In contrast, the Counter-Reformation saw images as assisting in the contemplation of God, and this is precisely what the Tridentine decrees set out to clarify.[90]

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[86] See Wright, op. cit., pp. 103, 191. Wright mentions Charles Borromoe's influential correspondance during the years 1562 and 1563. Not incidentally, the twenty-fifth session held under Pius IV, "On the Invocation, Veneration, and Relics of Saints, and on Sacred Images," concluded in December 1563. See *Canons and Decrees of the Council of Trent,* pp. 214-217. The Theatines' participation in earlier sessions of the Council of Trent, in particular that of the founder Cajetan, named apostolic notary by Pope Julius II (circa 1513) and that of the dynamic co-founder John Peter Caraffa, is referred to in Paul Kunkel's *The Theatines in the History of Catholic Reform,* pp. 35, 38.

[87] A. Karlstadt, *On the Removal of Images* (1521), op. cit., p. 20. Erasmus had also expressed such views, and probably influenced Karlstadt. See *A Reformation Debate,* p. 20, note 2.

[88] "You shall have no other gods before me. You shall not make carved or hewn images, or any likeness of any thing that is in heaven above, or the earth beneath, or that is in the water under the earth." Exodus 20:3, 4.

[89] Karlstadt, op. cit., p. 25.

[90] And there were those who considered images neutral, such as Luther, who challenged Karlstadt on this matter: Mangrum and Scavizzi, *A Reformation Debate,* p. 11; Johannes Eck, "On Not Removing Images of Christ and The Saints" (1522), would offer a more passionate rebuttal to the latter, as would Hieronymus Emser, "That One Should Not Remove Images" (1522), both of which appear in *A*

What is central to this discussion about Guarini and the SS. Sindone chapel is the site of the iconoclastic debate itself, the hinge point of matter and spirit, the Incarnation, for the controversy harks back to the moment when "Logos became flesh." Indeed, the sixteenth century debate which Charles Borromeo and the SS. Sindone chapel answer to had many prededents. In particular, the Byzantine controversy of the eighth century had been more purely concerned with the philosophical issue of Christ's nature and the ensuing questions of representability and *imagibility* and was not preoccupied with a realignment with Scripture as in the Reformation."[91] It therefore presents the problem of the image most clearly."[92] John of Damascus' eighth century elaboration of the justification of images would contain this central argument: "In former times God, who is without form of body, could never be depicted. But now when God is seen in the flesh conversing with men, I make an image of the God whom I see. I do not worship the matter; I worship the Creator of matter who became matter for my sake, who willed to take His abode in matter; who worked out my salvation through matter. Never will I cease honouring the matter which wrought my salvation!"[93] Defense of the image rested on the principle of the Incarnation, that God Himself had become Incarnate, that matter was somehow good and necessary for revelation.[94] "He who is without flesh, became flesh. The Word assumed density. The uncreated One was made. The impalpaple

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Reformation Debate, op. cit.

[91] E. J. Martin's *A History of the Iconoclastic Controversy* comprises a most competent and comprehensive source on the iconoclastic controversy. First sources on the eighth-century debate are found in Sahas' *Icons and Logos*, which presents in translation the *Acts of the Seventh Ecumenical Council of Nicea of 787*. There exists one earlier source: *Three Orations on the Images*, composed by Saint John of Damascus between 726 and 736. The text is presented in English translation by D. Anderson in *On the Divine Images*.

[92] Eighth-century iconoclasm focused its attack solely on images and pictures, and did not extend at all to other material symbolism such as the cross. Martin, op. cit., p. 128 - 129.

[93] John of Damascus, *On the Divine Images*, op. cit., p. 23.

[94] This was first argued by John of Damascus in the iconoclastic controversy of the eighth century: "visible things are corporeal models which provide a vague understanding of intangible things. Holy Scripture describes God and the angels as having descriptive form. . . . Anyone would say that our inability immediately to direct our thoughts to contemplation of higher things makes it necessary that familiar everyday media be utilized to give suitable form to what is formless, and make visible what cannot be depicted, so that we are able to construct understandable analogies." *On the Divine Images*, (circa 787) p. 20.

One was touched."[95] These precepts were invitations to represent, they sanctioned the elevation of matter as revelatory, and countered the exclusivity of *logos* as carrier of truth. Parts II and III of this thesis will examine the place of the experience of the senses in relation to Guarini's writings, and the nature of the relationship between matter and appearance in his work.

There is still of course the question of how an image is seen and venerated: iconoclasts were highly suspicious of what was in fact going on, there in the field between the gaze and the image's surface. If the Reformation was more purely concerned about idolatry, the earlier controversy was more preoccupied with the nature of the content of the image.[96] But then, did this representation, this *icon*, per force imply denial of the divine nature? Indeed, did gazing at such an image require one to "split the one Christ into two and give each one a hypostasis of its own," as maintained by those opposed to images?[97] On the other hand, was it possible to conceive of it in a manner that affirmed the "consubstantiality" of the visible and the divine? For did not Christ's own ambiguous words, "this is my flesh . . . this is my blood,"[98] spoken while holding up an un-fleshly host and cup, imply the possibility of true matter cohabiting with true spirit, fully fused in the visible realm? After all, "He did not say *Take; eat the icon of my body*."[99] From there, once it is established that complete fusion is possible, does it follow that human-made images can do the same, or has the image-maker "occupied himself in doing something that cannot be

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[95] *The Acts of the Seventh Ecumentical Council*, 256-D, presented in D. J. Sahas, *Icons and Logos - Sources in Eighth Century Iconoclasm*, p. 88. The Council, which took place in Nicea in 787, took the defense of icons in direct response to the iconoclastic Council of Constantinople of 754. Its text is structured as a point by point refutation of the acts of the iconoclastic Council, and thus preserves the content of the later, enabling knowledge of the arguments of each side.

[96] The question of the image was connected to a contemporaneous debate about the nature of Christ, or Christology, namely, whether Christ was man or divine, all of one (Nestorianism) or all of the other (Gnosticism), a confusion thereof (Monophysites), or of two distinct natures coexsting in Christ (Orthodox Christianity). See Martin, op. cit., pp. 124-130.

[97] From the iconoclastic Council of Constantinople (754), quoted in a refutation in *Acts of the Seventh Ecumenical Council*, 248E. Sahas, op. cit., p. 89.

[98] Matt. 26:26-28.

[99] *Acts of the Seventh Ecumenical Council*, 265-A, in *Icons and Logos*, op. cit., p. 94.

done, that is, with profane hands giving form to things that are believed with the heart and confessed with the mouth"?[100]

On the side of the defenders of images, there is yet further splintering of opinion regarding how one is to see and or venerate them, whether as *icons* or as prototypes.[101] It is here that the polemic advances into Guarini's territory, even into the present. St. Basil and St. Thomas Aquinas had advanced the notion of the 'prototype,' whereby the subject represented could pass on the veneration to the real subject in such a way that one was not idolizing the image, but *seing through it* in some way.[102] One could therefore venerate it as God Himself, without moral dilemma. Notions of levels of the veneration ranging from *dulia* to *latria*, where the first is a "lesser form of veneration" and the later reserved exclusively for God, was another way to evangelize the veneration taking place at the image's surface, and consequently to justify the cult of images.[103] However, the inherent relativity and intangibility of such gradations was problematic, for it was impossible to measure the appropriateness of how one sees the image.

In summary, the iconoclastic debates metaphorically underlined the possible tension that is apt to occur on the surface of an image. They also render very clearly the mystical depth of the surface, and evoke forms of both vision and veneration that begin in the tangible realm. Guarini is deeply concerned with vision, with the relationship between an object's "appearance" and its surface; an analogical transposition of the theological "image" of the iconoclastic debates and of architectural "appearance" in Guarini's theory of architecture will serve to enrich the

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[100] From the iconoclastic Council of Constantinople (754), quoted in a refutation in *Acts of the Seventh Ecumenical Council*, 248E. Sahas, op. cit., p. 81.

[101] See "The Theology of the Icon," Sahas, op. cit., pp. 80-96.

[102] See B. Mangrum, G. Scavizzi, *A Reformation Debate*, pp. 1, 8. Thomas Aquinas, *Summa Theologiae*, Pt II, Q. XXV, art. 1-4.

[103] "*Dulia* is the reverence accorded the saints, as contrasted to *hyperdulia*, the honour accorded the Virgin Mary, and *latria*, the worship reserved for God." *A Reformation Debate*, op. cit., p. 8. Before the Early Fathers elaborated *latria* (for God alone), *dulia* (for the saints), and *hyperdulia* (for Mary), Augustine had insisted on the distinction between worship of God and saint veneration. See also Wilson, *Saints and Their Cults*, op. cit., p. 3.

reading of the latter. The tension between image and surface is manifest in *Architettura Civile,* throughout its debates of perspective versus projective geometry, as will be seen further on. Although Guarini never addressed the theological debate on images per se, questions of vision and the image are broached on a spiritual plane, in his play, *La Pieta Trionfante,* in which a blind man recovers sight as he comes to faith.[104] In turn, physical vision is examined in *Architettura Civile* and *Placita Philosophica.* The latter also ponders metaphysical questions of the nature of light, and the relationship between vision and matter, which resonate with the icon dialectic. Questions of theological visibility and representation inherent in the shroud relic and the SS. Sindone reliquary are played out on yet one more register: that of the political representation of the Savoyan Duchy.

The SS. Sindone - A Palatine Chapel

"They ask me for just decisions and seem eager for God to come near them."[105]

The site and plan configuration of the SS. Sindone chapel directly beg questions of both temporal and spiritual representation. Its relic had been transferred by Emanuele Filiberto from Chambéry to Turin in 1578, twenty years after the city had become the capital of Savoy, when Piemont was retrieved from the French.[106] After migrating in and about the plains of the Savoya-Piedmont region since the thirteenth century,[107] the shroud would be received by a tempietto reliquary in the presbytery

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[104] *La Pieta Trionfante - Tragicomedia Morale,* Messina, 1660, the story of King Clodoardo of Denmark, who after a long peripetia, recovers both sight and his kingdom upon being baptized; op. cit, pp. 9-11.

[105] Isaiah 58:2.

[106] This was as a result of the Battle of Saint-Quentin (1557) and the subsequent treaty of Cateau-Cambrésis (1559). See Pollak, op. cit., p. 13.

[107] For a comprehensive history of the Holy Shroud, see Ian Wilson, *The Shroud of Turin.* See also Joe Nickell's more recent *Inquest on the Shroud of Turin.*

of Turin Cathedral.[108] Years would pass, and with these the reign of Carlo Emanuele I. Between homes, the shroud would be ushered along by sheer human urgency, continuing its transient course beyond the Cathedral, and into the confines of the adjacent Royal Palace.[109] Indeed, the Cappella della SS. Sidone was commissioned in 1655 by Carlo Emanuele II,[110] and the relic then rose to the level of the *piano nobile* of the Palace, inserting itself between the ducal residence and the Cathedral of Turin.[111] The location at the hinge of the Duomo and the Palace *(Figures 6 and 7)* pointed to a marriage of temporal and spiritual powers and was a marker on a trajectory towards the consolidation of the Savoyan Duchy as a sacred place and as an absolute monarchy.[112]

The intention is now to observe the chapel from both sides, from the point of view of the private Palace, and from the Cathedral of the city of Turin, to uncover the intricate relationships of presencing and representation orchestrated therein. This investigation attempts to understand the nature of both theological and political presence in Guarini's world, and the relations set up between them, in order to outline a "Baroque Body" that will illuminate the meaning of Guarini's chapel.

The SS. Sindone rotunda can be entered by three doors that are equidistant to its

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[108] Meek, op. cit., p. 62. In fact, before the construction of this *tempietto* in 1587, the shroud had been housed in a rotunda in the Royal Palace. Ibid, p. 62.

[109] The notion of sacred transience is solidly anchored in the Old Testament theme of the *presence of Yahve* migrating from tent to tent, on its way to the permanent home of the Temple, in which the Tabernacle was the concretization of divine Presence, as recounted in the Book of Ezekiel, 2 Samuel 7, 1 Chron. 23:26, Apocr. 21:3. See also R. Jan Van Pelt, "Philo of Alexandria and the Architecture of the Cosmos," *AA Files*, Vol. 4. The empirial practice, inaugurated by Constantine, of travelling at all times with a tent structure containing an altar is noted in Grabar's *Martyrium*. This tent was effectively a detachable component of the Palatine chapels, *ex poichiles othoges*, a surrogate that enabled constant proximity for the sovereign to a Christian altar, while at home or at war. Grabar, op. cit., Vol. 1, p. 560.

[110] On the shroud's transferral from Chambéry, and the history of the chapel, see R. Wittkower, *Art and Architecture*, p. 407; Nino Carboneri, "Guarini ed il Piemonte," *GGIB*, Vol. 2, p. 347; Pollak, op. cit., pp. 4, 14; Meek, op. cit., pp. 61-67.

[111] The location of the chapel is due in large part to the influence of Charles Borromeo, who desired a link to the Duomo. Carlo Emanuele I would have prefered an autonomous structure. See E. Battisti, "Schemata nel Guarini," *GGIB*, Vol. 2, p. 136, note 2.

[112] This is the subject of Martha Pollak's comprehensive study, *Turin 1564 - 1680.*

center. Symbolically, the two entrances from the Duomo occur on two points of an equilateral triangle that intersects the circle of the plan.[113] The third point of the triadic schema locates the third door, which connects to the Royal Palace. The vertical elevation of the chapel and the fact that it overlooks the church permit direct access to the sovereign's dwelling place, as well as public display of the relic from above. Thus SS. Sindone belongs to the Palatine Chapel type,[114] this "category of small sanctuaries, often graceful and carefully executed,"[115] often octogonal, inaugurated by Constantine and in the west by Charlemagne.[116] Constantine had certainly recognized the usefulness of relics in the consolidation of stately power.[117] Bishops would follow suit, assuming the role of custodians of relics and graves, aware of people's desire for sacred objects, and their need to "dwell lovingly" and die near them.[118] The Palatine chapel expresses this desire clearly, for besides being associated with the sovereign's dwelling place, it was usually endowed with unusually desirable relics, typically not a body part, but rather a piece of evidence directly tied to the site of Christ's birth or death, as of course was the shroud.[119] In the very specific way that these relics are organized architecturally in relation to the chapel and the court, they become emblems of princely power. The SS. Sindone fulfils amply

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[113] "Onde alfine la Cappella fu situata fra Duomo e Palazzo, nel luogo fatto solenne dall'incontro dei due poteri sommi di quel mondo. . . ." Mario Passanti, *Nel Mundo Magico di Guarino Guarini*, p. 165. Detailed geometrical studies of the hinge-location are also of much interest. Ibid, pp. 166-167.

[114] This theme is developed by Eugenio Battisti, who investigates the geometrical schemes in the SS. Sindone, in relation to antique symbolic configurations. Parallels are drawn therein between the SS. Sindone and the Holy Sepulchre of Jerusalem. See *Rinascimento e Barocco*, pp. 92, 93, as well as "Schemata Nel Guarini," *GGIB*, Vol. 2, pp. 135, 136, which draws on Nino Carboneri's research on the topic.

[115] Grabar, op. cit., Vol. 1, p. 559.

[116] Eusebius, *Life of Constantine*, chapter 22. Cited in Grabar, op. cit., Vol. 1, p. 560.

[117] For "The saint was the good *patronus*: he was the *patronus* whose intercessions were succesful, whose wealth was at the disposal of all, whose *potentia* was exercised without violence and to whom loyalty could be shown without constraint." R. Krautheimer, *Three Christian Capitals*, pp. 40-67. On the tenderness and devotion relics and their place in the exercise of power (and in reconciling the contradictions of episcopal wealth), see Brown, op. cit., p. 40.

[118] Peter Brown,"The Invisible Companion," *The Cult of the Saints*, op. cit., p. 50.

[119] A "first hand" relic added to the legitimacy of the Palatine chapel, ruler and empire. See Grabar, op. cit., Vol. 1, pp. 561, 564.

the requirements of the Palatine tradition. Its configuration recalls that of Aachen, whose reliquary chapel Charlemagne had filled with a very rich treasury of relics.[120] In both cases, the placement of the chapel on an elevated floor, at the level of the emperial and ducal apartments, permitted a view down to the church.[121] Such a configuration is in line with that of all medieval Palatine structures, composed most often of an atrium that connected the royal apartment and court with the chapel. Within the mindset of medieval catholicism, there is an understandable human motivation behind keeping the reliquary chapel at close range from one's bedroom: the healing power proffered by mere nearness to Christ is observed in many gospel narratives.[122] Beyond this, it is noted that the royal apartment complex also contained the court, and that the medieval practice of swearing on relics required the proximity of relics for the exercise of law.[123] In turn, the presence of valuable relics contributed to securing the confidence of the people. This principle would be operative in the making of the Savoyan capital.

The desire for royalty to demonstrate irrefutable continuity with the first events of Christianity had typically been a trait of the sacred palaces of Byzantium.[124] This may be for the simple reason that authentic ties were more realistically possible in the East than in Europe, because of geographic proximity to the first events. In the seventeenth century, the Reformers had elevated Scriptures as unique sources of

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[120] Grabar justily notes that beyond the miraculous value of the relics, the sovereign had a vested interset in them, for safegarding his personal spiritual well being. The relics also augmented his earthly power within a feudal structure. Graber, op. cit., Vol. 1, p. 563.

[121] Grabar mentions the example of a bishop emulating the princely practice: the Archbishop of Ravenna, Pierre II, built a reliquary-chapel attached to the third floor of his residence, in which to house the relics of the apostle Andrew, among others. See Grabar, op. cit., Vol. 1, p. 563.

[122] The perceived advantage for the sovereign to be near the people once buried is significant: he or she would then be on the receiving line of more prayers, and an alleviation of the purgatory sentence could ensue. Following this, the advantages of dissemination of the king's body among multiple burial places is clear, and was a funerary rite throughout the middle ages. On the removal of the heart and entrails of kings, in order to enable the dispersion of the body into manifold reliquaries, see Alain Boureau, *Le Simple Corps du Roi*.

[123] Grabar, op. cit., Vol. 1, p. 563.

[124] Grabar, op. cit., Vol 2, p. 564.

truth; they claimed the falseness of many of the relics and accused the Church of Rome for rupturing from Biblical truth with their attachment to patristic tradition.[125] It thus became all the more important for the Church of Rome to demonstrate their contuity with the Apostolic age or with the Old Testament. Filiation to the Temple of Jerusalem was thus sought out avidly.[126] By referring to the Holy Sepulchre and the Temple, architects drew lines between their buildings and authentic sources.[127] The age was threfore fascinated with the Temple of Solomon[128] and with Jerusalem's Holy Sepulchre, constructed by Constantine[129] *(Figures 2, 3, 4)*. The chapel of the burial shroud would strive to place Turin in a "topography" of theophanies, alongside Rome, Jerusalem and Constantinople, all of which were landmarks intimately associated with Christ.[130] At this point, one notes that the

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[125] A most interesting text on the Counter-Reformation which looks at implications for architecture is A.D. Wright, *The Counter-Reformation: Catholic Europe and the Non-Christian World*, 1982, especially the chapter "Puritanism of the right and Baroque effect."

[126] Wright, op. cit., p.3. Once again, Catholic predilection to tangible evidence is to be kept in mind in the Theatine's understanding of the role of geometry: refer to Part III. This is considered in relation to Guarini by Battisti, 'Schemat nel Guarini' op. cit., p. 126 and *Rinascimento e Barroco* op. cit., p. 278.

[127] This point is also made in E. Battisti, 'Schemata nel Guarini', op. cit., p. 136 note 2, and *Rinascimento e Barroco*, op. cit., p. 278.

[128] One thinks of Villalpando and the Escorial for example. On the importance of "Salomonism" in seventeenth century architecture, see J. A. Ramirez, "Guarino Guarini, Fray Juan Ricci and the 'Complete Salomonic Order,'" *Art History, Journal of the Association of Architectural Historians*, Vol. 4, No. 2, p. 180. "The tradition that the undulating columns of the original basilica had been brought as spoils from Salomon's Temple in Jerusalem was solidly entrenched."

[129] Holy Sepulchre, 326-335 A. D. See E. Baldwin Smith, *The Dome*, op. cit., p. 16. See Also R. Krautheimer, *Early Christian and Byzantine Architecture*: "The church of the Anastasis Rotunda, i. e., the Resurrection, rose in the courtyard behind Constantine's martyrium basilica, and it enclosed the sepulchre of Christ which Constantine had decorated. ... In the very middle of the structure - both its focus and *raison d'être* - rose the cone of Christ's sepulchre below Constantine's baldacchino." Krautheimer, op. cit., pp. 50.

[130] The work of Richard Krautheimer, *Three Christian Capitals - Topography and Politics*, is a fascinating account of the architectural manifestations of Christianity in Rome, Milan and Constantinople. The building of monuments such as St.Peters, St. Ambrose's churches in Milan and Constantine's constructions in Rome, Constantinople and Jerusalem (in particular the Holy Sepulchre taat he built just East of Christ's Sepulchre on Golgotha) comprise attempts to announce these cities as capitals of Christianity. Taking this further, one could see that the latter is a direct reflection of the degree of intimacy that the city shared with Christ: the places of death of St. Peter, of Constantine who was perceived as a Church Father in the East, Ambrose, vessel of God for the conversion of St. Augustine—all were endowed with priviledged closeness to early Christianity; for this reason, they each had the potential to become a *caput mundi*.

undercurrent of Guarini's chapel partook in the same endeavour as many contemporary works: remaking the Temple of Jerusalem, reclaiming it.[131] By receiving the burial shroud of Christ, Turin was placed on a direct line with the tomb of Christ in Jerusalem, and the SS. Sindone would thus reenact Constantine's *Anastasis Rotunda*. Like it, the SS. Sindone was a centralized structure, indeed, "a tholos with a conoid dome."[132] There are indeed many parallels between the Holy Sepulchre and the SS. Sindone; in particular, in both structures, the journey to Christ's cenotaph-tomb is prolonged by a change of elevation.[133] Their respective sequencing of stairs, colonaded antirooms, rotunda, and dome are strikingly analogous.[134]

Presence and Representation in the Savoyan Duchy

As a counterpoint to its establishment as a Christian capital, Turin was also being made (during the construction of the SS. Sindone chapel) into a powerful capital.[135] Martha Pollak has examined the transformation of Turin from "garrison town into the capital of an absolutist dynastic state, a transformation that took place in the

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[131] Guarini's own familiarity with the popular story that undulating columns from the original Temple of Solomon had been recovered and were in St. Peter's, is noted. He would even develop a Solomonic Order of his own."L'Ordine Corinto supremo lo faccio ondeggiante, il qual ordine non fu conosciuto da' Greci e Romani, che secondo alcuni si stupirono quando fra l'altre spoglie del Tempio Gerosoliminato furono portate alcune colonne torte, che finora si conservano nel Vaticano. . . ." *A. C.*, Tratt. III, cap. 8, oss. 3, p. 175-176. On the possible influence of Fray Juan Ricci's *Brebe trardo de Arquitectura acerca del Orden Salomonico Entero* (1663) on Guarini's "Ordine Ondeggiante," see "Guarino Guarini, Fray Juan Ricci and the 'Complete Salomonic Order'" in Ramirez, op. cit., Vol. 4, no. 2, p. 180.

[132] E. Baldwin Smith researches the question of whether the Holy Sepulchre was a domical structure, in order to place it in the tradition of domical martyria. The fascinating research is found in *The Dome - A Study in the History of Ideas*, pp. 16, 24-29.

[133] Eugenio Battisti notes this parallel. He also draws analogies between the ternary composition of the Chapel with that of the Temple of Salomon. "Schemata Nel Guarini," *GGIB*, Vol. 2, pp. 134-136, 142. See also E. Battisti, *Rinacimento e Barocco*, p. 272.

[134] The Holy Sepulchre unfolded "a flight of stairs, a colonaded propylaeum, an atrium, the martyrium-basilica, the rotunda of the Holy Sepulchre." R. Krautheimer, *Three Christian Capitals*, op. cit., p. 53. The author also notes the similarity of Constantine's own tomb in the church of the Holy Apostles in Constantinople to that of Christ, op. cit., pp. 3, 54, 67.

