FONTES - Quellen und Dokumente zur Kunst 1350-1750
Sources and Documents for the History of Art 1350-1750

BALTHAZAR GERBIER:
A Brief Discourse concerning the three chief Principles of Magnificent Building.
Viz. Solidity, Conveniency, and Ornament (London 1662)

herausgegeben und eingeleitet von

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FONTES 7

[1. April 2008]
Zitierfähige URL: http://archiv.ub.uni-heidelberg.de/artdok/volltexte/2008/448

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Introduction

Knighted by James I of England, the Dutchman of French origin, Sir Balthazar Gerbier (1592-1663), is often presented as a somewhat quixotic figure who crossed the stage of Stuart England. Initially in the service of George Villers, the extravagant Duke of Buckingham who had captured the affections of King James I, Gerbier also found favour with Charles I, and he became his Master of the Ceremonies in 1641. As the Stuart monarchy crashed at the execution of Charles I in the beginning of 1649, Gerbier's fortunes came to a near stand-still during the long interregnum of the Commonwealth, and, despite the aged Gerbier's efforts when the Stuart Restoration came to pass under Charles II, Gerbier's fortunes never recovered in the brief period before his death in 1663.

The diffidence which later British commentators have accorded Gerbier's accomplishments as courtier, diplomat, painter, would-be architect, and architectural writer is in diametrical contrast to the estimate of him held by Peter Paul Rubens, Gerbier's great friend of many years (from 1625), who opened his heart in friendship to Gerbier and to his wife and young children.

The chroniclers of architectural writing in England have accorded little merit to Gerbier's two attempts to write brief essays on architecture ("slight tracts"; "neither important"), although it is admitted that his descriptions in *Counsel and Advise* (1663) of building materials and their prices are among the earliest published in Britain, and thus a not insignificant contribution to English architectural history, and that his marginal remarks concerning contemporary building practices are illuminating and of interest. It is further acknowledged that the influence of Renaissance hermetic thought in his writings is exceptional. This is most apparent in Gerbier's repeated assertions that the dimensions and rules of architecture, including the orders and their proportions, were all directly prescribed by God, the "Surveyor of Heaven and Earth", for Noah's Ark and Solomon's Temple.

Gerbier's efforts as an architectural commentator may have begun in his Academy, for which he issued a prospectus in 1548, with architecture included as one of the subjects of instruction. The Academy opened at Gerbier's house in Bethnal Green in 1649, and a number of Gerbier's lectures were printed (1649-1650). His architectural publications must also be viewed in the context of the very large number of publications, often of brief extent and often publicistic in aim, and indeed ephemeral in nature, that Gerbier issued in his lifetime: numerous pamphlets proposing projects that Gerbier sought to promote, and others containing defences of himself, and yet other tracts treating political topics, as well as other occasional writings. Upon the restoration of the monarchy in 1660, Gerbier resolved to return to England, and in the three subsequent years there followed at least five written statements from Gerbier's pen, among them, pamphlets, tracts, and petitions to the crown.

It is almost uniformly maintained that Gerbier's two treatises were written in a rather obvious attempt to draw attention to himself in order to regain the office of Master of the Ceremonies which Gerbier had held very briefly at the court of Charles I. Although Gerbier mentions this fact, along with the favour he formerly enjoyed at Court, several circumstances, including the content of the treatises, appear to speak against this analysis. Gerbier's initial appeal in this direction was rejected as early as 10 December 1560, when a warrant was issued to suspend Gerbier from the office of the Master of the Ceremonies, or to renew his earlier suspension. Moreover, by 1662, Gerbier was seventy years old, his brief service as Master of the Ceremonies – he was suspended within months of his appointment – lay in the distant past, two decades away, and, although Gerbier's familiarity with foreign lands

transpires in his amusing references to architectural practices abroad in his *Brief Discourse concerning ther chief Principles of Magnificient Building*, nothing in the text of this treatise, beyond Gerbier's amiability and cleverness, might have recommended him for a belated re-appointment to the position of Master of the Ceremonies to the Stuart court.

The second position that figured in Gerbier's explicit aspirations was that of the Place of Surveyor General to the Crown, essentially the *architect royale*, as, in Gerbier's own long view of the recent events of English architectural history, a kind of ideal successor to his erstwhile rival, Inigo Jones, who, in 1662, was long dead, having died a full decade earlier. Upon his accession to the throne, in 1660, Charles I immediately appointed John Denham as Surveyor to the King, but Denham was no architect, only a loyal and faithful supporter of Charles and the royalist cause during the long years of Charles's exile. Denham's appointment was completely in line with the early appointments of Charles's new reign, when most early appointments went to loyalist courtiers. This circumstance doubtless gave legitimate hope to aspirants, such as Gerbier, to Denham's post, and, if not to his official position, certainly to awards of important royal architectural commissions, for which Denham was totally unqualified, and indeed incapable of fulfilling through an office which must be seen as effectively a sinecure. Indeed, for example, James Webb received the commission for the new Royal Palace, begun in 1664 at Greenwich on the banks of the Thames (King Charles Building).