[135] See in particular "The Making of a Baroque Capital," in Pollak, op. cit., pp. 55-80.

remakably short period of 120 years, between 1560 and 1680," and outlines its position in "a larger system of representation and display of the dynastic ideology."[136] Emanuele Filiberto would have sensed the need to remodel Turin into a worthy capital, and sponsored the construction of many prestigious buildings, not least of which was the citadel and the SS. Sindone a century later.[137] The role of the chapel in royal rites was not negligible, being the nexus of a ceremonial path between the palace and the city. Weddings, funerals, and other religious processions all passed through this architectural arrangement of temporal and spiritual powers: the staging of the SS. Sindone, the Palazzo Reale and the Palazzo di Città.[138] "The Holy Shroud was exhibited at almost all dynastic festivities of the dukes of Savoy, reiterating the close ties between church and state."[139] In a manner very reminiscent of antique palatine chapels, the SS. Sindone chapel played an important role in the expression of "new forms of the exercise of power, new bonds of human dependence, new, intimate, hopes for protection and justice in a changing world."[140]

Christian mystery of a perpetually living God who had died, while in the flesh, and become intangible since the Ascension, is a model of contradictory sequences of presence and absence, of helplessness and power. As a structure, the Incarnation, Passion and Resurrection indeed required "doubling" of the body of Christ. As an image, the shroud relic records this doubling precisely, since it wrapped the Body in which mortality had transited to perpetuity. The passing on of immortal, divine power from one mortal Duke to the next presumes the capacity of a people's imagination to fathom the antinomy regarding permanence and impermanence, presence and absence. As demonstrated by Kantorowitz, the model of the "King's two bodies"

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[136] Pollak, op. cit., pp. 3, 8. The work is a comprehensive presentation of the growth of Turin during the period bracketed by the construction of the citadel in 1564, and the Contrada di Po (1680). Ibid., pp. 66, 137-138, 160.

[137] Pollak, op. cit., p. 14.

[138] Pollak, op. cit., p. 163.

[139] Once again, the work of Martha Pollak is a valuable source: for descriptions on the role of the chapel in ceremony, see Pollack, op. cit., pp. 137, 138, 160-164.

[140] Brown, *The Cult of the Saints*, op. cit., p. 22.

would easily enter the realm of the possible in the psyche of a people long accustomed to this notion by the power structure of Christianity itself.[141]

In summary, the Palatine chapel places two significant bodies together, in a dialogue between a natural entity that can die and a mystical one that cannot, a *figura veritatis* and *figura ficta*[142]. And Alain Boureau justily points out that the moment when the supernatural character of the royal body becomes apparent is at the moment of death, the moment when a cleavage is introduced between the two bodies. This supernatural quality is in fact made visible by the funeral celebrations themselves, "captured by a long mass centered on the eucharistic host-effigy whose consumption would ensure the sacred transmission of the perpetual body to the natural body of the successor."[143] The earthbound reliquary that occupies the centre of the SS. Sindone Chapel, coupled with the expansive dome that deploys itself directly above it, is an image of sempiternal power, much in the way royal funerary monuments and effigies of the fifteenth century had extended an image of perpetuity over one of mortality.[144] The superposing of a skeletal spoil below, and an effigy of the monarch, fully clothed in official regalia above, poignantly evoked the parting of the mortal body from the mystical body, the cleavage introduced by death. Similarly in the

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[141] This of course refers to Kantorowitz' *The King's Two Bodies*, a study on the the origins of the English state as traced back to a tradition of a monarchy of divine right. The author articulates the immortal body-politic of the king and the king's mortal body, in parallel with that of the mortal and mystical bodies of Christ, a model shown to carry the substructure of the modern state (composed of temporal leader and perennial people). In short, the Christian model of doubling the temporal and the spiritual ensures continuity of power, and more importantly, of presence of leadership. The author's reflections on royal effigies and funerary practices, in terms of a royal "super-body conjoined in some mysterious way to the king's material and individual body", are especially interesting in the present context. Kantorowitz, op. cit., p. 46.

[142] Kantorowitz, op. cit., p. 307.

[143] Alain Boureau, *Le Simple Corps du Roi - L'impossible sacralité des souverains français du XVe au XVIIIe siècle*, p. 25. The work, grounded in Kantorowitz' work, investigates the end of the "double body" structure contained in the conclusion of monarchies of divine right, in the aftermath of the French Revolution. It makes very clear that the doubling of the royal body was a discursive motif, a fiction in language, rather than something really believed in. See pp. 18, 19.

[144] This tradition is beautifully surveyed in E. Panofsky, *Tomb Sculptures*, which features many photographs of such dual representations of death. One notes in this context that the official announcement of the death of a French king by the town criers (up to the abolition of the monarchy) was "Le roi est mort, vive le roi!"

chapel, vertical layering of space makes explicit the transference of the terrestrial toward the heavenly realms. Through "representation" the mortal king and Christ can die without disrupting the continuity of their kingdoms on earth, or relinquishing their immortality in any way. Nonetheless, at some point, a physical spoil is left behind. Around these, an architecture of grief is called into being.

A Dialectic of Presence: the Baroque "Body Image"

The paradigmatic concern with representation and display in the baroque world has often been pointed out.[145] Maravall ties the adoption of illusionistic representational devices to a more general fascination for the novel, to palliate for depression: "The baroque proclaimed, cultivated and exalted novelty." Its tricks and effects "evoked wonder in and suspended the depressed psyche of the seventeenth century urban inhabitant",[146] for "in a world of deceptive perspectives, illusions and appearances, it is necessary to meet reality by way of fiction."[147] There is no doubt that the seventeenth century as an epoch was aware of the possibility of shifts between truth and appearance. Its fascination for distortion and illusion[148] had a corollary in the baroque individual's sense of personal impermanence and internal ambiguity in a changing world, indeed, an ambiguity which the baroque city exteriorizes, as Tafuri suggests when writing about Guarini.[149] The space between things could be filled

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[145] This theme is well conveyed in Pollak, op. cit., especially pp. 158-162.

[146] Maravall, op. cit., p. 227. On the "topos of the world as a stage, the human being as an actor," see ibid p. 199. The author develops an episteme of the seventeenth century around a profound sense of crisis of identity self-representation. See "The Worldly Structure of Life," ibid., pp. 173-204.

[147] Ibid., p. 199.

[148] See "The Social Role of Artifice," Marvall, op. cit., pp. 225-247. On urban theatricality and city as "appearance" See Pollak, "The Theatre of State," in Turin 1564 - 1680, op. cit., pp. 151-192. On illusion in representation, see especially F. Siguret: L'Oeil Surpris - Perception et représentation dans la première moitée du XVIIe siècle.

[149] "L'architetto consuma cosi al suo interno il dramma creato dalla sua ambigua posizione in un mundo anch'esso ambiguo, instabile, teso fra opposte sollecitazione e in rapida trasformazione, rinunciando presino a trovare per sé stessa una collocazione integrata nello sviluppo della città barocca." Manfredo Tafuri, "Retorica e Sperimentalismo: Guarino Guarini e la Tradizione Manierista," GGIB, Vol. 1, p. 686.

with truth, deception or simply wonder.[150] Guarini is well aware this, and his theory of architecture will be dedicated refraining from "fooling the eye."[151] The ultimate space of baroque speculation is that between life and death. Appositely, the baroque explored spectacle's power to cause cleavage between appearance and rec‘ .y in precisely this space, as is manifest in funerary festival. The beautiful and elaborate rites silently tell of a melancholic awareness that behind the screen is the threat of the body's absence.[152] In this "theatre of suffering,"[153] death offered itself to representation, exceeding the limits of the tomb, "expulsed from the interiority of the church and spread on the open surface of the city,"[154] through funerary festival and its temporary architectures. However, despite glorious representations of death, recurring plagues and advances in medicine had drawn a disturbingly clear picture of what awaited the body in death, and one was more aware of the finitude of corporeal life than ever before.[155] The SS. Sidone was thus built at a time when the question of one's fate in death and the threat of bodily absence, were exacerbated. In contrast to illusion and artifice, the chapel would aspire to configure a space of transcendence built with geometrical principles that were steady and sure, and could hope to assuage the individual's worry in front of death. Finally, because of its relic, the SS. Sindone is a dual theophany, a marker of divine presence and a recognition of absence. It is both reliquary and cenotaph.

Pietmond in the seventeenth-century was the repeated the site of plagues, and the

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[150] On Jesuitical "wonder", see Maravall, op. cit., p. 239.

[151] *A. C,* Tratt. I, cap. 3, oss. 10.

[152] Werner Oechslin's *Architecture de Fête* provides ample illustration of the demonstrative aspect of "festival apparatus," a collective experience aimed at overcoming isolation, and the ultimate separation of death itself. Oechslin, op. cit., pp. 30, 48. On baroque funerary festivals, see also Maravall, op. cit., and for descriptions of funerals in the Savoyan Duchy, see Pollak, op. cit., pp. 154-155.

[153] Pollak, op. cit., p. 163.

[154] C. Potetto, op. cit., p. 115.

[155] A link is drawn between advances in anatomy and macabre icongraphies of the baroque in Maravall, op. cit., p. 65. See also 'La Mort Disséquée,' in *Art et Pouvoirs à l'age baroque*, op. cit., pp. 116-117.

battleground for French, Spanish and Italian armies.[156] Plagues in particular would remain a salient fold in the portrait of the "baroque body" in western Europe, a body whose material being was at all times threatened with loss of mass and flesh. A severe epidemic of the bubonic plague even led to the abandonment of Turin between the years of 1630 and 1632 as seat of the court.[157] The heightened vulnerability of both the individual and collective body contributed to a general longing for the "real presence" of God. It could be suggested that Theatines' cultivation of devotion to the Host was a response to increased fragility and rarification of flesh, and that it affirmed the mortal body by implication[158]. In conjunction with the development of medicine, the plagues contributed to the generation of a new "body-image" for the seventeenth century. Julia Calvi writes: "The open cadavre, a dualistic image of perfection and decay, became the most genuine momento mori of the time; the body symbolized semi-divine humanity and its inevitable destiny of corruption.[159]" Medicine emerged as a model of knowledge of the human being;[160] this was suggested by Guarini himself when he wrote "omnes artes vel a Mathematica, vel a Philosophia, vel a Medicina dependent."[161] In such light, it is not incidental that Charles Borromeo's pilgrimage to the Shroud, which triggered the building of the SS. Sindone Chapel, was a response to a plague in his

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[156] "The body, unit of vital va'ue, counts and is counted. Survival, continous victory of the individual, haunts men. Conversely, the ennemy must perish in its flesh, lose its population, rarify itself, exhibit by mutilation the visible end of his body." Boureau, *Le simple corps du roi*, op. cit., p. 51.

[157] The city lost half its population to death or exile at that time. See Pollak, op. cit., pp. 85-89. On the plague in baroque Europe, see also Maravall, op. cit., p. 124.

[158] This was the case in the Renaissance, when plagues triggered "an extraordinary desire to contemplate the Host, site of mysterious and cyclical renewal of the Christic person." Boureau, op. cit., p. 53.

[159] Julia Calvi, *Histories of a Plague Year - The Social and the Imaginary in Baroque Florence*, p.

[160] Similarly, Maravall writes "Medicine was the closest model used to express a possible system of knowledge regarding human things of the baroque type; it also had to do with human beings. ... Many writers of the seventeenth century, including Descartes, believed in drawing upon medicine for ways to govern human conduct." op. cit., p. 65.

[161] *Placita Philosophica*, p. 213. Several treatises on the plague were published, on written by the ducal physician, *Trattato della peste e pestifero contagio in Torino*, appeared in 1631. See Pollak, op. cit., p. 86, 208. On the role of the plague in the formation of the baroque psyche see ibid pp. 85-89.

city of Milan.[162] Contemplation of the Host, practices of ex-voto offering, of construction of martyria, may be viewed as panacea for the fear generated by the threat of death, i.e., of absence of the body. The Anatomical Theater of Padua, built one century before the Chapel, stands as a vivid counterpoint to the chapel: in it the cadaver rose out of the center of the floor of the elliptical space on an operating table.[163] As medicine delved into the darkness of the cadaver, the body had become a site in itself. The cadaver's inescapable presence, and its inability to retreat from visibity on its own, is the antithesis of the resurrected body of Christ, capable of ascension and (almost) traceless disappearance.[164] Here again, the SS. Sindone is emblematic: it was the fruit of an ex-voto offering for the plague of Milan, and in this sense, it expressed a hope for preservation in the context of the body's immanent end.[165]

Conclusion I

The shroud relic distinguishes itself from other relics and icons in that it is does not lean one-sidedly toward the camp of the body, but actually contains the tension itself. As an *acheiropoïeton*, the shroud stands at the threshold of flesh and word, recording the "having been there" of Christ's body, and in this way fits into a discussion on Reformation and Counter-Reformation debates on relics and images. The chapel of the Holy Shroud constitutes a reflection on the retreat of the Body from the world at a precarious moment in the body's history: a time where it stood wavering between

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[162] Meek, op. cit., p. 62. See also Pollak, op. cit., pp. 86-89.

[163] Inaugurated in Padova in 1584; see "Le théâtre anatomique de l'Université de Padoue" in *Les siècles d'or de la médecine*, p. 106. Engravings in J. G. De Lint's *Atlas of the History of Medicine* illustrate development of the oval anatomical amphitheatre in the XVIIth century, and demonstrate clearly the migration of the body to the public domain of theatre: the shape was a response to the need for crowds to gather around the body, and see it well. Thus the anatomical theater was often built on the model of the geometry of the eye, which evolves concentrically outward from oval to circle - a principle studied by Caramuel de Lobkowitz and by Guarini. E. Guidoni also draws this analogy in "Modelli Guariniani," *GGIB*, Vol. 2, p. 282.

[164] With the exception of the shroud "trace."

[165] In that Charles Borromeo's *ex voto* pilgrimage was the indirect cause of the chapel. Meek, op. cit., p. 62. See also Pollak, op. cit., pp. 86-89.

emphatic presence and utter absence. It is interesting to think of Holbein's *Dead Christ* as a counterpoint to the chapel. Like the painting, the chapel refers to a "depressive moment" of the soteriological journey. If the enclosed horizontality of the latter forbids the "promise of the beyond," the exalted and high dome of the former announces transcendence.[166] The Reformation's emphasis on the intangible forces of grace, faith and the Word, for redemption of the soul, was contrasted by the Theatines' abiding preference for tangible material mediation and eagerness for *praesentia Deus*.[167] These oppose the extrication of matter and idea, which are the ultimate end of iconoclasm.[168]

The late seventeenth century saw the human figure deliver itself to an increasingly radical form of self-consciousness. The proliferation of human dissection in the schools of Padua and Leiden,[169] coupled with the disclosures of the natural sciences, contributed to the forging of an informed, non-symbolic body-image open to rational

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[166] Julia Kristeva's reading of Holbein's *Dead Christ* (1522), as a hingepoint of the iconoclastic debate, "minimalist" in its tremendous sobriety, but still hanging on the edge of the figural. See *Soleil Noir - Dépression et Mélancholie*, pp. 119-150, and "Holbein's *Dead Christ*" in *Fragments for a History of the Human Body*, pp. 238-269. This interpretation provocatively places the crisis of figural representation in painting in the sixteenth century. If the quality of restraint found in the painting signals a bifurcation on the path of figural representability (a quality also carried in the Shroud), subsequent Mannerist and Baroque architecture could be seen as opting for the "fleshly" side of this division, the side of hyper-representability and material excess, with the SS. Sindone remaining on the dividing line. J. A. Maravall mentions another example of baroque sobriety, Martinez Montanes' *sculpture Cristo de la clemencia*, "soberly represented with minmal signs of violence, serenely detained in death." *Culture of the Baroque*, p. 209.

[167] One has only to think of the mediative mysticism found in the sixteenth and seventeenth centuries, that of Teresa of Avila, John of the Cross, Philip Neri, Charles Borromeo, Ignatius, who all had in proscribed to a mystical path which took deep account of the structures of the human world. See Wittkower, *Art and Architecture in Italy*, p. 25. Maravall's assessment of St. Teresa and St. John of the Cross as "anti-baroque" is noted, and serves to add a layer to the complexity of the period to which Guarini belonged. Maravall, op. cit., p. 11.

[168] Even the eighth century iconoclastic controversy identified the problem of the rejection of images: "Iconoclasm, when carried to its extreme, results in Docetism, where God merely appears to use a body of flesh and then casts it away as so much dross." D. Anderson, introduction to *On the Divine Images*, p. 10. The reverberations to a purely mental construct and of matter as secondary are of course echoed in Cartesianism.

[169] J. D. De Lint, *A History of Anatomy*.

representation.[170] The anatomical theatre would be a prevalent mid-seventeenth century architectural counterpoint to the churches, with its novel oval-shaped plan.[171] It is interesting to remark that one finds elevated in the baroque epoch all possible responses to the bodily remain: this is a time both of elaborate funerary celebrations and rites,[172] and of the flowering of the dissecting theatre.[173] There is really a question in front of death as to what to do with the corpse: is one to prepare the remain for an afterworld, commemorate its "having been," or open it up to study it? The previous investigations into the theological landscape of the chapel and its relic has delineated a constant tension between *logos* and matter. This tension, multiplied by the historical context of SS. Sindone, yields a poignant architectural instance that revolves around the liminality of the Incarnation. How in turn this liminality is played out architecturally, such that one is at once highly attuned to presence and deeply aware of the near end of matter, shall be the subject of the following chapter.

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[170] On this subject, see M. Foucault, *Les Mots et les Choses*, in particular the Preface, and pp. 221-224.

[171] The many engravings of seventeenth century anatomy theatres contained in J. G. De Lint's *Anatomy of the History of Medicine* show the recurring "new form of the dissecting room," so well suited to the surrounding of a recumbant body, p. x. Reflections on the parallelism of the *theatrum anatomicum* and Guarini's centralized plans, "theatrum architectonicum," are offered by Enrico Guidoni, "Modelli Guariniani," *GGIB*, Vol. 2, p. 270,282, fig. 12.

[172] W. Oechslin's study of festival architecture in the sixteenth and seventeenth centuries contains a fascinating look at the *mise en scène* of funerary rites. See "L'Architecture de fête et le spectre élargi de l'architecture," in *Architecture de Fête*, pp. 80-118.

[173] On the "medicalization" of the baroque body: see Maravall, op. cit., p. 65.

The SS. Sindone Chapel invites a range of interpretations and metaphorical readings, as evidenced in the writings of many observers. For instance, the dome has been read as an image of the crown of thorns, with the sinuous lines of open-work dome emulating the pattern of flowing blood on a cranum.[1] Similarly, the flattened volutes at the base of the circular window frames in the pendentives have been interpreted as thematic of "the folding of the shroud,"[2] and the weave of the dome as an analogy to the weave of the linen itself.[3] It has been suggested that the sequences of light and dark and the geometries of the plan symbolize the orbits of the heavens at the eclipse that occured at the moment of Christ's Passion and death.[4] Some have described a sense of anguish issuing from the black marble chapel,[5] while others see release into a space of infinity upon looking at the dome.[6] Inscribed with an iconography of the instruments of the Passion of Christ, notably crowns of thorns woven into the capitals of the pillasters in the main chapel, and with its play of light, the SS. Sindone lends itself to being read as a homily in architecture of the events

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[1] Ann-Marie Boys, "Transubstantiation in Guarini's SS Chapel," ACSA Conference Montreal, March 1994.

[2] J. Gargus, op. cit., p. 125.

[3] Gargus, op. cit., p. 127. This analogy evokes the etymological unity of construction and weave, *texere*, and in this way the chapel is like its shroud–textile and texture. In a broader context, this analogy has been studied by Ewa Kuryluk, who draws metaphorical parallels between skin, surface and light: "in Hebrew, *skin* and *light* are virtual homonyms. This may explain the reason why . . . God explains to Adam that in paradise he was clothed in "bright light," but on earth he'll wear a "body of flesh, over which I spread this skin, in order that it may bear cold and heat"; and why throughout the Old and New Testament, light, skin and garment are often used as synonyms." *Veronica and Her Cloth*, op. cit., pp. 179-198.

[4] Fagioli, "La Sindone e l'enigma dell'eclisse," *GGIB*, op.cit., Vol. 2, pp. 205-207. See also Gargus, op. cit., p. 128. On the geometrical schemes as astronomical charts, E. Battisti, "Schemata nel Guarini," *GGIB*, op. cit., Vol. 2, p. 117.

[5] Adreina Griseri has proposed a reading of subconscious anguish: "nuovo modo di proporre la venerazione della Sindone, come regno ansioso delle ombre, e queste corpose vischiose." *Le Metamorfosi del Barocco*, p. 197.

[6] "Architectural vision pushes the limit of constructinal resources in striving to produce the impression of infinity." S. Giedion, *Space Time and Architecture*, p. 124.

surrounding Christ's entombment and Resurrection.[7] With its iconography of hearts, greek crosses and stars, shells, crowns of thorns, and geometrical motifs, the chapel resists closure of meaning. This chapter investigates how the theme of the hinge between incarnate presence and absence comes to be expressed in the SS. Sindone Chapel. The Incarnation implies a migration from invisibility to the tangible realm, and translates into questions of distance and proximity, solid and void, darkness and light, in architecture. In a first stage, an experiential account focusses on the idea of spatial distanciation and delay, and on the ascent to the reliquary: a pilgrimage journey. Secondly, a series of architectonic elements, both explicit and latent, are examined with regards to their respective roles in creating an experience of presence and absence in the chapel. These are the pendentives, the dome, the occupied center, and the notion of geometrical delay.

A Brief Description

From the exterior, the SS. Sindone Chapel reveals only a weaved dome rising out of the intersection of the Duomo and the Royal Palace. It thus has no exterior façades except the windowed wall, provided for the draping of the Shroud, which faces the interior of the San Giovanni Duomo. In this way, it is an architecture of pure interiority, a rotunda carved out of the adjoining buildings as shown clearly in the plan *(Figure 6)*. Its elevated location on the *piano nobile* of the Palazzo and the approach to it, by two stairs from either aisle of the Duomo or by the Royal Palace, were discussed in Part I *(Figures 6 and 7)*. The geometry of the plan is thus a circle inscribed with an equilateral triangle formed by the three entrances.[8] The construction of the SS. Sindone Chapel had been underway for ten years when

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[7] Eugenio Battisti, *Rinascimento e Barocco*, pp. 273-280.

[8] On the meaning of the triadism of the chapel, see E. Battisti, "Schemata del Guarini," *GGIB*, Vol 2, pp. 119-120. The recurring triangle in the plan, iterated on the large scale of the three equilaterally spaced entrances *(Figure 6)* and on the small scale of the ribbed domes of the anterooms, has often been considered in relation to the Trinity: "The whole building therefore assumes an emblematical quality: in ever-new configurations the all-embracing dogma of the Trinity is reasserted." R. Wittkower, *Art and Architecture*, p. 410. Interestingly, the circular plan overlapped with an equilateral triangle was also a persistent early Chirstian funerary architecture, i.e.: rotundas adjoined by three equidistant apses. On the *cellae tricorae* see Grabar, op. cit., Vol. 1, p. 102-119. Hexagonal martyria are also recorded, ibid, p. 141-152.

Guarini was appointed engineer to the project by the Duke, in 1667.[9] Succinctly, the location of the stairs, the raised elevation of the chapel, and the central drum up to the cornice above the first Order, were extant when Guarini began his work.[10] He would subtly inflect the rectilinear geometries of the existing configuration, namely "la scatola cilindrica inerte, gli scaloni rigidi, le colonne distribuiti a intervalle uniforme," bringing curvature to the stair and introducing circular anterooms at each of the tree entrances.[11] He would of course ensure the vertical development of the chapel, above the first Order, and build a dome. The material is polished black Fabbrosa marble below, and rough hewn lighter stone above the first cornice. This surface gradation is one of the reasons which underlies Passanti's naming the three vertical sections of the chapel as *zona terrena, zona mediana,* and *zona celeste.*[12] These three articulations of the section correspond respectively to the rotunda at the level of the reliquary, the conoid of the pendentives, and the realm of the dome. The cornice between the latter two comprises a marked incursion into the section, indeed a "caesura" above which extend a ring of six serlianas and an ambulatory.[13] These effectively raise the dome high above the cornice. The dome itself is hexagonal, constructed of six rows of six eliptical arches with windows set deeply into each of them. At the apex, an oculus encircles a dove and a radiating gold sun. Two Corinthian Orders anchor the geometry of the chapel and antirooms: a major Order of embedded pilasters in the chapel, in circular anterooms and in the stairs, and a minor order of detached round columns in the serlianas of the chapel and in the

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[9] Guarini's appointment was in response to concerns about the integrity of the structure. Meek, op. cit., p. 67.

[10] These had been designed by Carlo di Castellamoate followed by his son Amadeo di Castellamoate (appointed by Carlo Emanuele II in 1655) and Bernardino Quadri who took over in 1657. The genesis of the project occurred earlier, but very little was actualized before Quadri's design was put into execution in 1657. Details of the history of the chapel's construction are found in Meek, op. cit., pp. 62-64; R. Wittkower, *Art and Architecture,* p. 407; Nino Carboneri, "Guarini ed il Piemonte," *GGIB,* Vol. 2, p. 347; Pollak, op. cit., pp. 4, 14.

[11] Nino Carboneri, "Guarini ed il Piemonte," *GGIB,* Vol. 2, p. 347. The article outlines the precise configuration of the chapel when Guarini began work. Meek presents a detailed history of the successive chapel designs in his monograph, pp. 62-67. See also Umberto Chierici, "Guarini A Torino," in *GGIB,* Vol.1, pp. 364-365.

[12] Passanti, *Nel Mundo Magico di Guarino Guarini,* op. cit., p. 180.

[13] Gargus, op. cit., p. 124.

anterooms.

The distance of pilgrimage

A long walk down the lateral aisles of the Duomo to the black marble portals of the staircases enunciates the first stage of the "therapy of distance"--the pilgrimage journey.[14] Ascent occurs in relative darkness in relation to the daylight of the streets of Turin and the expansive white interior of the Cathedral. As one rises, entrusted into this darkness, space seems to recede into obscurity behind the firm grasp of a cold marble handrail. The treads of the continuously run staircase are rounded, and the ceiling vaulted and adorned with shells and intumescent friezes. On either side, the stepped increments of the cornice is recorded above by the ribs of the barrel vault, and although parallel in section, the ceiling and the slope of the stairs distinctly seem to converge toward the top. The continued curvature of stair and ceiling contribute to creating a sense of englobing space, echoing each other.[15] Taken by the steepness of the continously run stair, one experiences progressive absorption into space. A sequence of vacant niches alternating with embedded, flouted pillasters inflects the walls of the stairs all the way to the summit. These are intersected at hand level by a rounded reveal and ballustrade set into the wall's surface. As nothing ever detaches itself completely from the wall, one has the impression of being inside a "deep surface" made of recessions and accretions ineluctably moulded together. Guarini has written about the tendency of darkness to cause space to condense perceptually, and how without shadows, space cannot extend[16], and with reduced

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[14] On pilgrimage as "une thérapie par l'espace", see Alphonse Dupront, *Pèlerinages et lieux sacrés*, cited in Brown, op. cit., p. 87.

[15] In *Architettura Civile*, Guarini insisted that the stair tread should lean somewhat, not only for water to drain well, but because this brings softness to sight, and ease to the foot: "un poco di pendenza . . . e ciò si fa perché l'acqua, se per sorte vi cada, possa scorrere, ed anche alla vista si renda più dolce, che in quanto al piede non toglie la difficoltà di salire." See "Della pianta delle scale," in *Architettura Civile*, Tratt. II, cap. 7, oss. 9, p. 105.

[16] "Il luogo ovvero oggetto più illuminato sembra maggiore di quello che sia l'oscura . . . Perché l'ombra degli oggetti maggiormente fa distinguere le prominenze, e tutti i loro risalti, perciò la vista maggiormente si stende." A. C., Tratt. III, cap. 21, oss. 7, p. 245.

"vivaciousness" of color, distance cannot be judged."[17] The stairs thus endow the pilgrimage journey with duration, and introduce delay between visitor and reliquary. As if to compensate for the emptiness of the wall niches, a heart-shaped accretion of black marble emerges beneath each of them.[18] Voids soon to be filled and masses soon to be drained: matter and space vibrate at their interface. The curvature of the stair treads in plan, the curves of vault, reveals and mouldings, the humid shine of the stone, the lack of direct light, the uninterrupted use of black marble on all surfaces--all coalesce in an acqueous atmosphere that leaves the visitor with an overwhelming sense that the stairs are swelling."[19] The melded forms and loss of precise contours have the effect of full spatial envelopment on the visitor and create a sense of "pure depth".[20] Merleau-Ponty's description of "night" as a realm without profiles, deploying no distance between itself and its inhabitant, comes to mind.[21] The journey to the chapel is not the path of least resistance, nor can it be described as transit through "empty" space: the air is thick in this continuously run stair. Here, to be sure, the "visible is cut out of the tangible," and herein "every tactile being in

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[17] "Quae paruâ luce videntur, viciniora apparent: vivacitas ergo colorum efficit, ut oculus se videre remotiora aestimet." *Placita Philosophica*, p. 721.

[18] It could be argued that the recurring heart motif in Guarini's work, notably those adorning the walls of the SS. Sindone stairs, was tied to this new devotion. Guidoni advances a symbolico-anatomical interpretation, which sees in the heart motif as expanding into a thematic of the vital movement of life, the pulse, and acting as a dynamic principle in Guarini's "pulsating" and undulating forms in plan. See E. Guidoni, "Modelli Guariniani," *GGIB* Vol. 2, p. 231.

[19] The "watery" aspect of this dark lower portion evokes certain gnostic ideas described in texts of the Nag Hammadi Library: *The Paraphrase of Shem*, (VII, 1) unfolds the drama of Light, Darkness and Spirit, presenting the lower realm as a womb, op. cit., p. 310. *The Treatise on Resurrection* (I, 4), presents the resurrection journey as necessarily relying on a dark moist passage (through the throat) before arriving at knowledge of the invisible, lending another reading of Guarini's stairs: "The Savior swallowed up death. . . . He transformed himself into an imperishable Aeon and raised himself up, having swallowed the visible by the invisible, and he gave us the way to our immortality. . . . This is the spiritual resurrection that swallows up the psychic in the same way as the fleshly." Op. cit., p. 51.

[20] As "the thickness of a medium without a thing. . ." M. Merleau-Ponty, *Phénoménologie de la Perception*, pp. 307-308.

[21] "La nuit est sans profils, elle me touche elle même et son unité est l'unité mystique du mana. Même des cris ou une lueur lointaine ne la peuple que vaguement, c'est tout entière qu'elle s'anime, elle est une profondeur pure sans plans, sans distance d'elle à moi." M. Merleau-Ponty, *Phénoménologie de la Perception*, p. 282.

some manner promised to visibility."[22]

The telluric aspect of the ascension is further accentuated by a narrowing of the stair at its summit, created by the encroachment of the column bases of the subsequent spaces. These are circular anterooms which collect the visitor at the end of the ascent. In these relatively small transitional spaces, the dome of the chapel is presaged by a muted light which filters into the darkness of the stair; within these, there is time to adjust to a transition in light levels resembling that of the passage from night to day.[23] A dual presence begins to be hinted at: the anterooms correspond programmatically to the entrances, and therefore perform both a role of entrance and exit, as well as articulate the metaphorical encounter of the figures of Duchy and City.[24] In the anterooms associated with the Duomo (for there is also an anteroom to the Palazzo), the transition is registered by an encroachment into the circular floor by the last three treads of the stair; in turn, two undulating steps overflow onto the circular plan from the raised chapel.[25] These additive and substractive elements create an architectural reciprocity between the realm of the pilgrim and the realm of the reliquary: the anteroom floor concedes to both the stair and the chapel, expressing a belongingness to the two realms, and portending a meeting of the figure of the pilgrim and the figure of the tomb.[26] The "mixing" of

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[22] M. Merleau-Ponty, "The Intertwining - The Chiasm," in *The Visible and the Invisible*, p. 134. This notion of "incrustation of the tactile in the visible" is another aspect of the "spatial fusion" in which spatial cells "melt into each other," as described by Meek, op. cit., p. 15; and that is often written about in relation to Guarini's architecture.

[23] These measure twenty feet in diameter; the encroachment of the columns reduces the floor area to fifteen feet. See M. Passanti, *La Cappella della Santa Sindone in Torino de Guarino Guarini*, fig. 13.

[24] Marcello Fagiolo also suggests that even though the geometry of the chapel and anterooms is guided by the equilateral triangle, and that associations to the Trinity can readily be made, the connection between triangle and Trinity is insufficient. Fagiolo emphasizes the idea of *"doubling."* The latter describes "una figura che rispecchia insieme la perfezione umana e quella divina, e ora diviene lampante il referimento alla duplice natura del Cristo." "La Sindone e L'Enigma dell'Eclisse," *GGIB*, op. cit., Vol. 2, p. 207.

[25] This anteroom does not in fact complete its circular plan, and is only manifest in the chapel.

[26] In his analysis of Guarini's recurring "linguistic structures" of Guarini's architecture, Paolo Portoghesi sees this moment in the anteroom floors as an instance of *compenetrazione*. See "Il Linguaggio di Guarino Guarini" in *GGIB*, Vol. 2, p. 9-34.

light from the dome with the darkness of the gaping stair that happens here, reaffirms the doubling of these spaces. And finally, it is also here that a dialogue between emptiness and fullness is inaugurated: the introduction of a Corinthian Order at a distance from the wall, paired with the embedded *pilastrate*,[27] sharply contrasts the "pure depth" of the stairs.[28] The freestanding columns allude to a disengagement from the walls and to detachment from surface, thus foretelling the dialogue of proximity and distance that awaits in the chapel, through the placement of the reliquary in its center. One accedes from here to the chapel proper, the realm of the tomb.

The core of the chapel is inappellably occupied. A reliquary repeats the distancing of the ascension within itself, "playing out the long delays of pilgrimage in miniature" by spatially enlarging the relic--bringing it closer, while keeping it unattainable at the same time, central and elevated on a ballustraded podium.[29] Above, the open-work dome accelerates vertical space and suffuses the chapel with light,[30] confirming groundedness of the pilgrim at the foot of a tomb. Because of the central location of the reliquary, one is given to circumnavigating around it at all times, simultaneously distanced and invaded its occupant, an imposing if silent presence. All around, the wall of the rotunda advances and recedes, with the Order of nine embedded pilasters advancing into the space.[31] In the intercolumnar spaces, alternating serlianas recede behind the wall, and the cylindrical anterooms advance into the space supporting ballustraded balconies. The radial plan, emphasized by the patterning of the floor, relates all of the undulations of the surrounding wall to the center, in such a way that the reliquary itself seems to recede and advance in space.

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[27] "... le contracolonne o pilastrate che escano fuori del muro per acompagnar le colonne ... si debbono fare ... senza diminutione. ..." *Architettura Civile*, Tratt. III, cap. 12, oss.1, p. 205.

[28] The Corinthina Order was extant in the main rotunda when Guarini took over from Castellamonte and Quadri. See Meek, op. cit., p. 71.

[29] Brown, *The Cult of the Saints*, op. cit., p. 87.

[30] The height of the dome is approximately one hundred and forty feet: see M. Passanti, *La Cappella della Santa Sindone*, p. 26.

[31] One is removed because of the opening to the Duomo.

An empathetic slippage between pilgrim's body and Body of Christ is implicit in the architecture, for in the first place, as Eugenio Battisti has justly remarked, the stairs provide an experience of reversal, an ascension into darkness: "instead of ascending, whosoever enters has the impression of descending into a crypt."[32] The ascension therefore establishes the chapel as a "raised crypt," a crypt un-earthed; hence one's presence in it is somewhat forbidden and impossible from the beginning. This effective inversion of celestial and earthly realms is emblematized by a radial pattern of stars in the stone floor. A dove centered in a golden sun marks the zenith of the dome, making the reliquary its nadir. The unique point of visual stasis, under the apex of the dome, is not accessible; one has therefore never truly arrived, remaining on the periphery of a moment of standstill. Finally, at a most primordial level, the empathetic experience is encouraged through the inversion of inside and outside. As mentioned above, the chapel has a very subdued, even minimal, exterior expression, because of its imbrication into the Duomo-Palazzo network. The dark marble rotunda is a space of utter interiority, exept for the occupied center. Indeed the reliquary summons an experiential "outside" all around it, and in this it has the to power to turn the space inside out. In turn, the reliquary, full of a body that is not there, has the capacity to infiltrate a personal experience of mortality. Jacqueline Gargus has written that the chapel "can be seen as a stone reliquary which holds the metal reliquary, which holds the coffin, which holds the shroud, which holds the image of light, which is the light. . . ."[33] In the chapel's inherent potential to reverse interiority and exteriority, the buried and the raised, the pilgrim also may hope to experience the desired *praesens* that motivated the building of the chapel. However, the fundamental spatial reciprocities generated by the chapel and its "tomb" are rooted in semantic distance: it is the distance that separates us from knowing the content of the reliquary, from understanding death, and from seeing the face of

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[32] ". . . invece di salire, chi entra ha come l'impressione di scendere in una cripta." Battisti, *Rinascimento e Barocco*, op. cit, p. 274.

[33] Gargus, op. cit., p. 128.

God.[34] In this, the SS. Sindone offers an experience of presence that is always wrapped in absence: it is the presence that is so well described by Georges Didi-Huberman as "the double distance--of the place to say *it's there*, and the place to say *that it's lost.*"[35]

The pendentives: delay and surface

The dialectic of presence and absence in the SS. Sindone is played out most vividly in the vertical development of the space, specifically through the relationship of drum to dome, and of dome to lantern. These ultimately orchestrate the paradigmatic baroque endeavour: mediating between a lower and a higher level, with an understanding that the former should relate to humans through their senses. To ellucidate this vision, one must examine first the pendentive structures of the dome. The perennial vocation of the pendentive to reconcile the cube with the sphere is quite amazingly altered, in relation to Renaissance models. One thinks first of the Tempieto, which Guarini mentions in *Architettura Civile*, which had no pendentives because both its drum and its dome are circular.[36] In the SS. Sindone, the pendentives perform the paradoxical function of mediating between two circular bodies, as Meek and Wittkower have remarked.[37] This is achieved by springing three large arches from six of the pillasters of the first Order.[38] Three of the pillasters from the lower nine-point geometry of the plan are left out of this vertical throwing; thus the geometry is distilled into a triadic configuration. The three pendentives and

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[34] The persistant human instinct generated by the site of a sepulchre to project onself inside it empathetically at some future time is the theme of much minimalist sculpture: the "body-sized" boxes of Tony Smith and Richard Morris mine this primordial impulse. On this subject, the work of G. Didi-Huberman, *Ce que nous voyons, ce qui nous regarde*, which draws on Rosalind Krauss' analysis of modern sculpture, is illuminating.

[35] G. Didi-Huberman, *Ce que nous voyons, ce qui nous regarde*, p. 84. (This citation is in relation to the idea of "presence" in the sculptural works of Tony Smith.)

[36] A. C., Trat. III, cap. 12, p. 205.

[37] "Guarini borrowed the pendentives from the Greek-cross design, adapted them to three instead of four arches- -an unheard-of idea--and used them paradoxically, as a transition between the circular body of the chapel and the circular ring of the drum." Wittkower, *Art and Architecture*, op. cit., p. 408. See also Meek, op. cit., p. 71.

[38] These are not actually "inward leaning", as suggests Meek, although they appear to be; see Guarini, op. cit., p. 71.

the interstitial bowled webs of the arches make up a section of a conoid; a cornice then truncates the latter tangentially,[39] the base of the ensuing drum thus substantially narrowed.

The departure from classical syntax operated in the use of pendentives in mediating from circle to circle is not inconsequential. In their configuration and geometry, the latter powerfully introduce elements of time into the architecture: on one hand, the three pendentives, seeing their vertical destinies elided, become latent in the wall, and this heightens their temporal content within the wall's surface. Furthermore, the insertion of the pendentives in itself causes an unusual delay in the natural architectural sequencing of drum and dome, for it extends the duration of the transition between the two. This delay is made all the more poignant by the fact that the pendentives are uncalled-for structurally, "self generated" one might say. The pendentives are very purposeful in this sense, orienting the chapel as a whole toward an eventual dome.

On another level, the pendentives comprise a scriptorium in the chapel: they provide large surfaces for ornamentation, the final visible layer of the chapel. Indeed, the pendentives are lightly coffered with greek crosses and squares, and the large interstitial shells of the arches are carved with hexagonal and six-point star patterning, "the density (of which) seems almost Moorish."[40] The non-figural iconography and Eastern connotations thereof are redolent of the liminal status of the relic, which broached both Eastern and Latin mysticism (as discussed earlier). On the pendentives, the coffered surfaces span from a shorter arc on the first cornice to a longer arc above: the consequence of this transition is that the pendentive surface,

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[39] The structural account of the pendentive-arch zone is found in M. Passanti, who explains that the arches are not as structurally active as the pendentives themselves, because the upper ring of the serlianas bears on these latters: "gli arconi, conici, sono così aperto che non mostrano di sostenere; e i pennacchi sono stati individuati mediante una struttura diversa, e relativamente più consistente che quella dei campi degli arconi." "La Poetica di Guarino Guarini," *GGIB*, Vol 2, pp. 82, 89. See also *Il Mundo Magico di Guarino Guarini*, op. cit., p. 189.

[40] Gargus, op. cit., p. 125. The possible Moorish influence has been repeatedly suggested; see for example G. C. Argan, "Relazione Conclusiva," in *GGIB*, Vol. 1, p. 601; Adolfo Florensa, "Guarini ed il Mondo Islamico," *GGIB*, Vol. 1, pp. 637-665.

needing to cover more area, must effectively stretch, as if made of fabric *(Figure 10).*[41] The distended quality in this zone vividly spells out its own desirousness and natural inclination to support a dome above the reliquary. The geometrical motifs in the pendentives are thus charged with a determinant revelatory role, for they allow the inner workings of geometry to appear on the surface of the stone. The radiating pattern of light and dark stones on the floor of the chapel bear the same star and cross iconography; because these stars and crosses are then found on the surfaces of the pendentives and inter-pendentive arches, one has the sense that the floor has been raised vertically. This will be reconsidered subsequently, in relation to Guarini's *ortorgrafia.*

The trajectory of the pendentives is halted by the cornice, untraceable in the quiet ambulatory just above it from which springs the dome.[42] The truncation of the pendentives, the shearing of their surface texture, is a necessary measure for several reasons. In preparing to receive the dome, the pendentives arc toward the constriction of the cornice, on their way to closing in and forming a dome themselves. The creation of an ensuing dark space is thus halted by the cornice, and the dome there begins. The cornice, a "caesura,"[43] after the *via negativa* of the stair, can be seen to encapsulate the moment of the chapel's "dolorism," the moment that is necessary for accession to a new configuration.[44] There is a beautiful reciprocity between dome and pendentives in this sense: the pendentive must cease, in order to allow the dome to rise; in turn the dome sheds light into the pendentives, bringing

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[41] On Guarini's renovation of classical syntax, see Paolo Portoghesi, "Il Linguagio di Guarino Guarini," *GGIB,* Vol. 2, pp. 9-34. See also M. Tafuri, "Le sue stesse innegabili relazione con la ricerca borrominiana rilevano (...) la volontà di permanere all'interno di un movimento teso a verificare con drammatica ostinazione l'intima coerenza del Classicismo e la possibilità di un suo rinnovamento radicale." "Retorica e sperimentalismo: Guarino Guarini e la Tradizione Manierista," in *GGIB,* Vol. 1, pp. 667-704.

[42] The ambulatory is inserted between the double shell of the dome structure. See *Figures 8 and 9.*

[43] J. Gargus has used this term to describe the cornice in "Geometrical Transformations and the Invention of New Architectural Meanings," op. cit., p. 126.

[44] I am once again refering to Julia Kristeva's analysis of Julia Kristeva's reading of Holbein's *Dead Christ* (1522), in which the moment of severance of Christ's death is considered in relation to the question of representation. See *Soleil Noir - Dépression et Mélancholie,* pp. 119-150, and "Holbein's Dead Christ" in *Fragments for a History of the Human Body,* p. 261.

shadows to the star and cross coffers. As the coffers fill with light and shadow, they begin to advance into space, to become prominent, and in so doing, to have an appearance beyond their surface. This reciprocity is echoed in the large windows and their prominent mouldings that perforate this zone. The open work dome metaphorically allows for the recovery of the "image." David Martin has been written that the proper of sacred architecture is that it carves apart an inner space from an outer space, "in such a way that both spaces become fully visible and, in turn, intrinsically valuable. Invisible air is rendered visible."[45] This description is helpful in articulating the site of *hallowedness*, which treads at the surface of the stone, a primordially dialectical surface that recedes into depth as much as it advances into space. Thus the paradigmatic baroque surface, with its many folds and creases, augments the surface area of the stone and thus multiplies the occasions for matter and space to meet. Deleuze writes that the reciprocity of Baroque mass and space is best exemplified in the marble "fold," exemplified in the abundance of drapery in seventeenth-century sculpture and still-life painting, and in the multiplication of mouldings in architectural detail; these would signify a line of inflexion between matter and soul.[46] The folded surfaces of the chapel could be seen in this way, not as stemming from a concern to decorate, but rather "to express the intensity of a spiritual force acting on the body, either to knock it over, to lift it up or raise it, but always to turn it over and mould its inside."[47]

The dome - a wavering presence

The transformation of the vertical stages of the dome, specifically drum, dome and lantern, continues above the cornice. After the insertion of the pendentives, the

[45] F. David Martin, *Art and the Religious Experience - The "Language" of the Sacred.* p. 229.

[46] On the idea of "folds of matter" as paradim of baroque architecture, and as metaphor of "the folds of the soul" see Giles Deleuze, *Le Pli*, p. 5. In the SS. Sindone chapel, it could be suggested that the overall diminution that occurs between the lower rotunda and the dome, demands that the conoïd of the pendentive-arch fold itself, to meet the smaller diameter of the drum.

[47] G. Deleuze, *Le Pli - Leibniz et le Baroque*, pp. 16-166. There is some resonance here with Wölfflin's nineteenth-century analysis of the Baroque in terms of animated qualities of mass and space: "Renaissance is an art of calm and beauty.... Baroque aims at a different effect. It wants to carry us away with the force of its impact, immediate and overwhelming. It gives us not a generally enhanced vitality, but excitement, ecstasy, intoxication.... This momentary impact of baroque is powerful, but soon leaves us with a certain sense of desolation." H. Wölfflin, *Renaissance and Baroque*, p. 38.

springing of the dome is delayed yet again by an ethereal upper ring of serlianas. Guarini expresses his own ambition to create *torre pendenti*, hanging towers, and recognized the achievement in St Peter's in Rome, to lift the dome onto four pillasters, noting that "of these two opposites comes that which is more glorious"[48]. He also held vaults and domes to be the central question of architecture, and the manner in which he brings transformations to the classical dome sumarizes many of his theories.[49] This is why the question posed earlier (in the introduction) on how to describe them as Guarini intended is so important. Many have described a quality of diaphanousness in relation to the dome of the SS. Sindone, or have spoken of their telescopic effect,[50] and there has been much debate about their possible origins, with theories proposing a cross-fertilization of Gothic[51] and Mozarabic structures.[52] The first consideration is the fact that the dome is perforated. It is constructed with a system of twelve exterior buttresses on the outside, and of an inner shell of thirty-six elliptical arches layered vertically. The arches are stacked such that each one springs from the keystone of an arch below; because the arches lean inward, the weave of the dome progressively diminishes, forming a conoid that

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[48] "Da questa ambizione naque anche di far le torre pendenti. . . de di questi due opposti fini qual sia più glorioso" *A. C.*, Tratt. III, cap. 13, oss. 1, p. 209.

[49] "Le volte sono la principale parte delle fabbriche." *A. C.* Trat. III cap. 26, p. 277.

[50] "But his domes are more than structural freaks. They seem the result of a deep-rooted urge to repalce the consistent sphere of the ancient dome, the symbol of a finite dome of heaven, by the diaphanous dome with its suggestions of infinity." R. Wittkower, *Art and Architecture in Italy 1600-1750*, p. 413. Similarly, Wittkower describes the Padri Somaschi chapel as a "hybrid structure" where "drum and dome are telescoped into one and the same structural zone", ibid, p. 404.

[51] Guarini's fascination for Gothic architecture is apparent in *Architettura Civile*, notably, *A. C.*, Tratt. III, cap. 13, oss. 1, pp. 207-208, and Note 3. p. 207. He does criticize Gothic's lack of precise rules and odd height to width ratios (which he attributes to the small stature of a gothic person: ibid p. 207 - 208, note 3). See also P. Marconi, 'Guarino Guarini ed il Gotico', *GGIB*, pp. 613 - 635. On the probable influence of Caramuel on Guarini's writing about Gothic architecture in *Architettura Civile*, see W. Oechslin, 'Osservazioni su Guarino Guarini e Juan Caramuel de Lobkowitz'. *GGIB*, Vol. 1, pp. 581-587.

[52] With regards to Mozarabic influence in Guarini's work, one notes that Guarini's visit to the Iberian Peninsula can only be conjectural. One who defends the theory is Juan Antonio Ramirez, op. cit,.p. 180. See also Adolfo Florensa, "Guarini ed il mundo islamico," *GGIB*, Vol. 1, pp. 639-665; Watkin, op. cit., p. 257; A. Scaglione, "Stile e Pensiero del Barocco Fra Arte e Letteratura," *GGIB*, V. 2, p. 592. On possible medieval and islamic influences, see Paolo Verzone, "Struttura delle Cupole del Guarni," *GGIB*, op. cit., pp. 401-413.

approaches a paraboloid of revolution.[33] What many have called the most revolutionary aspect of Guarini's architecture is that interstitial mass or "webs" between the outer buttresses is suppressed,[34] "with the consequent diffusion of high-level light that converts his dome from one with a single continuous mural boundary into an aerial cage, opening onto an outer zone."[35] The inner shell of arches intertwine through these buttresses, creating a grill of stone and light, appearing to be fused together in continuous flow, due to rounded mouldings that make their way around the arches from the oculus to the drum *(Figure 11)*.[36] A secondary reveal in the interstitial webs of the arches offers yet more surface for light and shadow to interplay. Windows are set deeply into the weave, on the outermost edge of the section. The relinquishing of the infill mass in the outer shell of Guarini's domes puts into question the very notion of dome, and indeed places the latter in a category of liminal things, between dome and oculus, oculus and lantern: it is at once *covering* and *aperture*. In relation to the primary anthropomorphic reference of the dome, one's head and vertical posture on the earth, the elision of mass in the dome is in keeping with a thematic of conflation of presence and absence. The result is a dome that sits at the mid-point between dome and oculus. This idea is clarified by a structural investigation: the deep load is carried by the twelve external ribs, such that the inner weave is solely dedicated to modulating light.[37] The weave, as a system,

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[33] E. Robison has compared the geometry of the dome as built with the engraving in *Architettura Civile*, finding that the built dome describes a right circular cone, whereas the engraving describes a parabola. See E. Robison,"Optics and Mathematics in the Domed Churches of Guarino Guarin,", op. cit., p. 388. Robesin emphasized the reading of the dome as optical illusions of depth. However, a passage in *Architettura Civile* on how spherical domes appear to be flatter than they are would in fact suggest that Guarini's concern for the dome is not to give an illusion of *more* depth than there is, but rather, to ensure that the appearance is *not less* than the geometrical reality. See *A. C.,* Tratt. III, cap. 22, oss 12, p. 259.

[34] For example, S. Kostov, *A History of Architecture,* p. 519.

[35] Meek, op. cit., p. 53.

[36] The dome structure may be considered in relation to Guarini's writings on perception in *Architettura Civile*: "When objects are divided in more parts, they appear larger, and fewer parts, they appear smaller." *A. C.,* Tratt. III, cap. 21, oss. 5, p. 244. On the effect of layering grills ("oggetti traforati"), ibid, oss. 9, p. 246; that objects that are white appear larger and more luminous than objects of dark color, ibid, oss. 6, p. 245. The relationship between the dome and these passages of *Architettura Civiles* are remarked upon by Corrado Maltese, "Guarini e la prospettiva," *GGIB,* Vol. 1, p. 562.

[37] Meek, op. cit., p. 75-76.

is in fact only concerned with supporting itself--the load of its own diaphanous "skin." The doubling of surface and depth is finally revealed in the oculus, where the two layers peel apart, such that the twelve point star is backlit by an outer shell perforated by ovaloid windows: the epiphany of the surface comes from *behind* the surface. In this sense, the dome is a maker of diaphanousness more than an optical illusion of depth.

Guarini considered the diaphanous as a modality of appearance quite carefully in his philosophical treatise, *Placita Philosophica*. Indeed, in the fourth *Disputatio* of the latter, "De Luce," Guarini dedicates three dialogues to diaphanous substances.[38] The qualities of translucency, opacity and the diaphanous are expounded with regards to the relationship between light and matter. In describing light "coming out of an object and leaning toward another," Guarini stresses the need for some kind of material resistance in order to accede to visibility: "Nam lumen, quod à quocumque corpore egreditur, debet illud nobis estendere:in id enim institutum est. Quae vero translucida sunt, visum non terminant, & maximé si de summa transparentia agatur."[39] In essence, what is completely translucent cannot be imprinted by images, since these would pass right through them. In turn, what is completely opaque does not reflect *specie*, or images, because "for matter to capture light, or "for light to become a subject," the environment must have diaphanousness.[40] The importance of thickness and of opacity in the conservation of light and appearance is a recurring theme in the treatise. These concerns for the possibility of matter to imprint appearance ties into the theme of the invisible rising to visibility and tangibility, and will be further ellucidated in Part II. It is interesting for the moment to consider the diaphanous quality of the dome in relation to Guarini's emphasis on matter as "conserver" of the image of light, and to envisage the dome as the place of

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[38] "De Subiecto Diaphano," "De subiecto lucis opaco," "De subiecto lucis caelesti, tum diaphano, tum opaco," *Placita Philosophica*, pp. 417-422. Guarini also addresses the diaphanous in his theory of vision, "De Sensibus Externis," when he explains how images are captured by diaphanousness in the eye. Ibid., p. 715.

[39] *Placita Philosophica*, p. 418.

[40] "Lux, ad sui conservationem, diaphano medio indiget, ad hoc ut sit tan quam subiecto." *Placita Philosophica*, p. 417.

intermixing of these two entities.

A final layer in a dialectic of presence and absence is brought out by the dome's perennial vocation to funerary architecture. The dome, considered now as a primordial geometry, with its particularity of embodying zenith and nadir within itself, seems to have risen from inchoateness above the body of the dead.[41] It is perhaps for its innate capacity to re-equip the head and restitute verticality that the dome has so often insisted above the recumbent figure. The SS. Sindone, with a transformed dome that is half matter, half light, and which appears to multiply and dismantle its matter vertically, emanates the powerful corporeal idea of a wavering presence.

The delays of geometry

The observation of spatial discontinuity regarding the autonomy of the tiers has often been made; however, a nuance to the notion of discontinuity is offered at this point.[42] The element of surprise in the vertical elaboration is undeniable, and the geometries do make transitions vertically, from an order of nine in the rotunda, to the triad of the pendentive zone, to the dome's hexagon. Indeed, the vertical stages of the SS. Sindone from lower rotunda to dome occur as divisions and multiplications of each other.[43] In this operation, certain elements are left behind, their vertical "futures" elided in a sense. This is the fate of three of the pillasters from the first Order, as was seen previously.[44] The integrity of classical syntax is challenged, with the perforated pendentives[45] and the manner in which the arcs of the dome are

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[41] This vast and fertile theme has benefitted from the insightful inquiry of E. Baldwin Smith, *The Dome, A Study in the History of Ideas*. The work traces the genesis of the dome in tomb shelters and its migration to martyria, mortuary chapel and basilica.

[42] "Guarini . . . worked with deliberate incongruities and surprising disonances. One zone of his structures contains no indication of what the next is going to reveal." Wittkower, *Art and Architecture*, op. cit., p. 405.

[43] On "Moltiplicazione di strutture e di spazi" in Guarini's architecture, see "La Poetica di Guarino Guarini," in *GGIB*, op. cit., p. 80.

[44] In fact two, since the third is already overtaken by the window to the Duomo. This is well described by Meek, op. cit., p. 71.

[45] R. Wittkower, *Studies in the Italian Baroque*, op. cit., p. 218.

stacked." However, the geometrical continuity is still very coherent: Passanti's analytical term "geometrical concatenation" is very useful in explaining the geometrical transformations, for it implies continuity even though the "traces (of some geometries) disappear" in vertical development." If the trajectories of certain geometries are halted, there are in fact no shifts from the underlying geometrical order." The fact that not all the elements are projected introduces a profound temporal sense to the architecture: one sees the past and future of the elements, as some are continued vertically, others not. Most importantly, geometries which are merely implied in lower zones are made explicit higher up, in particular, the implied (invisible) triangle on the ground floor plan becomes the dominant (visible) geometry of the realm of the pendentives. This must be kept in mind in the subsequent examination of *ortografia*, Guarini's method of parallel projection. Similarly, an implied hexagon in the ground floor plan reappears as the structure of the dome, multiplied six times. The dome is temporally a future point of the plan.

Let us return for a moment to the anterooms, where mass and space first began to peel apart, after the dominantly embedded nature of the stairs from the Duomo. In each of these, the stone floor pattern depicts a circle with alternating elongated and equilateral triangular rays. This is the same configuration of the oculus of the dome. In this way, the stones of the floor have been recovered three-dimensionally in the cupola, raised above the reliquary through the careful workings of stereotomy. The floor plan and reflected ceiling of the small chambers inscribe a circle-within-a-

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" For Argan, the dome represents Guarini's irrationalism in the way the arches are weighted at their apexes. This type of architectonic contradiction is seen to carry the work's powers of phenomenological evocation. G. C. Argan, "La Tecnica del Guarini," *GGIB*, op. cit., p. 44.

" Describing the geometrical concatenation involved in the transition zone of the pendentives and arches to the upper serliana drum, in which the "trace" of the arches disappears, Passanti writes, "In tale tracciato consiste is concatenamento geometrico: se is tracciato sparisse, il detto rapporto diverrebbe una 'proporzione libera."" "La Poetica di Guarino Guarini," *GGIB*, Vol 2, pp. 82, 89. See also *Il Mundo Magico di Guarino Guarini*, op. cit., p. 189.

" This is very clear in Passanti analyses of the SS. Sindone: see "La Poetica de Guarino Guarini," *GGIB*, op. cit., Vol. 2, p. 89; and *Il Mundo Magico di Guarino Guarini*, pp. 165-193. On this point, I disagree with J. Gargus, who proposed dislocations in the geometry, and misalignments of the upper serlianas. These are in fact not out of alignment, it is simply that they ring a circle of smaller radius than the lower serlianas do. Op. cit., p. 124.

triangle-within-a-circle, a guiding geometrical motif, which is found once again in the chapel. The shallow ribbed domes and oculi of the anterooms contain the geometries of the chapel; they are as the chapel in gestation, latent and as yet to be raised.

PART I / Conclusion

This thesis has until now traced the impetus toward tangible presence that has wrapped the meaning of the chapel from its genesis. Investigations of the scriptural associations of the relic and the iconoclastic controversies mined the paradox of embodiment inherent in the desire for tangible presence of the *Logos*. This was reiterated with regards to image and representation of the personal body in the context of late seventeenth-century Turin. The SS. Sindone and the Shroud are instances of a profound dialectic of Incarnation and Resurrection.[69] The chapel organizes a progression from embeddeness and darkness toward distanciation and light, and its sequences of fullness and emptiness, phenomenalogical inversions and geometrical delays, repeat the pilgrimage journey. Through the use of architectural elements at the limit of their usual meanings, the chapel reconfigures the moment flesh and *logos* fused and parted, and by implication, a dialectical presence. The reconciliation of syntactical opposites in the hollowing of pendentives and the suppression of the web in the ribbed domes, results in fundamental uncertainties as to the nature of the materiality of surface, and of the meaning of structure.[70] The dome thus treads between appearance and recognizability; but what is the nature of the "shimmering distance" that separates these two, and what are the words to describe it? Guarini's architectural treatise, *Architettura Civile*, will now be examined, bearing this question in mind.

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[69] "kenosis: the renunciation of the divine nature, at least in part, by Christ in the Incarnation, the strategy of emptying as the most extreme gesture of devotion. Gr. *kenos* - empty." *The Oxford English Dictionary*.

[70] The three pendentives of the SS. Sindone (as well as the three major arches) are hollowed out with surface patterning and circular windows. Wittkower sees Borromini's oval windows in *S. Carlo alle Quatro Fontane* as a precursor to the opening up of the pendentive surface. *Art and Architecture*, p. 408 and Note 18.

PART II - ARCHITETTURA CIVILE

The Tool of the *Artifex*

"Pens are to be made of raven, goose or eagle feathers, both hard and shiny, and if
of goose, rather small than large if there is a choice. . . . The pen should be of soft
steel, with a fine and well burnished point to pull very fine lines. The stone should
be leaden, so it can be rubbed out with fresh bread. . . . The compass shall have a
steel point, which when open, can be closed with equal force and the same
movement, not too stiff, not too limp, but yielding to the hand with equal
resistance."[1]

This section on the tools of drawing, found among the first pages of Guarini's
treatise, *Archittetura Civile*, concludes with a passage on the colors that can be
extracted from certain herbs, flowers and trees. Immediately after this, Guarini
proceeds to expound the basic principles of Euclidian geometry and mathematics on
which his treatise is built. This kind of sequencing of topics could surprise the
modern reader, who is not used to placing geometry and mathematics in a tactile
realm along with bread. More generally, a question arises as to how to understand
the relationship between *Architettura Civile*, of which large portions consist of rather
dry expositions of geometrical operations, and the buildings, which so often have
invited the attributes of magical and mystical.[2] A tendency to see these as forming
an antinomy has led to a range of responses and to misconceptions about his
geometry, and to its frequent identification with modern applied sciences.[3] The
seventeenth century does witness an increase in the precision of its instruments of

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[1] *A. C.*, Tratt. I, cap. 4, oss. 2, 3 & 4, pp. 22, 23.

[2] "One would very much like to understand his apparent vascillation between a hedonistic approach
to architecture and the suggestion of infinity in his diaphanous domes - or, to put it differently, between
his rationalism and his mysticism." R. Wittkower, *Studies in the Italian Baroque*, p. 186.

[3] On Guarini as "precursor of Monge," see Tavassi La Greca, "Appendice," in *Architettura Civile* (Ed.
II Polifilo), op. cit., p. 11, Note 1. Some also emphasize seventeenth-century mathematics as a tool of
socio-political manipulation (in the context of the *porpaganda fide*). See Maravall, *Culture of the Baroque*,
op. cit., p. 63; and in relation to Guarini specifically, see Pollak, op. cit., pp. 5-7.

knowledge; we think of Galileo's telescope and Descartes' machine for crafting parabolic lenses.[4] Guarini also will strive for a *tiralinea* that is as sharp as possible, but his geometry is still very susceptible to the imprecision of its tools. If Argan insists that "the guarinian project is pure calculation,"[5] Guarini would himself recognize the approximative nature of the projection methods in stereotomy, when for example resolving a complex intersection of a cone and cylinder.[6] Indeed, his operations for the projections of curved lines are systematic only for a finite number of points. The final step of the operation is always to draw the new curve with a free hand, guided by the set of transformed points. An example of this is found in *Trattato* IV, "how to throw round or oval surfaces into plan given an angle of inclination";[7] Guarini explains the simple geometrical method of dividing the original circle with lines, carrying them to a slope in section, dropping the lines into plan, and reconfiguring them in a compressed state (an oval).[8] In the final stage, a "gentle hand" is required to recover the shape: "con dolce mano si condurrà una linea curva, che esprima il circolo."[9] There are as such no calculations to be found in the treatise, and all its operations are intended to be carried out by hand with well-made compass

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[4] On the "imprecision" of sixteenth and seventeenth century number, see Alexandre Koyré, "Du monde de 'l'à-peu-près' à l'univers de la précision," *Etudes d'histoire de la pensée philosophique*, pp. 341-362.

[5] G. C. Argan, "La Tecnica del Guarini," *GGIB*, Vol. 1, p. 37. This interpretation of Guarini's work as detached from a symbolic framework is overt: "l'architettura è un fatto puramente visivo che deve piacere al *senso* e non ha alcun significato al di là del piacere che procura." Ibid., p. 38. There is no doubt that Guarini was breaking out of the mimetic code of formal significations, and Argan's opinion that for Guarini, architecture is not "divine revelation" but act of devotion is possibly accurate. Nonetheless, this visual (sensualist) reading of Guarini (and his "attegiamento pre-fenomenologico", p. 39) overlooks the symbolic dimension of geometry that emerges out of some of Guarini's other writings.

[6] "Scias tamen hunc modum non esse praecisum. . . ," *Euclides*, p. 585, cited in W. Müller, "The Authenticity of Guarini's Stereotomy in his *Architettura Civile*," *Journal of the Society of Architectural Historians*, Vol. 27, no. 3, p. 207, Note 20. The author's comparison of the fourth book of *Architettura* and "Tractatus XXXII" of the *Euclides* (of which the former is a repetition) yields the following assessment: "Guarini was on a level with comtemporary work on stonecutting. . . . Compared with Frézier's work, both the scope and content of the stereotomy dealt with in the *Architettura* are quite modest." Ibid, p. 204. See also W. Müller, "Guarini e la Stereotomia," *GGIB*, Vol. 1, pp. 531-547. Desargue's influence on Guarini is also contested by Alberto Pérez-Gómez, op. cit., p. 91.

[7] *A. C.,* Tratt. IV, cap. 3, oss. 3, p. 296.

[8] Whereby a circle originating on an inclined plane is cast onto a horizontal plane (the result being an oval), *A. C.,* Tav. XXIX, fig. 7.

[9] *A. C.,* ibid, p. 296.

and ruler.[10] Werner Müller justly asks, "Are the mathematical priciples expressed in the chapter heading actually related to a stereotomy which has been developed on fundamental mathematical considerations, or does the use of purely mathematical terminology give the deceptive impression of a new solution to those problems when in fact this solution differs but little from those already in existence?"[11] In a similar vein, Tricomi has pointed out errors and inaccuracies in Guarini's mathematical treatise, the *Euclides adauctus*,[12] and assesses the latter as an awkward "summa on the mathematics of his day" which deals with very simple, and certainly not novel, arithmetical notions.[13] Guarini will nonetheless apologize for any shortcomings in the *Euclides*[14] in his preface to *Modo di misurare le fabriche*, a short treatise intended to guide architects in the practical use of geometry.[15] The latter, a small book scattered with geometrical diagrams, contained all the architect needed to know about counting and measuring in such a way that "whosoever buys this little book should not need to buy another."[16] It is a practical tool, and its author is honest in

[10] "Gl'instrumenti de cui si serve l'Architettura per sé unicamente, in quanto dirige le Arti a sé soggette, sono pochi, perché non sono se non quelli, i quali servono per disegnare e rappresentare le sue idee sulla cana."*A. C.*, Tratt. I, cap. 4, p. 21. "Circa le squadre saranno eziandio di legno, ben duro, ed il modo de farle si dichicarerà abasso, ove tratteremo del modo di porre una linea in isquador con un'altra". Ibid, p. 23.

[11] Müller, "The Authenticity of Guarini's Stereotomy," op. cit., p. 203.

[12] Turin, 1671. It is described by Luigi Vagnetti as "a monumental mathematical compendium with 700 pages. . . ." "La Teoria del Rilevamento Rilevamento Architettonico in Guarino Guarini," *GGIB*, Vol. 1, p. 497.

[13] For example, in a numerical table of geographical locations in *Caelestis mathematicae* (1683), "Torino is shifted out of place, roughly on the same meridian of Alexandria." F. G. Tricomi, "Guarini Matematico," *GGIB*, Vol. 2. p. 553. In turn, Werner Oechslin builds on evidence of the actual imprecision of Guarini's geometry, to stress that it is intended as a tool of making rather than as an abstract theory. With this, dualist stances on Guarini are aptly questioned. See 'E'en if Architecture is Dependent on Mathematics," *Daidalos*, Vol. 18, pp. 27-32. These contradict M. Fagiolo, "Guarini si appogiava all ricerche di matematici de avanguardia come Desargues," "La 'geosofia' del Guarini," op. cit., p. 181. Luigi Vagnetti's claim that the work contained "extraordinary anticipazione" is noted. See "La Teoria del Rilevamento Architettonico in Guarino Guarini," *GGIB*, Vol. 1, p. 498.

[14] See Vagnetti, op. cit., p. 505.

[15] Torino, 1674.

[16] *Modo di misurare le fabbriche*, preface. The treatise is described in some detail by Luigi Vagnetti in "La Teoria del Rilevamento Architettonico in Guarino Guarini," *GGIB*, Vol. 1, p. 505-511.

saying that all it can do--and this is not a small thing--is make measuring "as precise as possible."[17] Elwin Robison's analysis of the SS. Sindone dome in relation to Guarini's own method of parabola construction as outlined in *Architettura Civile* reveals the distance which exists between theory and the made thing.[18] The abrupt transition from color extraction from plants to geometry seen earlier testifies to an opening of the projective to the tactile realm, in a manner which halts assimilation of the content of *Architettura Civile* with descriptive geometry proper. This is reiterated in the section on the *icnografia* of sites in the second book, where inherent geometrical order is extracted from the site, literally with the hand and its instruments: plumb line, string, compass and water; rendered engravings of hilly sites featuring the instruments in use accompany the text. In the same spirit, Guarini elaborates the geometry of the winds on the site, maintaining "that one should rather hold to the experience of particular sites" than impose a systematic method.[19] Such overriding of rules by experience happens often in the treatise. Even the "true symmetries" of architecture, which Guarini sets as a requirement to fulfilling architecture's end of pleasing the eye, are not fixed.[20] He introduces them in fact just after stating that "the symmetries of Architecture can be varied amongst themselves without surprise," in the previous observation.[21] We remark on this point to underline the ontological difference between theory and the making of architecture: a recurring theme of *Architettura Civile* is indeed the inflexion of rules to take human experience into account.

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[17] *Modo di misurare la fabbriche,* preface.

[18] Elwin C. Robison, "Optics and Mathematics in the Domed Churches of Guarino Guarini," *JSAH,* p. 389.

[19] *A. C.,* Tratt. II, cap. 4, oss. 5, p. 85. On the symbolic dimension of Guarini's geometry, see Pérez-Gómez, op. cit., p. 96.

[20] *A. C.,* Tratt. I, cap. 3, oss. 10, p. 19.

[21] *A. C.,* Tratt. I, cap. 3, oss. 9, p. 19. The central role of experience in *Architettura Civile* is underlined in B. Tavassi La Greca's commentary in the Polifilo Ed.: see p. 64, Note 1. *A. C.,* Tratt. II, cap. 4, oss. 5; *A. C.,* Tratt. III, cap 12, oss. 1. The philosophical treatise also seeks certainty in experience: "conclusiones experientia confirmatas deducemus", *Placita Philosophica,* p. 330.

Guarini wrote *Architettura Civile* in the last years of his life, leaving it unfinished when he died. It was published posthumously in 1737, after being edited by Vittone, although its illustration plates had appeared once before in the *Disegni di Architettura civile ed ecclesiastici*, in 1686.[22] Some plates had also appeared in the celebratory publication on Turin, the *Teatrum Statuum Sabaudie*, in 1682.[23] Unlike the treatises of the Renaissance, which had reserved an important place for history and theorization on the ideal city as a way to come to terms with the present in relation to Antiquity, this treatise draws on the knowledge of mathematics, and outlines geometrical principles for the making of architecture, in a new day. These principles are indisputably constructional, relying on scaling and tracing of lines with compass and ruler according to rules of Euclidian geometry. Guarini intends the reader to examine the diagrams which are matched to the text, for full comprehension. In some cases however, the operations remain quite obsure and difficult to follow.[24] If in the last instance the treatise attempts to address the question of how to represent and build the more complex geometries resulting from the undulation of the classical Orders, Guarini's narration of his geometrical operations reveals the crucial epistemological framework of his geometry, one which shall shed light on the theme of a wavering presence, observed on several registers in the SS. Sindone Chapel in Part I.

In true Scholastic fashion, the first book, "Dell'Architettura in Generale e i Suoi Principe," provides definitions and precepts which will serve the rest of the work.

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[22] N. Carboneri, "Introduzione," *Architettura Civile*, p. xix. There is some question as to the importance of Vittone's hand in the editing: see for example, Werner Müller, "The Authenticity of Guarini's Stereotomy," op. cit.

[23] Which was "the great atlas that proclaimed the completion of the capital in 1682." Pollak, op. cit., p. 7.

[24] In "or thud of *throwing and extending* the area of a sphere intersected by a pentagon" for example, it is unclear how the results of the operation would be interpreted in the cutting of stones. See: A. C., Tratt. IV, cap. 5, oss. 3, p. 363; and figure 6 on Tav. XL. A similar observation is made by Werner Müller: "Unlike contemporary works on stonecutting, though Treatise IV of the *Architettura* deals with the projections of curves of intersection of vaults, the actual working of the stone itself lies beyond the scope of the author's considerations." "The Authenticity of Guarini's Stereotomy," p. 203.

Guarini begins by defining architecture as a two-part "art of edification," relying on *Macchinaria* which "serves it to lift and transport its weights, work its marbles, saw its planes, defend its cities," and on *Edificazione* of, respectively, military, civic, private, rural and ecclesiastical construction, as well as waterworks.[25] There is a striking emphasis on the tools with which architecture is made concrete. Pursuant to this, Guarini urges that architecture's vocation is to be concerned principally with "the arts that serve architecture": metal and stone work, statuary, stuccos and brick making, painting, whitewashing and rock extraction.[26] Vitruvian principles of suitability to purpose, solidity of construction, beauty of the proportions of the parts, sympathy to site and use of local materials are duly imparted,[27] if tempered by a sanctioning of freedom from the Ancients, whose rules may be changed and added to.[28] There are however some new elements which must be noted in this context: Guarini's delicate sequencing of architecture, "nonetheless an art of flattery," with mathematics, reason and pleasure,[29] and Guarini's suspicion of Perspective.[30] The books of *Architettura Civile* that follow will proceed to map the trajectory of architecture towards sensuous materialization, a trajectory whose geometrical substrate careens to the experience of the body.[31] "Della Icnografia," "Della Ortografia Elevata," and "Della Ortografia Gettata" are the titles of the second, third and fourth books of the treatise. *Trattato II* studies the geometry of sites, and includes an excursus on levelling with string and compass, and an introduction of the elements of the architectural plan: entrance, doors, windows, walls, the stair, and the colonnade. The third book is concerned with frontal projection, and contains an

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[25] *A. C.*, Tratt. I, cap. 1, p. 7.

[26] *A. C.*, Trat. I, introduction p. 6 and cap. 2, p. 9.

[27] *A. C.*, Tratt. I, cap. 3.

[28] "L'Architettura può corregere le regole antiche e nuove inventare," *A. C.*, Tratt. I, cap. 3, oss. 6.

[29] "L'Architettura, sebbene dipenda dalla Matematica, nulla mezo ella é un arte adulatrice, che non vuole punto per la ragione disgustare is senso." *A. C.*, Tratt. I, cap. 3, p. 10.

[30] "L'Architettura non dev'essere tanto licenziosa quanto la Prospettiva." *A. C.*, Tratt. I, cap. III, oss. 10, p. 19.

[31] "Species dispositiones, quae graece dicuntur *idea*: sunt ichographia orthographia, scaenographia." Vitruuvuis I : 2.

exposition on the orders and ornament. *Trattato III* looks for example at how to correctly raise an oval plan, in order to accurately represent on a flat surface the radial distances between the ribs of the dome, and the depth of serlianas seen on an angle, in order to correctly draw the elevation.[32] *Trattato IV* , "Della Orthografia Gettata," develops projections proper, unfolding three-dimensional curves in plan and section, with a view toward problems of stone-cutting. One could say that the treatise is a response to the enthusiastic introduction of hitherto incommensurable elliptical, conoïdal and parabolic geometries in vault construction. A fifth and final book, "Della Geodesia," claims to give instructions for shaping areas in plan and is to be employed to "transform the site to habilitate it to receive a design"; it is comprised of a series of geometrical instructions that show how to alter a planar form while maintaining a given area, or how to divide it into proportionally related parts.[33]

Maintaining Distance - The Prohibition of Perspective

"Even if Architecture depends on Mathematics, it is nonetheless an art of flattery, which by reason does not wish to disgust the senses."[34] This memorable litany on the subordination of reason to the senses is the precept from which Guarini's theory on geometry takes its swing: architecture must bring delight, but in doing so the eye should never be deceived. Deception in turn is associated with perspective. An observation headed by the title, "Architecture should not be as permissive as perspective" is followed by "Perspective, because it fools the eye and *makes the surface of a body appear*, obtains its end, and achieves what it sets out to do; whence even an unruly architecture can achieve its end, receiving the praise of all. But architecture cannot achieve its end of pleasing the eye, without *true symmetries*, its ultimate end being not to fool the eye. Perspective is not concerned with the solidity

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[32] "Modo di elevare l'ortografia sopra qualsisia icnografia circolare estrinseca", *A. C.*, Tratt. III, capo 24, oss. 1, p. 265, Tav. xxiv.

[33] *A. C.*, Tratt. V, introduction, p. 387.

[34] *Architettura Civile*, Trat. 1, cap. 3, introduction, p. 10. On the dependence of architecture on geometry, see Tratt. I, cap. 2, p. 10. That the aim of architecture is "to please the senses," see Tratt. I, cap.3, oss. 7, p. 17.

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and soundness of the work, but only with delighting the eye. Architecture on the other hand is concerned with the soundness of the work, and it follows that it cannot liberally do that which Perspective invents for itself."[35] It follows that *Architettura Civile* treats only of pure parallel projection, and perspective is decidedly excluded. That perspective's culpability lies in the fact that it is responsible for "making the surface of a body appear" is intriguing. For the exclusion of perspective from the representational language of architectural ideas only makes sense if one accepts that a distance between appearance and surface is somehow desirable. The meaning of this primordial delay between appearance and surface which Guarini holds to be vital shall emerge with more clarity further on. For the time being, it is enough to say that based on Guarini's own words on the matter, it would seem that descriptions of the domes in terms of optical illusions of infinity or "forced perspectives" squarely contradict the world of the work.[36]

Guarini becomes agitated on another occasion still. His avidness to avoid any form of optical deception in architecture would lead him to refute Caramuel de Lobkowitz and his ideas regarding the "obliquation" of stair balustrades and the "ovalizing" of columns on a radial plan.[37] Caramuel's colonnade may appear undistorted if viewed from the center, but "the same oval column seen from one place would be narrow, and too thin therefore, while from another it would be large and proportional."[38] This is far too forceful a gesture for Guarini to admit, prompting him to call it "more of a joke than a judicious teaching." This polemic continues with the question of

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[35] "L'architettura non deve essere tanto licenziosa quanto la prospettiva - La Prospettiva, purché inganni l'occhio e *fa apparire la superficie del corpo*, ottiene il suo fine, e conseguisce quanto intende; onde anche in un'Architettura sregolata può conseguir con ogni lode il suo fine. L'Architettura però non può conseguir il suo fine di piacere all'occhio, si non colle *vere simmetrie*, essendo questo l'ultimo suo scopo, non ingannare l'occhio. La Prospettiva dapoi non ha da riguardare alla sodidatà e fermezza dell'opra, ma solamente a dilettare l'occhio. L'Architettura però pensa alla sodezza dell'opera, onde non può liberamente fare quanto la Prospettiva inventarsi." *A. C.* Tratt. I, cap. 3, oss 10, pp. 19-20 (my italics).

[36] Elwin Robison, "Optics and Mathematics in the Domed Churches of Guarino Guarini," *Journal of the Society of Architectural Historians*, Vol. 1, p. 385.

[37] *A. C.*, Tratt. III, cap. 23, oss 8, p. 263 and cap. 25, oss. 1, p. 271. On Caramuel's "oblique architecture" and Guarini's opposition to it, as well as Blondel's part in the debate, see W. Oechslin, "Osservazioni su Guarino Guarini e Juan Caramuel de Lobkowitz," *GGIB*, Vol. 1, pp. 573. See also Tavassi La Greca, *Architettura Civile* (1968), p. 110, Note 1 and p. 271, Note 1.

[38] *A. C.*, Tratt. II, Cap. 8, pp. 110-111.

stairs, where Guarini instructs that "it is much better to admit a single obliquity of the cornice on the capital" rather than twist the whole geometry of the baluster.[39] Here, Guarini does not bring up the more usual opposition to "obliquation," that it contradicts "the idea of solidity," given the vertical loads on the supports.[40] Instead, he demonstrates how vulnerable Caramuel's columns and ballustrades are to the collapse of their geometrical harmony design through change in viewpoint. The conceptual distance between perceptual appearance and surface is testified to by Guarini's belief in the need for optical corrections: ". . . because the end of architecture is to please the senses, if the senses are mistaken, which happens often, judging a straight object as curved, an upright one as slanted, a large one as small, it will be necessary to satisfy and please, adding to them what seems to be missing, even though it isn't really missing, without adding more than is right, but just enough."[41] Thus architecture would need to add to, to supplement, vision in certain situations. These additive-corrective operations of architecture are examined in *Trattato III with* regards to optical effects.[42] When the site or one's point of view caused *inganni*, optical corrections are needed. They are presented as reestablishing a truth lost as a result of physical restrictions, such as the eye being too close to the object of sight or the site itself imposing a view that is too close or too distant.[43] This, even if "in many cases the capacity to judge corrects the errors of the eyes,"[44] when the *vis iudicativa* does not suffice, one should make optical corrections.[45] The

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[39] *A. C.*, Tratt. III, cap. 25, oss. 1, p. 271. Guarini accuses the obliquation of balusters as being "against common experience." Ibid, p. 271.

[40] This was in fact Blondel's argument. Please see W. Oechslin, *GGIB*, Vol. 1, op. cit., p. 577.

[41] *A. C.*, Tratt. I, cap. 3, oss. 7. Guarini is far more tolerant of optical corrections than Perrault, who saw them as unnecessary and wrong: see also Robison, op. cit., p. 400. On Perrault's dismissal of optical corrections, see Perez-Gómez, op. cit., pp. 31, 32.

[42] Chapter XXI of *Tratt. III* is sometimes referred to as "perceptual psychology." See Meek, p. 75; Argan, "La Tecnica del Guarini," *GGIB*, Vol. 1, p. 39.

[43] This section treats adjustments to the appearance of depth and size through the appropriate use of light and dark, vicinity and distance, unity or division of surface, etc. *A. C.*, Tratt. 21, cap. 21, pp. 242-248.

[44] *A. C.*, Tratt. III, cap. 22, oss. 6, p. 255.

[45] The *vis iudicativa*, capacity of judgement ("imagination"), is mentioned in relation to optics in *Placita Philosophica*, p. 721, as well as in *Architettura Civile, Tratt. III*, cap. 22, oss. 7.

tendency of hemispherical domes to appear "lower than they are"[46] is to be palliated with the use of conoïdal sections which produce the impression of greater height."[47]

Guarini's belief in the need for optical corrections may also be viewed as measures to ensure the safekeeping of distance. Excessive proximity to the object's surface is the source of many woes which the treatise proceed to address one by one.[48] To this end, a discussion of vision and the anatomy of the eye is raised. Guarini writes about these in both *Architettura Civile* and *Placita Philosophica*, and repeatedly addresses the question of excessive proximity.[49] Succinctly, because of the tendency of "images in the eye to intercross, and form a very acute triangle,"[50] the central visual ray must be at right angles with the object and the eye must be positioned at a "competent distance" which is twice the object's width, in order to be able to see the whole object.[51] Corrections are therefore needed principally to restitute an appearance of tangible matter to perception, whose fullness had been partly lost through insufficient distance. So too, precise instructions are given on how to increase the depth of an overhand and the elevation of a cornice, to make it "reappear" from a close point.[52] Guarini explains the process according to a geometric section and refers to an illustration figure, adding that it is to be understood as the scene inside the eye: "questa sezione si deve intendere dentro all'ochio, e che sia quella superfizie dentro esso, nella quale si dipingono gli oggetti."[53] For Guarini, the loss of parallelism of lines normal to the façade was troublesome. As in a perspective, parallel lines

[46] *A. C.*, Tratt. III, cap. 22, oss. 11, p. 259.

[47] It is in this light that Maltese interprets Guarini's open work dome: the grilled effect causes one to see distance.

[48] *A. C.*, Tratt. 22, pp. 249-259.

[49] *A. C.*, Tratt. III, cap. 2, oss. 11, p. 126. *Placita Philosophica*, p. 711-724.

[50] *A. C.*, Tratt. III, cap. 22, oss. 1, p. 250.

[51] "tre volte l'altezza, e due volte quanto la larghezza appresso ap poco" *A. C.*, Tratt. III, cap. 22, oss. 4, p. 252.

[52] *A. C.*, Tratt. III, cap. 22, oss. 9, p. 258.

[53] *A. C.*, Tratt. III, cap. 22, oss. 2, p. 251. Fig. 8, Tav. XI.

become converging lines for the eye: "sembrerà che vadano ad unirsi in un punto, benché siano fra loro paralello."[54]

For Guarini, hence, perspective, like vision and unlike *ortografia*, introduces distortion to "true symmetries."[55] His position should be placed in context: he lived in an age which loved illusionism and which was fascinated by the way that it could make reality and unreality seem to mix. One recalls the predilection of the Savoyan court for elaborate festivals, which often made use of the art of *fingere* for its stage sets and *trompe l'oeil* urban perspectives.[56] Perhaps Guarini, a Theatine priest having taken the strictest vow of poverty,[57] may have felt resistance toward the excesses of the ceremonials and their art of *fingere*, even though he was intimately involved with the court as one of their architects and as crown engineer.[58] Guarini also no doubt had in mind the Jesuitical *quadratura* fresco in his admonition, as well as the many practices of "curious perspective" and anamorphosis[59] triggered by advances in optics in the sixteenth and seventeenth centuries.[60] There is likely a moral dimension to

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[54] *A. C.,* Tratt. III, cap. 22, oss. 2, p. 251.

[55] *A. C.* Tratt. I, cap. 3, oss 10, p. 19. Guarini also speaks of "true proportions," ibid., Tratt. I, cap. 3, oss.7.

[56] Pollak writes of the street perspective set up near the royal palace on the event of the wedding of Carlo Emanuele II in Turin in 1663. ". . . the Venetian ambassador, no doubt a connoisseur in matters of simulation, had praised Carlo Emanuele's art of *fingere*." Op. cit., p. 160.

[57] Kunkel, *The Theatines in the History of Catholic Reform,* op. cit.

[58] Carlo Emanuele named Guarini court architect and mathematician in 1667 or 1668 for the construction of the SS. Sindone. See Pollak, op. cit., pp. 212, 232; Meek, op. cit., p. 67; Portoghesi, *Guarino Guarini,* (1956) (note: this monograph is not paginated). Griseri emphasises more generally Guarini's prominent role in the making of the Savoyan capital: "L'architettura di Guarini diviene non solo il simbolo della Torino di quegli anni; ma un archetipo, un ideogramma del Barocco. . . ." *La Metamorfosi del Barocco,* op. cit., p.182.

[59] P. Accolti, *Lo Inganno degl'occhi, prospettiva pratica* (Florence, 1625), Niceron's *La Perspective curieuse ou magie artificielle des effets merveilleux* (1638) and *Thaumaturgus opticus* (1652), and of course D. Barbaro's *La Pratica della perspettica* (Venice, 1559) are some of the many works on the subject. These are cited in Françoise Siguret's *L'Oeil Surpris,* a masterful work on seventeenth-century perception and representation. It is noted that Guarini does adopt Vignola's and dal Monte's rules of perspective for optical corrections, as will be discussed further in this chapter: *A. C.,* Tratt. III, cap. 22, oss. 2.

[60] Notably, Kepler's theory of refraction and the retinal image, which rendered obsolete the medieval notion of the cone of vision. See D. Lindberg, pp. 190-207. One thinks also of Descartes's *Dioptrique.* Guarini does not mention Descartes's *Diotrique* in his theory of vision in *Placita Philosophic;,* however

Guarini's opposition to optical *inganni*, for these did lean in the direction of the false, and at times toward divination.[61] There was always the risk that "the simpler ones could be fooled,"[62] or even "caught."[63] The principle of *inganni* is that they were constructed in such a way that visual rays and geometrical lines were coordinated perfectly. The ensuing visual appearance was the result of an alignment of optical experience and geometry. Because of this, the effects it proffered tended to tread dangerously on the line between marvel and belief, a line that recalls the one between *latria* and *dulia* in the context of the veneration of an icon.[64] The depth of a painted dome, the momentary wholeness of the catoptric reflection or of the anamorphic image, were lost by a mere shift of the eye.

What does Guarini's abnegation of perspective stem from? It is obvious that he knew the optical principles of ray geometry and seems familiar with lens refraction.[65] He is well acquainted with Renaissance perspectivism, whose principle he uses in the twenty-second chapter of *Trattato III* in *Architettura Civile*, to elaborate the optical corrections of façades.[66] What causes perspective its ill is the collapse of optical rays and geometrical lines: at the one point whereupon the perspectival illusion is

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the names of François Aguillon ("L'Aquilonio"), *Opticorum libri sex* (Anvers, 1613) and of "Kiperos" frequently come up.

[61] On the moral aspect of experience in *Placita Philosophica*, see Eugenio Battisti, "Schemata nel Guarini," op. cit., p. 126.

[62] "La catoptrique ou science des miroirs nous a fait voir des productions si admirables, ou plutôt des effets si prodigieux, qu'entre ceux qui l'ont connue et pratiquée, il s'en est trouvé qui par une vaine et ridicule ostentation ou quelques fois pour abuser les plus simples, se sont efforcés de passer pour des devins, sorciers ou enchanteurs. . . ." Niceron, *La Perspective Curieuse*, cited in Fr. Siguret, op. cit., p. 144.

[63] This is the proper of the baroque stage set, which sought for a moment of *captatio* of the spectator.

[64] *Dulia* being the reverence accorded the saints, *latria* being reserved for God, and *hyperdulia* for Mary. Scavizzi, *A Reformation Debate*, op. cit., p. 8.

[65] *Placita Philosophica*, pp. 711-724.

[66] Guarini approves only of *Le due regole della Prospettiva di M. J. Barocci da Vignola* (Rome, 1583), presented by I. Danti, and Guidubaldi dal Monte's *Perspectivae* (Pesaro 1600), "who take the section line orthogonally to the visual ray perpendicular to the eye," because this line is "in the eye." *A. C,* Tratt. III, cap. 22, oss. 1.

revealed, there is in fact no longer a shift between the two orders. However for Guarini optics and geometry are maintained as ontologically distinct; more specifically, where as the optical experience is perspectival and convergent, Euclidean geometry and *ortografia* operate with parallel lines.[47] If one thinks of a rectangular building whose frontal image is drawn perspectively (a one-point perspective), how does one understand the fact that the lines are parallel in plan, and where is the truth of the construction? The perspectival image suggests that the parallel lines converge at a point at infinity, and that the frontal image rises out of it, its final veil. However, Guarini does not admit this infinite point to be true, nor that the projection is born from a convergence there.[48] The corollary that visual lines eventually become parallel at a distant enough point is refuted with equal vehemence. "Ortografia does not come from an infinite distance from the eye." What is more, he finds "the idea frustrating and the supposition absurd," arguing that an image at infinity would have diminished so much that it would be invisible.[49] The unique perspectival point where all would be revealed carries with it the end of the appearance. Perspective accelerated the "appearance of the surface of things," which resulted in the haemorrhaging of vision's temporal nature. The distinction between geometry and optics is necessary to avoid this trauma of the surface. It is tied to a

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[47] This has been clairvoyantly observed by Corrado Maltese: "Una netta separazione, dunque, tra processo della visione come fatto concreto e vivo e metodi goemetrici di rappresentazione." "Guarini e la Prospettiva," *GGIB*, op. cit., Vol. 1, p. 560. This is also made most clear by Alberto Pérez-Gómez, who argues that it was precisely the fact that Guarini distinguished between optics and geometry which set him fundamentally apart from Girard Desargues: "Desargues emphasized that there was no difference between the drawing of a plan and that of a perspective, as long as an appropriate scale of real dimensions projected to infinity was used." *Architecture and the Crisis of Modern Science*, op. cit., pp. 91 and 100.

[48] Guarini refuses the point at infinity in the physical world; infinity remains a metaphysical notion. See "De Infinito," *Placita Philosophica*, pp. 267-273.

[49] "Orthographia non nascitur a distantia oculi infinita, quae lineas visuales rem visam lambentes orthogonaliter in planum imprimat...probatur. Nam Linea visuales nunquam sunt parallelae; sed in oculum tandem coniunguntur. Dices. Quod data infinita distantia fierent parallelae. Resp. negando. Nam primo non est haec distantia possibilis, et ideo frustratoria est haec suppositio, et absurda..sed infinita diminutio in nihil terminat; ergo nihil videtur." *Euclides adauctus*, Prop. II, conclusion ii, cited in Corrado Maltese, "Guarini e la Prospettiva," *GGIB*, Vol. 1, p. 560. On the distinction of optics and geometry, and Guarini's debate with François Aguillon on the matter, Corrado Maltese's article is most enlightening.

fundamental shift between divine and human points of view: these are of different orders. In attempting to collapse the two orders, the possibility of revelation is nullified, for revelation relies on this fundamental distance through which appearance is possible. In the illusionistic representations mentioned above, the problem for Guarini was that these were no longer endowed with a space in which an enduring revelation from God could take place. The Perspectivist paradigm presupposes an arbitrariness of the sign, that is, the position of the viewer in relation to the object, and the "appearances" it generates are the result of the intersection of a plane and the individual's precarious visual cone. *Ortografia* in turn quests for the timeless and invariable order of the human world as seen from God's undistorted view point.[70] As Fernand Hallyn has expressed so clearly with regards to seventeenth-century perspectivism, "the perspective turns back on itself, on its own constructions. Perspectivist knowledge is knowledge of perspectivist phenomena."[71] In other words, the perspective is already a representation that speaks only of the mode of its production. For Guarini, the projection was not so; it was still "open" to the possibility of allowing a shimmering "appearance," from a distance behind the surface.

As seen above, the reconciliation of optics and geometry was problematic if one were not to admit the infinite point.[72] But for Guarini, it is not up to the eye alone to proffer the experience of appearance, of *species*. This is a much more englobing realm, that of corporeal perception. To this end, Guarini will expend tremendous effort in elaborating methods through which to know the material world and master its material operations, in order to be apt to make things that are true: tools and instruments, inks, pens. This emphasis on the knowledge of the tools of the *artifex* is

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[70] Fernand Hallyn explaines this very well when he discusses the Perspectivist paradigm: "Confronting the same scene, I can adopt a frontal or oblique perspective, a perspective from above, and so on, and the shape of the signs that compose it will depend on my vantage point. The pictorial sign is thus unstable: neither pure self-identity nor pure difference from other signs. . . . Representation is conceptualized in its relation to the subject, which is its source. As soon, however, as a relation of object to subject is established, a necessity is created." *The Poetic Structure of the World*, op. cit., p.68.

[71] F. Hallyn, *The Poetic Structure of the World*, p. 69.

[72] Please see Pérez-Gómez, op. cit., pp. 100-101.

reiterated in *Placita Philosophica,* in a dialogue on Art.[73]

So too, Guarini's refusal of the privileged vantage point--a visual construct--relegates vision to a secondary role as carrier of truth, and elevates the tactile and synaesthetic experience as primary carries of truth: the *specie* in the eye is like a reflection in a mirror, and unlike the reflection in marble: "Ita species reflexae ad oculum à speculo, non in eius sperfice videntur, sicuct reflexae à marmore."[74] In *Architettura Civile,* Guarini obseverves the many situations in which the incompletion of the optical experience is evident: the twenty-first chapter of the third *Trattato* is an attempt to contend with the limits of the eye: "del rendere proporzionate la prospettiva che sembri difettosa per la vista."[75] This is a recurring theme in Guarini's theory of vision as found in *Placita Philosophica.*[76] Optical sensitivity or more specifically the *specie* in the eye is seen as "extremely oblique" and therefore "weak."[77] Hence there is a gap between what the eye perceives and the order of the world. The perennial questions of where vision originates, where it ends, and of the relationships between the eye, the mind and the outside world, fascinated Guarini. The above questions constitute an inquiry into the direction of vision and into the relationship between image and surface: does sight radiate from the object to the eye or the other way around? How does the advent of seeing come about? His presentation of the "marvellous architecture of the eye"[78] draws from an interesting blend of medieval and Renaissance and late Renaissance anatomical knowledge, and thus contains frequent references to Aristotle, Galen, Alhazen, Witelo, Aguillon, Vesalius[79] and

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[73] "De Arte," *Placita Philosophica,* pp. 213-214. An excerpt from the Latin text is reprinted in Bianca Tavasi La Greca's Appendix to the Polifilo edition of *Architectura Civile* (a summary of the passage in Italian is also included), pp. 448-450.

[74] *Placita Philosophica,* p. 721.

[75] *A. C.,* Tratt. III, cap. 21, pp. 242-247.

[76] Notably, in "De Luce," pp. 397-468, and in a cnapter of "De Vita," ("De sensibus externis"), pp. 711-724. Guarini's visual theory is also examined by Corrado Maltese, op. cit., p. 559.

[77] *Placita Philosophica,* p. 721.

[78] "De oculi mirabili architectura," *Placita Philosophica,* p. 711.

[79] *Placita Philosophica,* p. 713.

Kepler.[20] In keeping with his time, Guarini rejects extramission theory: the eye is not "luminous," vision does not "touch" the object,[21] and spirits do not carry the image to the eye through the air.[22] Although he rejects Kepler's retinal image in favour of a "uveal image,"[23] he does believe that a small inverted image is created in the eye, but that "the soul sees things straight even though they are inverted, and even if they are small in the eye, we see them enlarged."[24] It would appear from his diagrams (*Figure 13*) that he may not have understood the lenticular function of the crystalline lens, for he depicts a medieval visual cone that ends on the eye surface, and shows lens refraction diagrams separately.[25] If indeed the refraction in the crystalline lens was not well understood, he would have relied on the notion of the visual cone, in which the image is created by a selection of the rays that hit the surface of the eye perpendicularily--all non-perpendicular rays being too weak to enter the eye and make an impact on vision. This would correspond well with Guarini's disdain of oblique lines.[26]

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[20] "Kipero" is cited in a discussion on retinal image, *Placita Philosophica*, p. 714.

[21] To the question on whether vision terminates in the object or in the *specie*, Guarini answers that it ends in the *specie*, and that he must disagree with Plato in the eye emitting rays: "Si tamen radius emissitios cum Platone ponere non velimus." *Placita Philosophica*, pp. 720-721. For a comprehensive survey of the history of theories of vision, see D. Lindberg, *Theories of Vision from Al-Kindi to Kepler*.

[22] "Oculus licèt in se lucem posideat, per eam tamen, visionem non perficit: sed nec spirituum affluxus, ad actu videndum est expectandus; sed spiritibus ipsi organo innatis haec facultas inest." *Placita Philosophica*, p. 721.

[23] "Visio in retina non perficitur. Est contra communem Philosophor, Opticor & Medicorum sententiam: sed Kiperus . . . eam sustiner . . . Nullum est aptius instrumentum ad perficiendam visionem quam uvea." *Placita Philosophica*, p. 714. In this, Guarini has departed from Alhazen's notion of vision created inside the crystaline lens. See Lindberg, op. cit., p. 69.

[24] *Placita Philosophica*, p. 720.

[25] These may be intended to illustrate the *camera oscura*, which Guarini also writes about. *Placita Philosophica*, p. 720.

[26] The medieval Perspectivists believed that oblique rays were too weak to enter the eye. Using this argument, they considered the visual cone to be composed only of rays arriving perpendicularly onto the curved surface of the eye. See D. Lindberg, op. cit., pp. 74-75. This seems to have carried over into Guarini's conception of vision. Corrado Maltese also suggests that Guarini's understanding of refraction was hesitant. *GGIB*, Vol 1, op. cit., p. 559.

In "De Sensibus Externis,"[87] which is the title of the *disputation* in which the eye is studied, Guarini wonders how the object is ultimately perceived. This is a riddle to which *Placita Philosophica* dedicates many pages. It is essentially played out in answering the question of whether vision terminates at the object or at the *uveal specie*: "An visio terminet ad obiectum sine ad species?"[88] This is indeed a "grave problem" but he must conclude that vision does indeed terminate in the eye.[89] From there, the question of how one is to know the size and distance of the object itself is posed. How indeed to interpret the small uveal image at the back of the eye such that it conveys perceptual reality? In a very interesting discussion, Guarini attempts to explain why some objects appear closer than others. What is most notable is that Guarini's account is not mechanical in any way. Rather, the interpretation of the image is explained qualitatively: it is the "vivacity" of the *species* that enables the understanding of the size and distance of objects. He compares the uveal *specie* to the image reflected in a mirror, and speaks of its loss of opacity, comparing it with that reflected on a marble surface. The tactile realm is in no way assimilated to the optical. Once again, the strange notion of a distance between the object and its surface arises: "These *species* reflect things extremely obliquely, expressing the object *not distanced from itself*, but rather, *integrated to its own surface*."[90] With this, the problem of Perspective, of which the flaw was that it "made the surface of a body appear," is reiterated vividly, as is Guarini's strong sense that obliqueness is a shortcoming stemming from proximity. It is understood from Guarini's comments that

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[87] Guarini, *Placita Philosophica*, "De Viventibus," Disp. 8, p. 711.

[88] *Placita Philosophica*, p. 720.

[89] "Gravis est difficultatis . . . imo Concl. Visio ad ipsas species terminat. Quod visio non siat extra oculum: quare ad ipsum abiectum pertingere non potest, ut circa operetur." *Placita Philosophica*, p. 720. This of course is in keeping with Alhazen who had established that "there is no perception except in corporeal things Therefore nothing issues from the eye to the visible object to perceive that object." See Lindberg, op. cit., p. 64.

[90] *Placita Philosophica*, p. 721 (my italics). The complete quote appears as follows: "Probatur ex eo, quod species semper viciniores appareant, si minus opacentur. Ita species reflexae ad oculum a speculo, non in eius superficie videntur, sicut relexae à marmore; quod quae à speculo exerunt, minus opacitatis secum gerant... Quae species obliquissimè reflectunt obiectum non remotum a se, sed in ipsâ sui superficie exprimunt... Sed radii obliquissimi, ex Perspectivis, debilissimi sunt: ergo vivacitas specierum & perfecta obiecti expressio visum ita fallit, ut circa ipsum obiectum versari se credat." Ibid, p. 721. Obliqueness is responsible for the optical *specie*'s failure to convey the perfection of the object, a perfection only aptly conveyed by geometry.

perspective reveals too much, too quickly. Vision that is enduring, in contrast to that associated with the momentary brilliance of a fireworks display or an optical trick, is a characteristic of things that are true.

Guarini does appear to privilege vision when he writes that if the rule offends the eye, the architect must change them or let them go, but this vision is not purely "uveal."[91] The anatomical plate of *Placita Philosophica* contains illustrations of Guarini's account of vision which are worth noting: a drawing at the bottom of the lower portion *(Figure 14)* shows a longitudinal section of the eye. The crystalline lens is centered in the eye, rather than close to the pupil as others before him had found it to be.[92] It also depicts a very straight optic nerve, suggesting that Guarini envisaged an optical transmission of the *specie* to the brain. In contrast, Descartes's illustration in the *Dioptrique* only depicts the part of vision that behaves optically, and hence the section of the eye emerges from a shaded box in which no optic nerve is shown.[93] Descartes, as Kepler did, surmized the visual process to be non-optical from the retina onward.[94] Taking these depictions metaphorically, one can remark on the divergence between the qualities of Guarinian and Cartesian vision, as to their responses to the danger of illusion that both were so attuned to.[95] It is in fact striking to notice the similarities between Merleau-Ponty's critique of the *Dioptrique* and Guarini's reservations about perspective.[96] Descartes sets a radical distance

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[91] "... si ... siano per offendere la vista, le cangia, le lascia ...." *A. C.,* Tratt. I, cap. 3, p. 11.

[92] Namely Felix Platter, whose anatomy Kepler adopted. D. Lindberg, *Theories of Vision from Al-Kindi to Kepler,* pp. 177, 191.

[93] *Paris,* 1637. A treatise on vision is also recorded in the *Scrittori De'Cherici Regolari Detti Teatini,* namely Scarella, *De Principiis Visionis Derectae, Reflexae, & Refractae* (circa 1775), op. cit., Vol. 2, p. 260.

[94] This can be seen to have paved the way for the "foreclosure of vision." See Dalia Judovitz, "Vision, Representation, and Technology, in Descartes," D. M. Levin, *Modernity and the Hegemony of Vision,* pp. 63-86.

[95] "From Descartes's earliest writings, the same concern continues to be reiterated in different ways: the danger of illusion. This invocation of illusion is invariably tied to deception and the problem of unreliability of the senses." Dalia Judovitz, "Vision, Representation and Technology in Descartes," op. cit., p. 65.

[96] "*Space* remains absolutely in itself, everywhere equal to itself, homogeneous; its dimensions, for example, are interchangeable...Descar... es was right in setting space free. His mistake was to erect it into a positive being, outside all points of view, beyond all latency and all depth, having no true thickness."

between the object and its conceptual interpretation by rejecting the need for resemblance,[97] causing "icons to lose their power."[98] Guarini is quite different in this regard: he does not relinquish the optical nature of vision, and he bends the rules of architecture in its favour when need be, because the ultimate aim of architecture is to please the senses and delight the eye.[99] Far from entirely entrusting the mind, or "la forza giudicativa" with the task of reconciling the world and its visible nature, he will use perspectivist rules to make cornices and other folds of architecture visible.[100] "L'Architettura non dev'essere *tanto* licenziosa *quanto* la Prospettiva."[101] Guarini objects to over-permissiveness with regards to perspective; that is, the use of perspective not aimed at restituting material presence, and recovering true symmetry.[102] A need for distance transpired from this, that was enmeshed in architecture's end of being truthful. Let us now examine the corrolary of truthfulness in *Architcctura Civile*: architecture's vocation to delight the senses.

Projective Geometry - Throwing into Presence

An initial step in a hermeneutic of *Architettura Civile* is simply to observe what becomes of Vitruvius' *ichnographia, orthographia* and *scaenographia*. Guarini's

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Ibid, p. 173-174. Dalia Judovitz, continuing Merleau-Ponty's assessment of cartesian vision as a "model-in-thought," explains how optical vision is supplanted with a "rational schema," and placed at a distance from embodied experience. Judovitz' proposal of anamorphosis as the metaphorical model of Cartesian vision is evocative: "Anamorphosis announces a new relation to the visible, one wh⁻ conceives visual form not as a given but as a conceptual and technical construct." Op. cit., pp. 69, ₃4.

[97] "Vous voyez donc assez que, pour sentir, l'âme n'a pas besoin de contempler aucunes images qui soient semblables aux choses qu'elle sent." *La Dioptrique*, V. p. 12₅.

[98] M. Merleau-Ponty, "Eye and Mind," *The Primacy of Perception*, p. 170.

[99] "L'Architettura ha per fine di compiacere is senso. . . ." *A. C.*, Tratt. I, cap. 3, oss. 7, p. 17; "onde par necessario . . . di vedere a quall'occhio si debba aggradire. . . ." *A. C.*, Tratt. III, cap. 3, oss. 1, p. 127.

[100] "Benché più d'una fiata l'immaginazione si lasci ingannar dalla vista, è operò anche certo che iu molto occasione la forza giudicativa corrette gli (rori degli occhi, o in tutto, o in parte." *A. C.*, Tratt. III, cap. 2₂, oss. 7, p. 255. See also *Placita Philosophica*, p. 721.

[101] *A. C.*, Tratt. I, cap. 3, oss. 10 (my italics).

[102] This is in agreement with Corrado Maltese's explanation of Guarini's "curious oscillation" regarding perspective. *GGIB*, Vol. 2, op. cit., p. 564.

icnografia and the two forms of *ortografia* are now rigorously understood as "projections" rather than as "arrangements of impressions" that depended on the physical placement of the viewer in relation to the object, as Vitruvius had described them.[103] It is in the third book that the term *proiectione* first appears, introduced in italics in the text, and preceded by "detti," suggesting that it was unfamiliar. The term itself is not consistently found in period dictionaries of spoken Italian; however "progettione" does appear in Gio Torriano's Italian - English dictionary of 1659, defined as "the casting out of a thing, a butting or jutting out of any part of a building, also a prostrating."[104] Projective geometry as such was just being born; Gaspard Monge is still only distantly presaged by Desargues' *Brouillon Projet* of 1639. As for *ortografia*, "the architect should know two kinds; one which presupposes the plan and from it raises his drawing; the other which doesn't presuppose a plan, but which is drawn in suspension, and then thrown into plan. . . ."[105] Imbued with the quality of "vestige," *ortografia* is a temporal representation.[106] If it is fairly clear that the first refers to elevation, *ortografia gettata* is more complex, and dialectical: it is a section in the quest of its unfolded plan. Indeed, "just as it is opposite in its title to the first, so too in its mode of operating; for where plane surfaces were raised with perpendicular lines to give them body, and form the *fabbrica*, this on the contrary reduces in plan with perpendicular lines, bodies which are suspended above, in order to extend their surfaces."[107] This odd definition is better understood in *Trattato IV*, which is devoted to questions of finding the surfaces cast by curved sections, resulting from intersections of cylinders and cones, for vault construction. Therein, Guarini reveals the tool through which these suspended bodies could be ushered into the

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[103] "Species dispositiones, quae graece dicuntur "idea": sunt ichnographia orthographia, scaenographia." Vitruuvuis I : 2.

[104] It does not appear in Veroni's *Dittionario Imperiale* of 1700, nor in *Queen Anna's New World of Words or Dictionarie of the Italian and English Tongues* of 1611.

[105] A. C., Tratt. III, cap. 1, p. 113. The terms are defined and compared in Tratt. IV, introduction, p. 288: *ortografia gettata* "è opposta nel suo titolo all'antecedente, così a che nel suo modo di operare."

[106] "La Ortografia non è altro . . . che una impressione, terminazione, o vestigio notato nel piano di una superfizie ad esso normale, la quale circondiun'altra elevata da; detto piano." A. C., Tratt. IV, cap. 1, intro., p. 289-290.

[107] A. C., Tratt. IV, cap. 1, introduction, p. 288.

material realm: stereotomy. Stone as such is only directly mentioned in the introduction, and thereafter the text only contains geometrical operations and letters.[108] The non-algebraic character of these was alluded to in the introduction to this section.[109] Guarini however narrates the geometrical operations with terms that at times evoke the act of cutting stones and covering surfaces.[110] When for example he explains the projection of a convex surface, he reminds the reader that the more planes it is divided into, the more its "roundness" will be approached; thus stone is evoked as a silent assumption.[111] "But wanting to find once again, and extend the surface in plan, of the said cone, for example the inside one, lines will be carried from point I. . . ."[112] It is a poetry of seeking geometries suspended in nothingness, a quest to recapture the fulness of the curve: "How to find again," "how to extend," how to relate the above to the below.[113] We are reminded of the patterns on the pendentives which were not only thrown, but stretched, as is required when moving between a plane and curved surface. If one knows the curve in section, whether concave or convex, there remains the question of determining the stretched area from which the stones are to be cut and bevelled, so that when set together, the original three dimensional shell is recovered. It this light, the material realization of domes and vaults is seen to come from "above," transported downward to the stone

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[108] In this way, the treatise is quite different from Philibert de L'Orme's *Architecture* (1648). Guarini was certainly exposed to the advanced French tradition of stereotomy while in France (1662-1666) to work on Ste Anne La Royale. He acknowledges the expertise of the French explicitly in the introduction of Book IV. W. Müller agrees with scholarship that Guarini would have been exposed to both Desargues and Derand's works on the topic, but advances that he remained closer in spirit to the more practical and less mathematical work of Derand. "The Authenticity of Guarini's Stereotomy," op. cit., p. 204. See also Alberto Pérez-Gómez, *Architecture...*, op. cit., p. 91; "Guarini e la Stereotomia," op. cit., pp. 537, Notes 3, 540, 541. This opposes Wittkower, *Studies...*, op. cit., p. 184, as well as Fagiolo, op. cit., p. 181.

[109] In particular, on the "deceptive" nature of these letters, which are not truly algebraic. See Müller, "The Authenticity of Guarini's Stereotomy," op. cit., p. 203.

[110] ". . . e presa la distanza 10. 12 si trasferirà da 13 in 14, unendo i punti 13. 6 colla retta 6. 13, quale si *taglierà* dall'anello disteso la porzione necessaria per *coprire* la parte di sfera MI 11. 8. . . ." *A. C*, Tratt. IV, cap. 5, oss. 3, p. 363-364 (my italics).

[111] "Il mode dunque nostro di trovare la superfizie de'corpi sarà inscrivere in essi molte superfizie piane, che si accostino alla loro superfizie curva il più che sia possibile." *A. C*, Tratt. IV, cap. 3, p. 297.

[112] *A. C*, Tratt. IV, cap. 4, oos. 5, p. 343.

[113] "Modo di ritrovare la superficie d'un cilindro . . ." *A. C*, Tratt. IV, cap. 3, oss. 15, p. 328; "Modo di gettare e stendere in piano le superficie de'coni variamente segate," *A. C*, Tratt. IV, cap. 4, p. 332.

through parallel projection. There is an inherent temporality and latency in the *proiectione*; it is purposeful, aiming in one direction to "give body to surfaces and form the making" and in the other to give surface to "bodies floating above."[114] Something akin to the dual directionality of the axonometric is evoked, as is suggested in the plates (which often show the plan accompanied by a section), in axonometric-like configurations. With the parallel projection of surface, one could speak of a reciprocal rapport of receptivity and foretelling between above and below, quite distinct from the more willful operation of perspective which moves unidirectionally from a singular view point. Above all, a strong notion of the interdepedence of stone and geometry, "vestiges" one of the other on their way to becoming embodied *fabbrica*, reverberates with questions of mediation between spirit and body.[115] The incarnation metaphor advances once again to give shape to the semantic field of the SS. Sindone pendentive and dome.

Guarini introduces *ortografia elevata* by stating that, like all the arts, it relies on clear and easy principles; and that as the other sciences, it holds to certain "primary notions which comprise and form the idea."[116] These principles, he explains, are generally "different kinds of overhangs called *proiectiones*, and other reveals, which advance out of a building face, and folding itself with various forms, give delight *(vaghezza)* to the work."[117] It is interesting to observe that *vaghezza*, a term which describes a distinctly sensual pleasure and whose seventeenth-century meaning is

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[114] Comparing *ortografia elevata* to *gettata*: "perché là dove in quella le superfizie piane s'innalzano con linee perpendicolari, *per dare a loro corpo*, e *formare la fabbrica*, questa per lo contrario *i corpi in alto sospesi* con linee perpendicolari riduce in piano per *istendere la loro superficie*." A. C., Tratt. IV, introduction, p. 288 (my italics).

[115] "Se si volesse ritrovare l'impressione o vestigio che fa il cono predetto nella superficie piana suddetta. . . ." A. C., Tratt.IV, cap. 4, oss, 7, p. 348.

[116] A. C., Tratt. III, cap. 1, p. 113.

[117] "Ogni arte appoggiasi a chiari e facili ed evidenti principi. Onde la ortografia secondo do stile delle altre scienze tiene certe prime delineazione, per cui variamente compone, e forma le sue idee, le quali nelle seguenti Osservazioni andremo annoverando; e sono in generale divere sorte di sporti detti *Proiectiones*, e degli altri aggetti, i quali si avanzano fuori di qualunque fabbrica a piombo, e con diverse forme piegandosi, danno vaghezza all'opera." A. C., Tratt. III, cap. 1, p. 113.

associated with love and desire, is associated with projections throughout *Trattato III*.[118] Since architecture's end is to please the senses, it follows that projections outward into space are a necessary part of architecture. The method to guide an undulating line, "Maniera di condurre una linea ondeggiante," is not an incidental inclusion in *Architettura Civile*, for it enables the making of the undulating Order.[119] This paradigm of the departure from the classical canons increases the surface area of the pilaster, and clearly expresses the overflowing of matter into space. The root of this overflowing remains a geometrical operation; it results from pulling arcs of circles from equidistant points on two parallel lines.[120]

In *Architettura Civile*, the quest for *vaghezza* is carried through geometry. *Vaghezza* is the result of geometry being cast into stone--becoming incarnate. Guarini's concern for mouldings must be understood in this light. When he describes the Orders, he fills pages with tables of ratios of each reveal and elevation.[121] Similarly, egg and dart motifs and astragals are described as prominences that "flare out of the wall," and *cavatti* as "growths which throw themselves outward."[122] All the geometrical entities in *Architettura* are animated, forwardly leaning into the sensuous matter of architecture. Lines, points, and angles and curves are the result of pulling, throwing, lifting, and bending.[123] In this treatise of the very late Renaissance, the protagonist is geometry itself, involved in a drama of presencing. Indeed, what remains unraised in plan leaves no trace in elevation, and conversely, what remains unextended in

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[118] "vaghezza = (Fr.) gentillesse, grace, désir, amour, envie; (Lat.) desiderium, delectatio, cupiditas, voluntas, pulchritudine; (It.) voglia, diletto . . ." *Dizionario Italiano, Latino, Francese*, 1671. "vaghezza = voglia, per diletto . . ."Vocabulario Degli Academici della Crusca, 1623. It would seem that the connotation of "imprecision" is a later nuance.

[119] *A. C,* Tratt. III, cap. 2, oss. 7, p. 123.

[120] The undulating Order is found in S. Maria Della Divina Providenza de Lisbona, which exists as an engraving in *Architettura Civile*. Perhaps had Guarini begun work on the SS. Sindone Chapel before completion of the chapel's first Order, the undulating Order may have been found there too.

[121] *A. C,* Tratt. III, cap. 5-8.

[122] *A. C,* op.cit., Trat. III, cap. 1, oss. 1. pp. 113, 114.

[123] "On how to pull a spiral," "On how to lead an undulating line," *A. C,* Tratt. III, cap. 2, pp. 119-126.

elevation would not appear in plan; while geometry harbors in the realm of idea, matter awaits it to usher it into the realm of perception and presence, in fulfilment of architecture's aim to please the senses. At this moment, the pendentives of the SS. Sindone are remembered: their stretched stars and crosses were also found on the chapel floor; the surface patterning is *grafia* itself; the writing of geometry, the sign that *icnografia* has effectively been thrown and stretched.

Regarding *acheiropoïete* portraits, Ewa Kuryluk has written, "without a surface, there is no face; without a face, there is no sight. . . . Restoring (sur)face and sight, God's touch resembles a magical transplantation of skin."[124] In this light, *ortografia* can be seen as a divine giver of life, because it ensures the skin and face of buildings. This is continuous with the quality of embodiment uncovered in Part I, in which a barely recognizable figure acceded to visibility through projection onto a cloth. The Theatine landscape of sacramentals and the need for material insertions to enable mediation between the invisible and corporeal being has been underlined. Similarly, thrown and raised projections, *ortografie,* emerged as the *ars operandi* that enabled impression of idea onto stone. These mediative projections required a fundamental distance in which to operate, a distance which perspective did not afford. In the space of projection, image and cloth, ink and paper, geometry and stone, skin and appearance, a body inserts itself temporally. It is a "baroque body" treading at the surface of stone and rising into presence. The inflexions of matter, projections, prominences in *Architettura Civile* could be seen as folds between matter and soul, in the manner described by Deleuze, as inflexions that spirit could fill, and as enabling mediation between a lower and an upper world.[125] The question arises whether Guarini's geometry is associated with a similar tendency toward incarnation of the invisible. Such suggestions are not found in *Architettura Civile*; however, some of Guarini's other writings broach this question more directly.

[124] E. Kuryluk, Veronica and Her Veil, op. cit., p. 203. In this context, the author perceptively notes that "the ultimate test to which Job should be submitted . . . is the destruction of his skin," p. 199.

[125] Deleuze proposes an analogy between Leibniz' monadology and baroque architecture: the relationship of soul and body organized as on two levels which communicate through "the fold." See "Les deux étages," in Le Pli, op. cit., pp. 138-163. An association between Leibniz' idea of the possibility of inseparability of distinct substances, notably of body and soul—where the soul is understood as a projection onto a point of the body—offers a key to understanding the baroque paradigm, and is for Deleuze a way of resolving the impasse of the rectilinear cartesian model. Monadology attaches itself to the "tilting of the soul" as much as to "the curvature of matter." Le Pli, p. 17-18.

Placita Philosophica and the Need for Matter

The first chapters of this thesis reflected on the paradox of the Incarnation, death and Resurrection as paradigm of sacred architecture that operated on a necessity of absence and the desire for a tangible presence of God. The SS. Sindone Chapel was then described as the culmination of a desire to re-present invisible entities in material form, marking a theological, social and political trajectory from logos to "flesh," where "flesh" is understood as the outermost layer of matter and as a metaphor of Incarnation. The latter has been called "image" in the theological discussions, and "appearance" in the context of Guarini's architecture. In probing the nature of the link between the SS. Sindone and Guarini's architectural treatise, Guarini's geometrical theory arose as the vehicle for a forward leaning of "true symmetry" into the tactile realm. Projections outward enabled the experience of "vaghezza," the desire of and delight in the true symmetries of architecture. This delight in turn was associated with a quality of appearance in which the surface of a body was not fully disclosed, and was tied to Guarini's preference for parallel projection over perspective and in the ontological differentiation between optics and geometry. It seems fair to wonder whether *ortografia* was underlied with a symbolic dimension, and how Guarini perceived the roles of God, of the senses and of ideas, in the formation of a "true" experience of phenomena which he advocated so strongly. In the following pages, excerpts from Guarini's philosophical treatise, *Placita Philosophica* are considered.[1] It is noted that the treatise is a scholastic work with many facets, and that only small sections are here examined, in the context of a hermeneutic of Guarini's geometrical theory and the chapel. A passage from *Euclides adauctus* is also useful in this synthesis.

The question at hand concerns the relationship between the corporeal and non-corporeal worlds in Guarini's thought. In seventeenth-century philosophies, the

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[1] Paris, 1665.

radical discontinuity Descartes introduced between *res extensa* and *res cogitans* had resulted in an aporia for many of his contemporaries as to the question of cause, in particular as to the problem of physical transmission of movement and the experience of the senses. Descartes' physics, even though set in motion by God, was endowed with the troublesome principle of inertia which tended to nullify the possibility of God's action in the world.[2]. A prevalent philosophy with which to safeguard the place of God in phenomena is proposed by Malebranche and the theory of occasionalism: the gap between matter and thought is bridged by giving to God all credit for phenomena, experienced only on the occasion of God's willing.[3] Tavassi La Greca has identified similar threads of occasionalism in *Placita Philosophica*, and that indeed Guarini held God as the first efficient Cause of all phenomena.[4] In relation to architecture, what is interesting is the part Guarini assigns to the human agent leading up to the point where God takes over. Interestingly, this idea is addressed in *Placita Philosophica*, in a passage on Art.[5] The thrust of "De Arte" is that there is a "remote idea" in God that the *artifex* attempts to express in his work: "There a divine art, where an idea directs God in the production of creatures: and there is human art, where surely an action or disposition, guides the artist in his work."[6] Indeed for Guarini, the better the artist knows the laws of God's creation and masters its

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[2] Dijksterhuis, *The Mechanization of the World Picture*, op. cit., pp. 403-415.

[3] Occasionalism is expressed most clearly in the idea that one cannot move a couch unless God enables it: "Je dis plus: il y a contradiction que vous puissiez remuer votre fauteuil . . . nulle puissance ne peut le transporter où Dieu ne le transporte pas, ni le fixer où Dieu ne l'arrête pas . . . que Dieu ne communique sa puissance aux créatures, et ne les unit entre elles, que parce qu'il établit leurs modalités causes occasionnelles des effets qu'il produit lui-même." Malebranche, *Entretiens sur la métaphysique*, VII, 10.

[4] "The first cause, which is God, leads to all effects of second causes, in the physical, efficient and immediate sense, such that no effect can be produced without Him." "De causis in communi," *Placita Philosophica*, p. 228, cited in B. Tavassi La Greca, op. cit., p. 443.

[5] *Placita Philosophica*, p. 214. B. Tavassi La Greca offers a lucid analysis of this passage, and includes exerpts of the Latin text in 'La Posizione del Guarini...,' op. cit., pp. 448-450.

[6] "Ars alia Divina, nempe idea, qua Deus dirigitur ad producendas creaturas: alia humana, actus nimirum, vel habitus, artificem dirigens ad quaedam artificiose componenda." *Placita Philosophica*, p. 214. The notion of a divine idea, communicated imperfectly through art is decidedly Platonic; however, Guarini is very un-Platonic in his insistence on the senses as a means to approach knowledge of the divine idea: "Perfectiones itaque divinae, sed ut imperfectione communicabiles, erunt Ideae." *Placita Philosophica*, p. 214.

instruments and tools, the more likely the work is to make the "remote idea" appear at the "proximity" of the surface.' The spirit of this text reiterates the concern for mastery of geometry and for the well-made instrument observed in *Architettura Civile*. The Platonic element of this theory (the remote idea in God) is countered by a reaffirmation of the world of the senses as necessary to come to any kind of knowledge. Once again, knowledge is grounded in experience rather than in mathematical theory, and experience in turn is "capted by the senses."⁸

Placita Philosophica takes on questions addressed by Aristotle, and later by Thomas Aquinas and other nominalist and Scholastic philosophers, as to the ultimate questions of mediation between things invisible and things visible.⁹ In the context of an architecture of the Sacred, this can prove most enlightening: how does meaning make its way into the things we make? The chapel of the Holy Shroud remains a poignant forum for this idea; the relic itself asks the question of the mode of production of impression of spirit onto matter, albeit in a most literal way. Beyond revealing Guarini's rejection of the Copernican theory of the movement of the earth, *Placita Philosophica* testifies to a central preoccupation with the question of how corporeal and non-corporeal substances are organized in creation and in the human

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' Nam cum artifex vult operari, oportet ut seligat materiam aptam, instrumenta noverit, connexionem rerum ad artificium spectantium, et tandem illud artificium undequaque decreverit." *Placita Philosophica*, p. 214. Guarini then writes on how "the painter must mix the right colours together, use the right instruments to extend them, choose the right material to receive them, find the glue to apply onto them. . . ." Ibid., p. 214.

⁸ ". . . cum fundamentum Philosophiae sit experientia, quae sensibus captatur," *Placita Philosophica*, p. 175-176, cited in B. Tavassi La Greca, "La Posizione del Guarini in Rapporto alla Cultura Filosofica del Tempo," op. cit., p. 445. This article brings to light the important role of experience in *Placita Philosophica*, as well as proposing a strong parallel with Malebranche and occasionalism. The centrality of experience is also made very clearly by Mauro Nasti, who examines the ptolemaian and aristotelian aspects of Guarinian physics as expounded in *Placita Philosophica*. He concludes that Guarini's physics are deductive–aristotelian in nature, rather than inductive: "What interests Guarini is physical reality, not mathematical hypothesis. . . . For Guarini, physical orbits are not abstract constructions: they are rather . . . entities which may effectively be contemplated, seen." "Il Sistema del Mundo di Guarino Guarini," *GGIB*, Vol. 2, p. 565.

⁹ Outstanding works which have examined *Placita Philosophica* in relation to Guarini's architecture are those of Nasti, op. cit., and especially Giulio Carlo Argan and Bianca Tavassi La Greca, op. cit.

soul.[10] The treatise adopts the aristotelian format of a dialogue, structured whith a series of questions, responses and logical demonstrations. The eight *Disputati* of the treatise of particular interest here are some reflections made regarding the relationship of matter and light, already alluded to in the question of "diaphanousness," and that between spirit and matter. The treatise, which remains very close to Aristotle's writings on Physics and Nature, examines the various tiers that concern human beings.[11] After establishing a basis in logic, the treatise proceeds to map a progression from physics, to life, to human life specifically, and then to the world of spirits, and finally metaphysics.[12] The treatise broadly outlines a progression from the material world toward the body and to the realm of spirits, and culminates in a metaphysical reflection in the last *disputatio*. This progression is marked by a prominent section on anatomy and questions of corporeal transformation[13] and by a lengthy discussion on "separated substances."[14] Many debates in the treatise are preoccupied with the configuration of the spiritual world in relation to the corporeal world, the circumscribed to the uncircumscribed, the embodied and the "separated." The Scholastic approach adopted in these reflections

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[10] "Unica conclusio: terra est immobilis. Est contra Copernicum et Galilaeum: et licet non de fide, attamen contraria sententia, ut erronea declarata est a sacra congregatione." *Placita Philosophica*, p. 389.

[11] For example, the *Disputatio*, "In Libros De Generatione et Corruptione," is a response to Aristotle's *De Generatione et Corruptione. Placita Philosophica*, p. 470.

[12] The content of *Placita Philosophica* is succintly organized as follows: I. "Praeparatio ad Logicam," on logic; II. "Prooemialis," on Physics, first matter, time and duration, infinity, place and void, nature and Art; III. "Prooemialis - in libros de caelo & mundo," on celestial motion and inflexion of skies on the lower realm; IV. "De Luce," on light; V. "In Libros De Generatione et Corruptione," on the elements and on the principle of the *mixtio*, alteration, rarefaction and condensation; VI. "De Viventibus," on life, living bodies, souls, spirit, growth, nutrition, sensations, instinct; VII. "De Substantis Separatis," on things without bodies, which are mind, intellect, spirit, angels; and VIII. "Metaphysica," on Being, God and essence.

[13] "De Viventibus testifies to Guarini's fascination for medicine; therein, the problem of the basic principle of life is tackled, a principle of "calor vitales" originating in the body (rather than Gallenic *pneuma*) is advanced. A dialogue on nutrition and growth ("De altrici & auctrici facultate") contains a theory of the circulation of the blood resembling Harvey's. Harvey's name however does not appear alongside those of Aristotle, Gallen and Fernelli, whom Guarini frequently refers to in his medico-anatomical writings. Questions of generation are also given careful consideration. It is also in "De Viventibus" that the senses are discussed, and that Guarini's theory on vision (discussed in Part II) is found. *Placita Philosophica*, pp. 665 - 793.

[14] "De Substantis Separatis" treats of substances without bodies: mind, spirits and angels. *Placita Philosophica*, pp. 794-826.

demands rational accounts of the portion of spirit in the physical world and often leads to involved problematics--such as whether God can be found in an imaginary place.[15] The world of *Placita Philosophica* constantly seeks an account of phenomenon through matter. These are subtended by questions regarding the fate of the corporeal body after death that are much more reminiscent of Augustine's and Thomas Aquinas' meditations on the topic than to the philosophies of the late seventeenth century.[16]

A certain number of inquiries stand out as being of particular interest to baroque architecture. In a dialogue entitled "On place and void,"[17] Guarini proposes the problem of the imaginary place, a "fiction" existing only in the intellect, and asks whether God be found in it, and whether this place can be measured.[18] Guarini is categorical when he maintains that we can only imagine distance in quality and quantity, through the creation of bodies, and through reference to physical reality.[19] Furthermore, distance is understood only as the space between two positive terms, rather than as a void, whereby there can only be real space if God wills it, *by the*

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[15] "An Deus reperiatur in spatiis imaginaris? Unica Concl. Deus per suam essentiam in spatiis imaginaris extra mundum presens reperitur, ita ut proprié, quantum est ex se, in illis spatiis existat." Ibid., p. 276. Such debates implicate questions of Dogma, namely the central Counter-Reformation of transubstantiation; the latter is raised in the context of a debate on whether *Mentes Separatae* have parts: "Corpus Christi in hostia existit totum in toto, & totum in qualibet parte. . . ." Ibid., p. 797.

[16] Thomas Aquinas attempts to account for the resurrected body numerically, temporally and qualitatively, in the *Supplementum* of the *Summa*: "Will the resurrection be instantaneous? Ans. No: the bodies will have to be remade before the souls are reunited to them. Since successive operations conducted by angels are required, an imperceptible yet a lapse of time, is needed." *Summa*, Suppl. Q77, art. 4. Similarly, Guarini asks: "An Angelicus motus possit esse instantaneous? Prima Conclulsio. Spiritus non potest transire in mathematico instanti de loco ad locum." *Placita Philosophica*, p. 821. The reason given is that spirits occupy physical points, not mathematical points, and therefore, they need time to make their way through matter! On spirits he writes: "Est in puncto physico, non renuo: in puncto mathematicé sumpto, iam negatum est. . . ." Ibid., p. 821. The way the spiritual world is confronted with the selfsame perils as the corporeal realm also evokes Augustine's earnest attempts at a full account of the resurrected body of the mutilated in *De Civitaee Dei*, XXII.20: 1,2.

[17] This section reveals Guarini's discomfort with the idea of the void: "Natura abhorret vacuum, non positive, sed privative. . . ." "De Loco et Vacuo," *Placita Philosophica*, p. 273.

[18] *Placita Philosophica*, pp. 274-283.

[19] "Nulla distantia in Spatiis imaginariis assignabilis est, quae sit tanta vel quanta; sed illa habetur per creationem corporis." "De loco et vacuo," *Placita Philosophica*, p. 274.

creation of real bodies,[20] and distance can only be conceived of in relation to reality.[21] In the simplest terms, it is impossible to accede to *res cogitans* without passing through *res extensa*. The principle that matter and corporeity are prerequisites for measurability is another layer on Guarini's haptic geometry, because "the world is made to be understood; and if it can't be understood, it can't be."[22] In conclusion to these reflections on place and void, we come to the question of presence itself: can a thing be, that exists nowhere? To this is responded that a thing has presence through the fact of its position in a place, and that unless it is stripped of its entity, it cannot be stripped of its presence.[23]

Ortografia as divine tool

In the dialogue on "Separated substances" Guarini considers the relationship between spirit and matter. Can "Separated spirits"--beings having shed their body, move from one extreme to another without mediator? He establishes that the movement of spirits, be it continous or discrete, cannot happen without an intermediary substrate.[24] Thus spirits are not free to move unihibitedly about the world of

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[20] "Quare extra mundum non erit tantum spatii, nec quantum, sed quod creabilitur ibi a Deo, etiam inter duos terminos positivos, si ibi ponerentur: inter illos enim esset illud spatium, quod Deus vellet *per creationem corporis realis.*" *Placita Philosophica,* p. 274 (my italics).

[21] An excursus on the notion of locating real places *in vacuo* is illustrated by three cities, Mexico, Paris and Rome. To assess the distances between them in one's mind, one must be able to refer to the real places: "we must concede that our intellect can define and conceive distance, on the following basis: we can gain such concepts on the basis of the possibility of real places." ("At quo pacto sine positione, vel imaginatione alicuius puncti realis in vacuo, unqua poterit hec distantia notari? . . . cur Mexicû & Roma ad spatia imaginaria notanda inducit? Nisi quia sine conceptu distantiae realis, in spatiis imaginariis distantia determinata concipi non potest. Unde concedimus quidem, nostrum intellectum in illis posse signare & concipere distantiam, cum fundamento: at non esse. Fundamentum autem sic concipiendi obtinet: quia ibi est possibilitas loci realis.") *Placita Philosophica,* p. 275.

[22] "Tum quia mundus est de facto in aliquâ capedine: si enim son caperet, ibi neque posset esse. . . ." *Placita Philosophica,* p. 276.

[23] "Possitne res esse, & nubilli existere? Certum praesupupono, nihil propia praesentia spoliari posse. Cum . . . rem fieri praesentem per positionem sui in loco; sequitur evidenter, nisi propria entitate denudetur, praesentia sua quidquam non posse destitui." *Placita Philosophica,* p. 276.

[24] "An mens separata possit transire de extremo ad extremum, sine medio? Unica Conclusio: Nullus motus spiritualis sine continuus, sine discretus, potest sieri di loco sine mediato, sine immediato, sine medio." *Placita Philosophica,* p. 822. Similarly, "Spiritus non potest esse in duobus locis distantibus & non in medio: sicuti non potest esse operatio in distans sine medio: *Ergo neque moueri de loco ad locum*

mortals,[25] but must comply to the prerequisite of a medium with some density. This strongly recalls the question of the need for "thickness" to preserve light and allow appearances to happen in the sensous realm, discussed in relation to Guarini's theory of vision. It is significant that when Guarini insists that spirits need density in order to move or cause subtle corporeal motion, he identifies light as one of the possible substances which could serve as a medium of transference: "In order to move bodies, separated spirits produce a subtle corporeal operation, such as light, but they cannot move by their own volition."[26] The interest of this is of course in relation to the role of light in the chapel. It seems appropriate to imagine the diaphanousness of the dome as a vessel for the motion of spirits. The dome, after all, had allowed the *detti Proiectiones* to advance out of the chapel's walls,[27] and therefore to assume density and have an appearance.

An idea emerges here regarding the meaning of the projection into matter and the manner that these shimmer in light. Elsewhere in the treatise, in a dialogue on "Living Spirits," Guarini compares the notion of the soul imprinting itself on humans to that of visible images imprinting themselves on matter: "Why visible images *(species)* certainly cannot imprint themselves on matter, or in thick organic substance: because their opacity and thickness is to this purpose inept.[28] Neither can the spiritual soul imprint itself in humans: because their aspect is corporeal." Guarini then proposes that a mediating substance "neither spiritual nor thick" is needed in order for the soul to imprint itself on the body. This substance would neither be apt to support the images (species) nor to transmit them; as an intermediary, it would

sine medio." Ibid., p. 823 (my italics).

[25] On the question of angels and the motion of the heavens in *Placita Philosophica,* see Mauro Nasti, "Il Sistema del Mondo di Guarino Guarini," op. cit., *GGIB,* Vol. 2, p. 575.

[26] "Mentes separatae, ut moveant corpora, producunt operationem corpoream, subtilem, ut est lux; neque per solam voluntatem movere possunt." *Placita Philosophica,* p. 823.

[27] "... detti *Proiectiones* ... quali si avanzano fuori di qualunque fabbrica a piombo. ..." *A. C.,* Tratt. III, cap. 1, p. 113.

[28] "De Spiritibus Viventium" is the sixth *Disputatio* of *Placita Philosophica*; see pp. 637-642.

allow passage between spirit and body.[29] The visual analogy is potent: just as opaque matter obstructs the passage of light, spirits are inhibited by matter, and require a mediating entity by which to make their way into matter. This is most interesting when we think of the roles Guarini gives to opacity and to light in his dome structures. The diaphanous is once again evoked: neither so opaque as to impede light, nor so clear as to let it through without registering an appearance. This describes accurately the manner that the SS. Sindone dome intertwines light and stone as it hovers above the reliquary. Could one also intimate that the geometry which caused this diaphanousness is of a similar intermediary nature as that described above?

Seventeenth-century philosophies were orchestrated around a very strong sense that the world was geometrically constructed,[30] with some theories of Number remaining more imbued with symbolic content than others.[31] Guarini indeed saw the world in numerical terms as was seen in *Architettura Civile and Placita Philosophica*.[32] As to

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[29] "Quid sint spiritus? & an in omni vivente reperiantur?"... Prob. Secundo specialiter deanimalio. Quia species visibiles certè non possunt imprimi in materia, & in substantia organica crassiori: quia eius opacitas et crassitudo, est ad id muneris inepta. Sed nec anima spiritualis in homine: quia species sunt corporeae. Ergo debet dari aliqua *substantia media*, quae neque sit spiritualis, neque sit crassa. Quod autem substantia haec opaca & crassior, non sit apta ad suscipendas species, & eas transmittandas... ." "De Spiritibus Viventuim," ibid., p. 637 (my italics).

[30] See E. J. Dijksterhuis, *The Mechanization of the World Picture*, p. 405. Gallileo's notion of a universe written in the mathematical characters, "triangles, circles, and other geometric figures," remains a vivid image of the day. Ibid., p. 362, and Tavassi La Greca, "Appendice," *Architettura Civile*, p. 439. See also G. C. Argan, *L'Architettura barocca in Italia*, p. 61-63.

[31] On the contrast between the two dominant theories of number in the seventeenth century—Kepler's "mystical" mathematics and Descartes' mechanistic mathematics, see: Dijksterhuis, *The Mechanization of the World Picture*, pp. 303-306, 409; and F. Hallyn, *The Poetic Structure of the World*. The latter perceptively contrasts the two theories as operating a semiotic shift from metaphor to metonymy: "For Kepler, the formistic conception, according to which some geometric figures and the universe are metaphoric signs of divine ideas, was still dominant," whereas for Descartes the meaning of geometry, although not shorn of its transcendent nature, "is no longer located in the Idea represented by any given figure." Op. cit., p. 229-230.

[32] "E perché l'Architettura...dipende dalla Geometria" *A. C.*, Tratt. I cap. 2, "L'Architettura, sebbene dipenda della Matematica," *A. C.*, Tratt. I cap. 3; "nam omnes artes vel a Mathematica, vel a Philosophica, vel a Medicina dependent," *Placita Philosophica*, p. 214. Also: *Leges Temporum et Planetarum* (1678) and *Caelestis Mathematicae* (1683) and the work on which they are based, *Euclides adauctus* (1671). See Fagiolo, *GGIB*, Vol. 2, *op. cit.*, p. 182.

the nature of this number, Guarini is not explicit in the aforementioned works.[33] In *Euclides adauctus*, Guarini does preface the work by speaking about a divine reverberation of Number: ". . . in observing the *measures* of things and their *astonishing Symbolizations*, you will deduce not to let anything come in the way of your admiring the *art of God*, who in his precise omnipotence examines things in every detail, so that in addition His omnipotence will always be recognizable as admirable."[34] For Guarini, geometry was the language that God used in creation, the language through which the divine could be recognized in matter—a tool of revelation.[35] Ultimately, it allows the invisible to become perceivable, indeed incarnate. The corporeal terms Guarini uses in *Architettura Civile* when describing *ortografia* invest the latter with a dual quality, and in this, it begins to resemble the intermediary substance, "neque spiritualis, neque crassa," that is needed to impress spirit onto matter, indeed onto stones. To be sure, the SS. Sindone Chapel fell into the hands of the right architect. And it would appear that *ortografia* was the appropriate tool for the commemoration of Divine passage through a mortal coil.

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[33] A correspondance between celestial geometries and earthly sovereignties is alluded to in the dedication to Madama Reale in *Leges temporum et planetarum* (1678): "She will perchance be glad to see ambitious Heaven in its unalterable laws imitating those which she has so well assured . . . she will see expressed in their equations her own justice; in the intermediate motions, her moderation; in the courses, the rectitude of her glorious undertakings." Ibid., "Dedicatio".

[34] Guarini offers *Euclides adauctus* to the reader, stating that it contains "few opinions, but all illustrated with very solid demonstrations"; he then confidently invites the reader to use these to verify anything he made have said in the earlier work, *Placita Philosophica*, to see if he had wavered or been inconsistant therein: "Interim hunc Librum eccipe, in quo non multae opiniones: omnia solidissimis demonstrationibus illustrata, ex quò facilè dignosces an in Placitis Philosophicis adeo inconstanti voce vibrissare potuerim, & alternatione tam continuata ludere, interim dum rerum *mensuras*, & *Symbolizationes stupendas* eccipis *Divinam artem* admirari non intermittas: qui omnia trutina examinauit, lanceq; suae omnipotentiae, ut semper admirabilis dignosceretur appendit." "Benevolo Lectori . . ." in *Euclides Adauctus*, 1671 (my italics). A fragment from this citation appears in Marcello Fagiolo, "La Geosofia del Guarini," in *GGIB*, Vol. 2, p. 184.

[35] Tavassi La Greca has written of an *analogy* between Guarini's number and divine ways: "Nel trattato filosophico, non è puntualizzato il modo di operare divino. Ma si può l'analogia di concezione da una dissertazione sull'Ente, in cui Dio è definito 'simplicissimus et singularis'"; Tavassi La Greca, "Appendice," *Architettura Civile*, op. cit, p. 454.

Conclusion

The SS. Sindone commemorates the remnant-relic of the Incarnation, a liminal condition of embodiment. A long tradition of reliquary and martyria developed around the yearning for a tangible presence of God on the earth, negotiating the desire for proximity with the ultimate distance from the divine. Just as the *sindone* relic invokes the presence of God, it is tied in a fundamental way to a space of emptiness. the empty tomb from which it was recovered. The SS. Sindone is not the first domed rotunda to architecturally express this passage but is weaved into ancient traditions of marking "the place where He lay," most notably the *Anastasis Rotunda* that Constantine built. The iconoclastic debate with which the chapel is thematically and historically associated underlines the cleavage between *Logos* and flesh that had carried over from the very moment that *Logos* became representable.[1] The chapel, as its relic, answers the debate with an image that is always double, capturing with liminal matter and figuration a Body that wavers between a screen of recognizability and an otherwordly point beyond.

A complex weave of political and social conditions in seventeenth-century Piedmont added itself to the more perennial theological questions. The SS. Sindone chapel introduces itself onto the stage of a newly born capital, striving for its own representation through visions of wonder, of impossibility, and of surpassing death. Aspiring to show all in one glance, the spectacle of the age had its obvious limits.

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[1] The most poignant example of this is of course the Annunciation painting, for what is an Annunciation other than the striving to give a figure to *logos*, the infigurable voice of God? In a poignant description of Fra Angelico's *Annunciation*, on how a white "chalky" wall comes to "announce," Didi-Huberman writes: "We understand how Angelico's white, this visible "almost nothing," will have finally managed to concretely touch the mystery celebrated in the fresco: the Annunciation, the announcement. . . . There is there a marvel of figurability. . . . It sufficed that this whiteness be there. . . . Intense as a light (. . .) and opaque as a rock. The mere presentation of it makes it into the impossible matter of a light given with its obstacle: the wall plane with its own mystical evaporation." G. Didi-Huberman, *Devant l'image*, p. 34. The resonnance with the Chapel dome is moving to me. As seen in Part III, Guarini wrote strikingly similar thoughts on the intertwining of opacity and light in *Placita Philosophica.*

Plagues, wars and the ubiquitous baroque cadaver would stand as persistant reminders of the ephemerality of representation. Guarini was aware of this fascination for *inganni*, but would aspire to formulate surer rules, which would lead to appearances that could be trusted and to an expression of enduring embodiment, in contrast to a visual feast, quickly consumed.

A man of his times, but without being revolutionary in any way, Guarini maintained the idea that all depended on either mathematics, or medicine, or philosophy, and he composed treatises in all three fields. Particularly fascinated with medicine, and with the processes of human alteration and growth, that of the fetus especially, he studied the principles of human life and identified *calor vitalis* as the principle of nutrition. Guarini wondered about vision, on wherein lay the seat of visual power, and on how one saw. His "uveal image" was not completely mechanized, for it relied on the vivacity of objects travelling through the air to convey size and distance. But he was preoccupied with the limitations of vision, maintaining a disdain for oblique rays, and a deep suspicion of Perspective representation. For Guarini, Perspective would always be condemned to distort God's "true symmetries," and therefore parallel projection was the chosen means through which to draw and construct architecture. His writings on optical corrections bespoke his concern for the difference between how things are perceived and how they are comprehended, not only mentally, but metaphysically: optical corrections sought to rectify mortals' perception of the world, and ultimately, their position in relation to God. The numerous questions he asked and answered in *Placita Philosophica* were staples of Scholastic philosophy, but his main concern focussed on the mediation between spirit and matter, and the need for in intermediary substance--part spirit, part matter--to make impressions from one onto the other possible. These ideas offered a strong resonance to the architectural theory found in *Architettura Civile*, especially in light of Guarini's words on the divine association of measure in the preface to *Euclides adauctus*.

The intermediary status of the dome, at a mid-point between solid and light, is the condensation of implied geometries in the ground floor plan. However, there is a

space between the two: a parenthesis inherent in the process of *ortografia* which had cast the plan into section. Implied geometries in plan are raised and made explicit and perceivable at a higher level (the cupola of the chapel is the pure trace of the implied hexagon below). Through this principle, the SS. Sindone Chapel organizes a sequence through loss and recovery of matter in the spatial delays which lead from the portals in the Duomo to the reliquary. Significantly, these portals bear deformed anthropomorphic figures, announcing that the pilgrim is embarking on a journey of corporeal transformation, leaving the mortal coil at the door. The iconography indeed becomes increasingly geometrical in the vertical ascension, upward of the cornice above the pendentives. The dome is pure "grafia," geometrical writing, without mass.

It is not likely that Guarini thought of the dome as an illusion of infinity; rather, he conceived of it as the intermediate diaphanous substance, capable of allowing the transfer of spirit onto matter, as illuminated in *Placita Philosophica*. The geometries of the surfaces of the chapel are the material expression that contact has been made. Indeed, *grafia,* geometrical writing, makes manifest the throwing of uncorporeal substance into extended matter. The SS. Sindone is an emblem of the *Logos* suspended, hovering above matter and awaiting incarnation. Thus *ortografia* is destined to make stone swell outward from the face of the wall. In this, the sensual world is never overlooked; it is the custodian of all our ideas. The trajectory of geometry, on its way to impressing matter, relies on a shimmering distance, the careful craft of the artifex, the mastery of the tools, well-made instruments, and in the end, on a "gentle hand" to draw the curved lines. Indeed, the "delightful" place has many folds, many reveals and recesses, constant reminders of spaciality, expressions of the very tangible nature of *Architettura Civile*'s geometry.

Finally, we must say that the space between the appearance of things as we perceive them and their own physical surfaces--a space repeatedly insisted upon in both *Architettura Civile* and *Placita Philosophica*--bespeaks a mystical distance. It is an evangelical gap, that between appearance and recognizability, which recalls the appearance of Christ to the disciples after the Resurrection, when "of them were

opened up the eyes and they recognized him; and he became invisible from them."[2] The trauma of the image which disappears from sight the moment it is recognized is poignatly sumarized by the qualities of the *sindone* relic and the chapel. We find ourselves in the realm adumbrated by the Byzantine icon itself. Both *ortografia* and the icon operate on a logic of projection, and their power is sited the veiled nature of their disclosures. The rejection of perspective as the representation of idea stemmed from the desire to keep the perceptual and mystical appearance of the surfaces of architecture from appearing completely: the surface should remain "remoto à se," at a distance from itself, just as "God's true image" eludes the icon.[3] Georges Didi-Huberman has perceptively pointed out that the "effectiveness of Christian images,"[4] not simply to do with representational or symbolic value, has to do with the fact that they come to us from far away, "the recoiling of the body of Christ before us, in a kind of refusal to remain visible."[5] Therein lies their enduring captivation. Levinas has written a similar thing about the human face: "le visage est abstrait . . . sa merveille tient à l'ailleurs dont elle vient et où déjà elle se retire."[6] There are the writings of Merleau-Ponty, which alert to the importance of recovering a vision which is more than itself, always "enigmatic" and endowed with "thickness"; and of course, this vision is a production of distance: "Voir, c'est *avoir à distance.*"[7] So too, *ortografia elevata* and *ortografia gettata* are related to each other in space and time, one a "vestige" of the other, to use Guarini's term.[8] The parenthesis of *ortografia* and the delays between elevation and plan are reenacted in the

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[2] Luke 24:31.

[3] "Quae species obliquissimè reflectunt obiectum non remoto à se, sed in ipsa sui superficiae exprimunt." *Placita Philosophica*, p. 721.

[4] Georges Didi-Huberman, *Devant L'Image*, p. 220.

[5] Georges Didi-Huberman, p. 212. On the image as a "tear" between the divine and the human, see "L'Image comme déchirure," in *Devant L'Image*, op. cit., pp. 171-269.

[6] "The face is abstract . . . its marvel holds to the elsewhere from whence it comes, and to which already, it pulls away." Emmanuel Lévinas, *Humanisme de l'autre homme*, p. 63.

[7] M. Merleau-Ponty, *L'Oeil et l'Esprit*, p. 27.

[8] Georges Didi-Huberman writes perceptively about this doubling phenomena in *Devant l'image:* for behind that which is "presented" there in our view, looms an "archeology of things forgotten or unnoticed in the works since their creation, however old or recent it is." *Devant l'image*, op. cit., p. 9.

architecture in the sequencing of spaces and light, from the long staircases to the inscripted surfaces of the pendentive, to the dome. Throughout, the spacing between surface and appearance carries the promise of revelation, and alludes to a slow, tangible, and fundamentally contemplative vision. Geometry in *Architettura Civile* recedes just far enough from the surface to create a space for the possibility of revelation and appearance, and advances just close enough into mass to touch us.

As a counterpoint to this, Rosalind Krauss' perceptive remarks on a ball in flight as emblem of modern optical experience of "fast vision" come to mind. In the contemporary scheme, "the eye and its object made contact with such amazing rapidity that neither one seemed any longer to be attached to its merely carnal support. . . . Vision had, as it were, been pared away into a dazzle of pure instantaneity, into an abstract condition with no before and no after."* From the thick space of the stairs to the *mixtio* of the dome, Guarini's SS. Sindone Chapel allows an experience of the passage through embodiment and through absence, and the ushering forth of *logos* into matter from a distant place. In this light, the *imago clipeata* of the Baouît fresco resurfaces in all its melancholia. As a projection, the Child remains an enigma, even to the woman who beholds Him. In their distance, they are ever near.

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* This is in reference to the idea of a baseball in flight as "the perfect metaphoral visual modernism." R. Krauss, "The Impulse to See," in *Vision and Visuality*, p. 52.
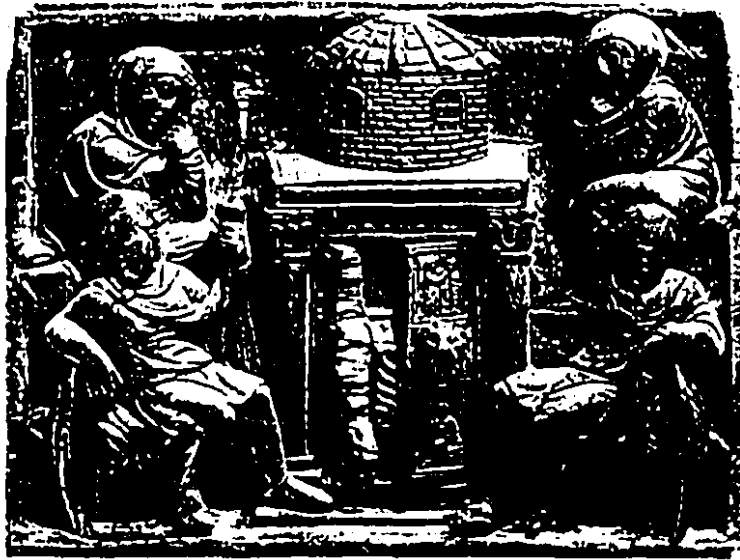
Illustrations

Figures 1 - 14

On the next two pages:

Figure 1. Virgin and Child, *imago clipeata*, Baouit Egypt, fifth century.

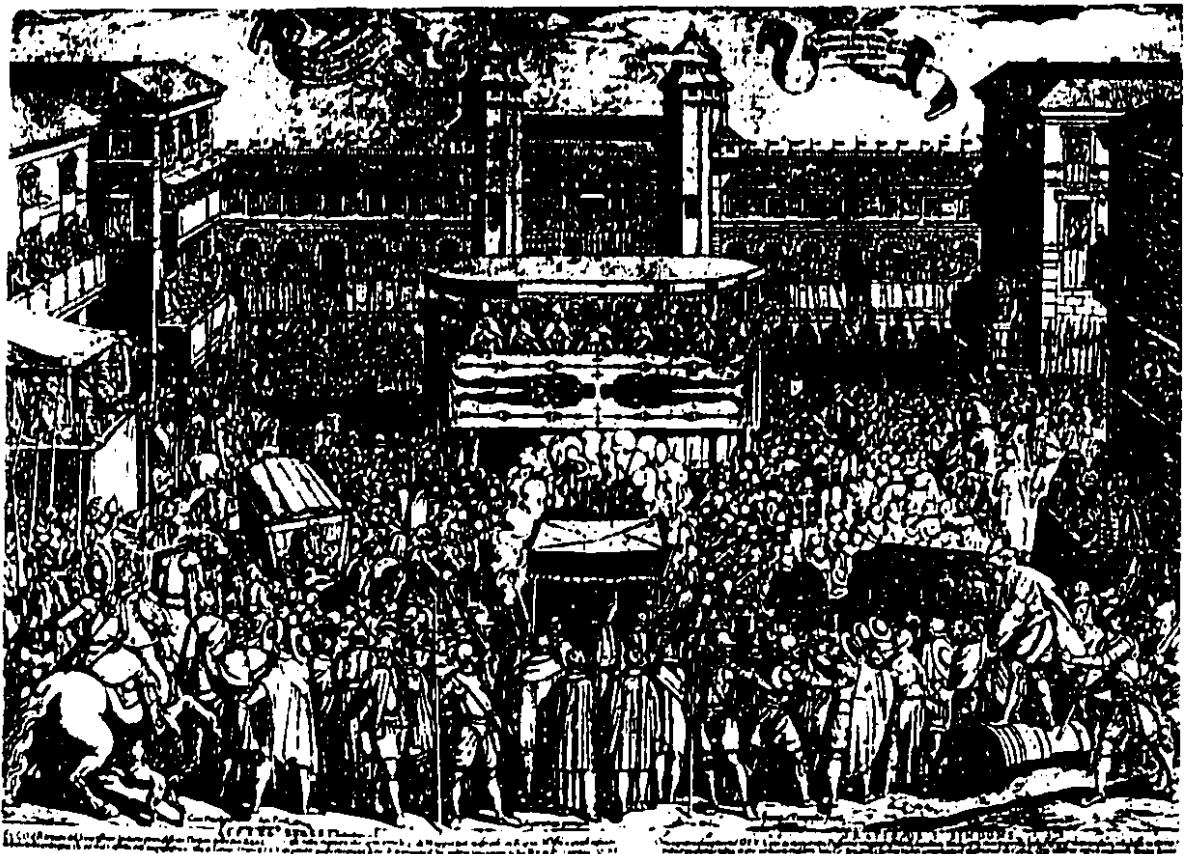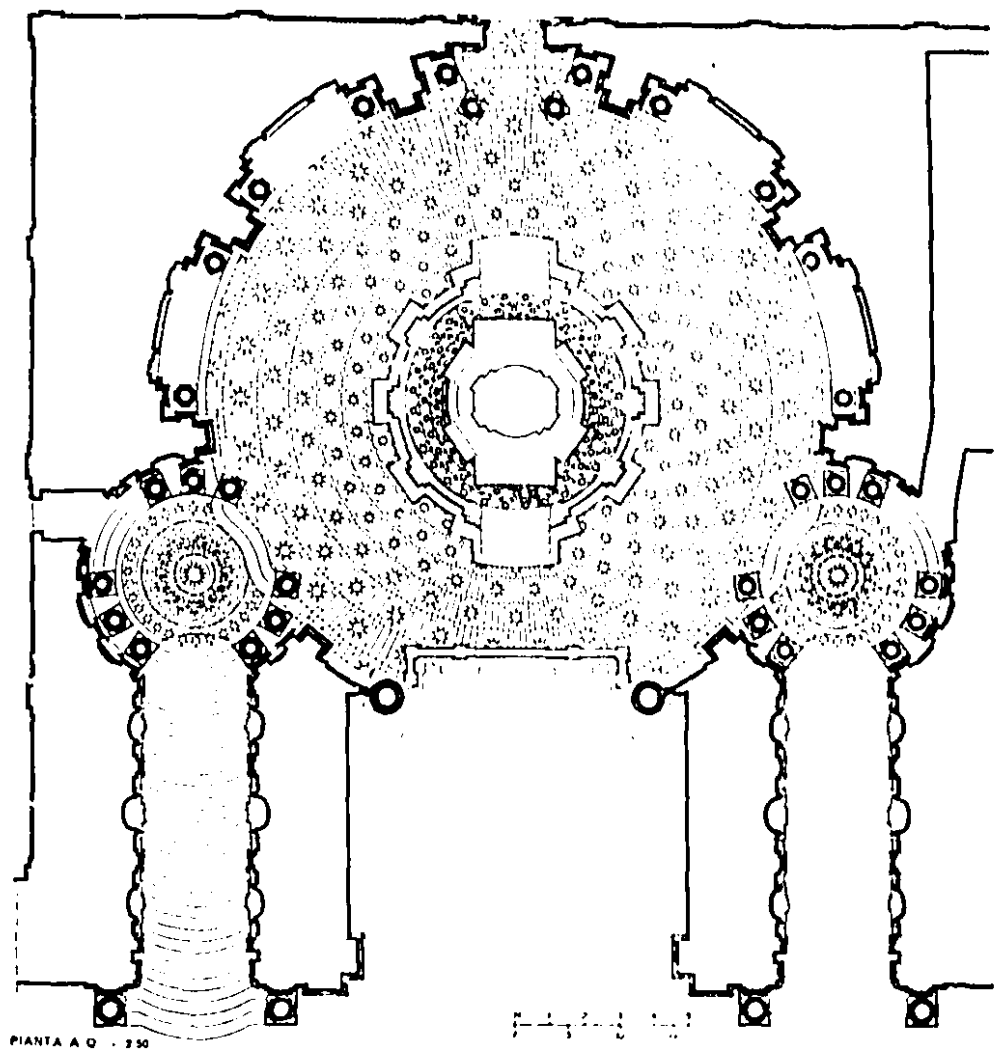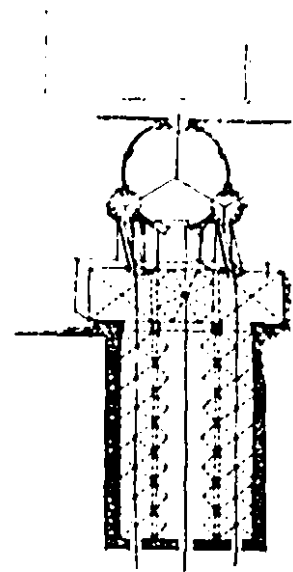Figures 2, 3, 4. Holy Sepulchre, bas-reliefs on ivory, fifth and sixth centuries.

Figure 5. Antonio Tempesta, view of Castello and Piazza Castello during the exhibition of the Holy Shroud, engraving (1613).
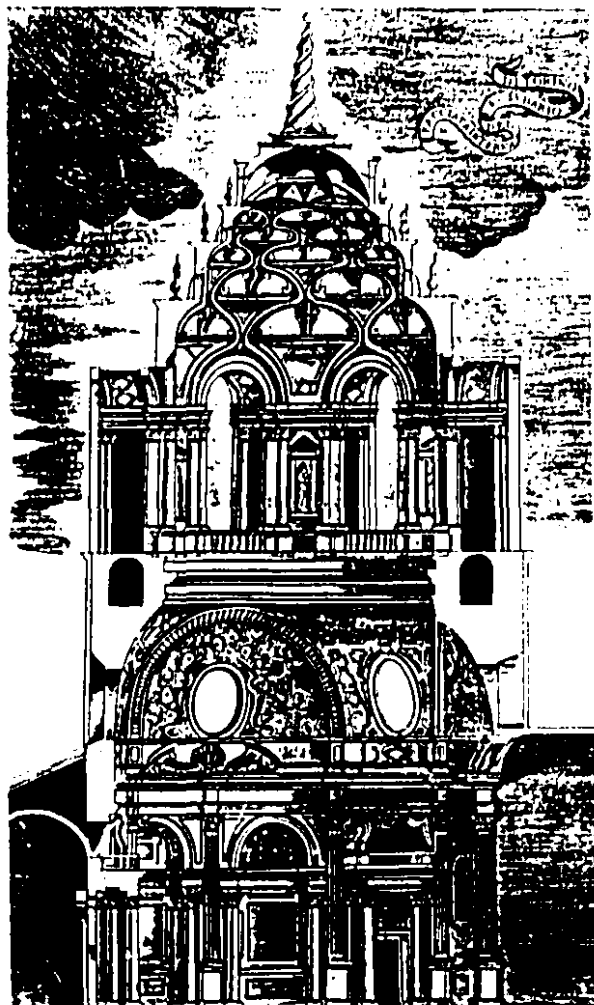
PIANTA A Q . 250

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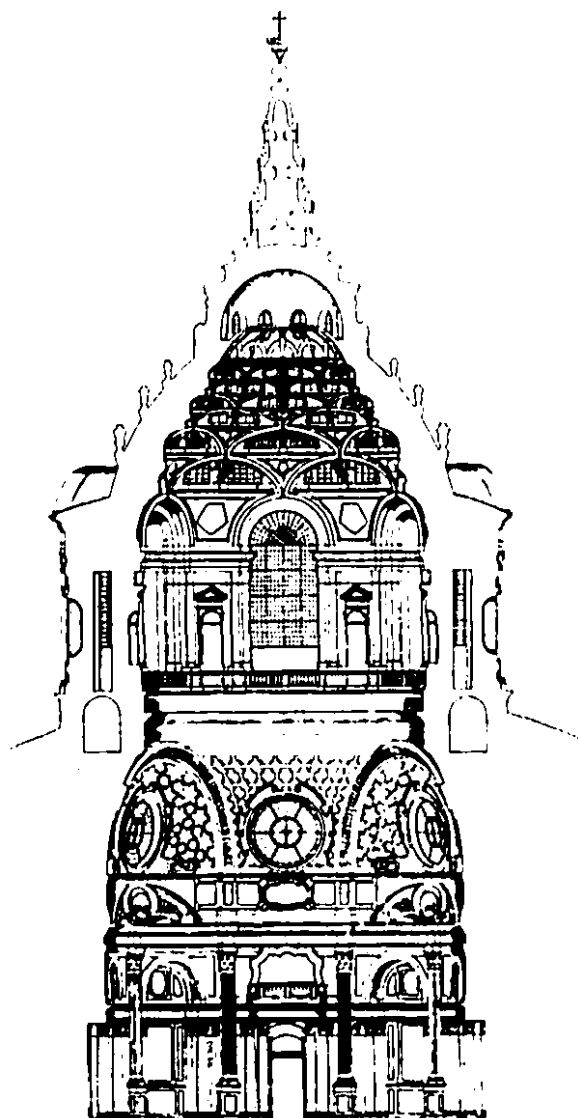Figure 6. SS. Sindone Plan showing the
three entrances.

Figure 7. Plan of Duomo, SS. Sindone
Chapel and Palazzo Reale.
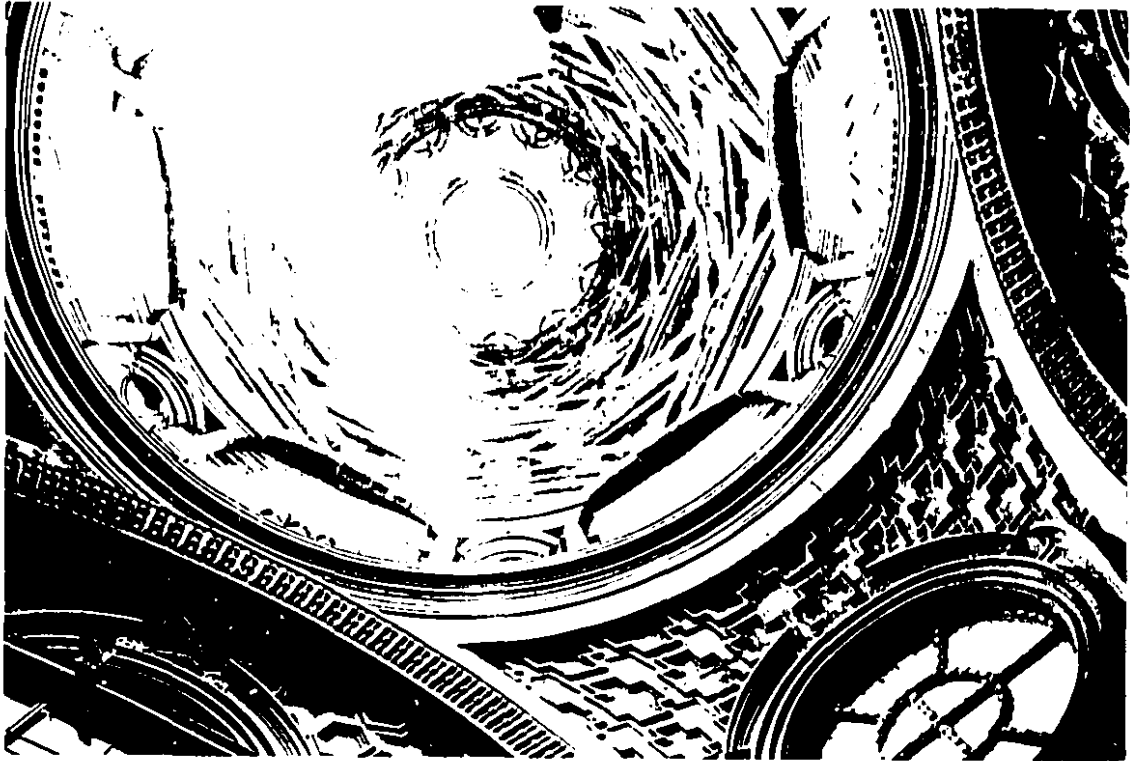

7

8   9

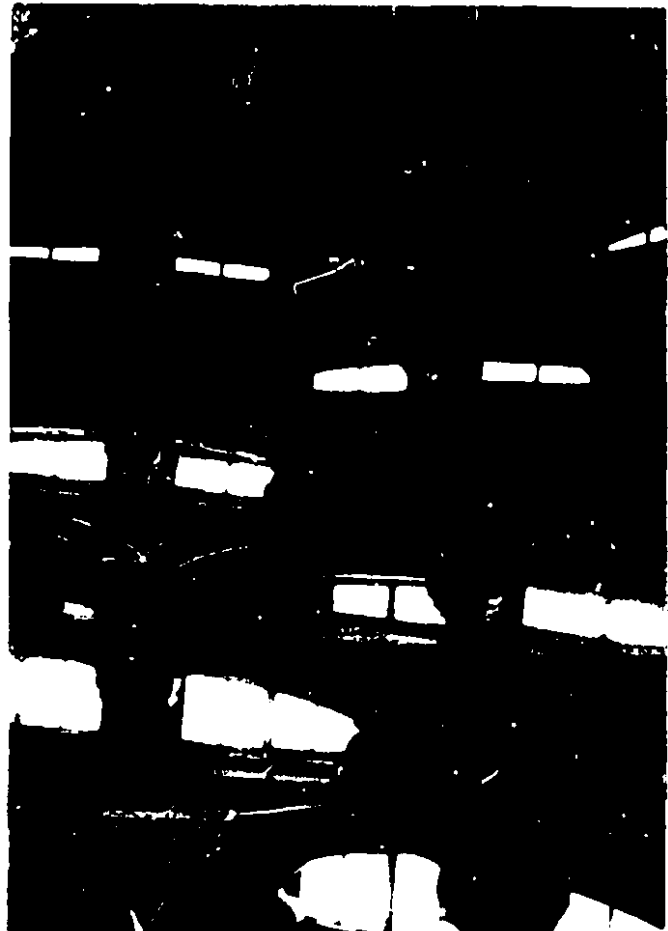Figure 8. Capella della SS. Sindone, section, from *Architettura Civile*.

Figure 9. Capella della SS. Sindone, from M. Passanti.

10

11

Figure 10. SS. Sindone, pendentive
and dome.

Figure 11. Sp. Sindone, dome.
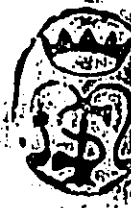
PLACITA
PHILOSOPHICA
R. P. D.
GVARINI GVARINI
MVTINENSIS
CLERICI REGVLARIS,
Vulgò Theatini,

SACRÆ THEOLOGIÆ PROFESSORIS,

PHYSICIS RATIONIBVS, EXPERIENTIIS; MATHEMATICISQVE
figuris oftenfa! quæ ficut facræ Theologiæ leniùs ubfequuntur, ita à
principiis aliarum fcientiarum'obftinatiùs non abhorrent: fimulque
Vniuerfæ Philofophiæ Thefes felici pede percurrunt.

CVM   DVOBVS   INDICIBVS,
Altero Difputationum; Rerum altero.

PARISIIS,
Apud DIONYSIVM THIERRY, viâ Iacobæâ, ad infigne Ciuitatis
Parifienfis.

M. D C. LXV.
Cùm Priuilegio Regis, & Superiorum Permiffu.

Figure 12. *Placita Philosophica* frontispiece (1675).

13

14

Figure 13. Anatomical plate from 'De Viventibus', *Placita Philosophica*, upper portion.

Figure 14. Anatomical plate from 'De Viventibus', *Placita Philosophica*, lower portion.

Figs. 1 - 4: Grabar, André. *Martyrium - Recherches sur le Culte des Reliques et l'Art Chrétien Antique*. Album. Paris: Collège de France, 1943.

Fig. 5: Pollack, Martha D. *Turin 1564-1680 - Urban Design, Military Culture, and the Creat` :n of the Absolutist Capital*. Chicago: The University of Chicago Press, 1991.

Figs. 6, 7: Passanti, Mario. *La Capella della Santa Sindone in Torino di Guarino Guarini*, reprinted from "L'architettura cronache e storia", April 1961, n. 66.

Fig. 8: Guarini, Guarino. *Architettura Civile*. Torino: Edizioni Il Polifilo, 1968.

Fig. 9: Passanti, Mario. *Nel Mundo Magico di Guarino Guarini*. Torino: Toso, 1968.

Figs. 10, 11: by author.

Figs. 12 - 14: Guarini, Guarino. *Placita Philosophica, Physicis, Rationibus, Experientus, Mathematicus*. Paris: Denys Thierry, 1675 (photographed by author).

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