The content of both of Gerbier's two architectural treatises (1662, 1664) is architecture, and they are not directed to themes relevant to court ceremonial. The earlier treatise, *A Brief Discourse concerning the chief Principles of Magnificient Building*, with which we are concerned here, may, in its first part, reflect a lesson or lecture held much earlier in Gerbier's Academy. Gerbier's principal theme, as announced in the title, is "*MAGNIFICENT BUILDING*", and this theme is elaborated in terms of the three most basic Vitruvian concepts, solidity, convenience, and ornament (*firmitas*, *utilitas*, *venustas*). Gerbier's exposition is practical, and it is developed with questions easily accessible to the layman. Gerbier explicitly eschews a discussion of geometry as the theoretical foundation of architecture, and he leaves a discussion of the classical architectural orders aside, giving precendence to themes that users of buildings readily understand: ventilation, heating, and the placement of windows, doors, chimneys; thwarting thieves and whores; leaking roofs and flooding cellars; sun, wind, rain, and drafty window casements, and these considerations are interspersed with numerous and often entertaining references to exotic architectural usages in classical and oriental antiquity and in the New Lands, as well as to alternative architectural practices at foreign courts and in foreign lands, all calculated to arouse the curiosity of the insular Englishman.

Here we find ourselves in still in the tradition of Alvise Cornaro and Henry Wotton, and others who followed them, writing more for patrons, for men of the ordinary kind, than for elevated architects.

The second part of Gerbier's treatise is perhaps more manifestly illustrative of his aims and hopes. It treats the Palace of the Prince, and it is at this point that the *raison d'être* of the "magnificent building" of the title and the rôle of this consideration in the entire treatise becomes evident. A new Royal Pallace was on the agenda of Charles II as early as 1660, when John Webb mentions "his Majesty's command to design a Palace for Whitehall". A project to rebuild or revamp Whitehall Palace corresponds to Gerbier's indications for Charles's "own Palace worthy of your Self": "the main body of your Royal Palace may be set on the side of Saints James's Park, and the Gardens along the River". Webb submitted plans for a new Whitehall Palace before 1662, and possibly in 1660. John Evelyn refers to "the

future building of Whitehall Palace in late 1661. Here is surely the proper context for viewing the second part of Gerbier's *Discourse* of 1662 (pp. 28-44). Gerbier opens with the statement: "I must proceed and conclude with my humble respects concerning Palaces of Sovereigne Princes, which must differ as much from other Buildings, as their quality and condition from that of other Subjects."

With reference to the "Royal Palace" Gerbier develops a variety of topics. He begins with "Solidity", the first principle of architecture, and then turns to the requisite spacious grounds, the inner courts and offices, and the need to have the first storey built in vaulted construction. Magnificence must be expressed on the façade and in the interior spaces in correspondence with the greatness of the Prince. To achieve these effects the architect himself must be possessed with an Alexander-like soul: "the lines and strokes of the architect must be *Alexander*-like: his figures and statues *Colosses*, his *Pyramidis* like those of *Ægypt*".

Then Gerbier abruptly turns to a rather long consideration of the Royal Stable. He had acted as Buckingham's first Stable Master, and this text may reflect the major alterations to York House that Gerbier undertook. Subseqently the kitchen follows the stall: both demand ingenuity and careful workmanship, and in the Princely cookery preparations of the edibles are to be dainty, elegant, tasteful ('neat' and 'neatness'), which is more essential than the trappings of serving the edibiles themselves. The prince's roof is to be covered in lead (as the Pantheon in "brass") or in blue slate.

Finally Gerbier addresses the sources of greatness in the Palace of the Prince. That of the Farnese Palace in Rome, by Michelangelo, lies in its plainess. The Escurial shows bigness and solidity; the Residence of Munich in Bavaria, ornament; the Louvre, in Paris, vastness, situation, and ornament; the palace of the Duke of Orleans and the vignas of the Roman cardinals, princely gardens.

Gerbier concludes with a discourse aimed apparently at his rival Inigo Jones and intended, it seems, to demonstrate that he, Gerbier, can surpass Jones's achievements. In scene-making, excellency does not consist in vastness, in greatness of physical size, nor in the quantity of objects, nor shapes, nor colours. Nor must the rooms for them be so vast as the overly-high Banquet Room at Whitehall, which risks diminishing the Sovereign and his retinue, causing them to appear as a company in a valley near high mountains. The greatness of a nation consists not in a "husk", but in itself, and in its Sovereign. Gerbier adduces as his advocate a stage-room ("not above 35-Foot square") which he contrived in 1628, when it was praised by the King, and which contained scenographies as great as those of the great Banqueting Room of Whitehall. "Things can be too great, as well as too little, too massie, and to slender, too gaudy, and too plain; and Colours placed together, which agree not with the other (...)". Finally, Gerbier wishes his King well for his reign in the point of the love of good building, the subject of his *Discourse*; he wishes: new form to the streets of London, St. Paul's Church as the Metropolitan of the Houses of God in the chief city of Britain – and "his Royal Palace Built", "so as to answer [*to correspond to*] the matchlesse greatness of him, who all tongues of Loyal Subjects speaks to be *Carolum, Magnum, Secundum Dei gratia* (...)".

At the beginning of his *Counsel and Advise to all Builders* (pp. 1-4), published the following year, 1663, Gerbier offers a brief summary of his *Discourse* on 'solidity', 'conveniency', and 'ornament':

"A little manual which I formerly set forth (concerning the three chief principles of magnificent bilding, *viz.* ('*videlicet*', namely) *Solidity, Conveniency* and *Ornament*) do in the

first place note the incongruities committed by many undertakers of buildings, who (both within and without doors) do confound the aforesaid principles. It notes how the Grecians and Romans (the best builders) have proceeded on undisputable Rules, not subject to fancies, for if men should be enslaved by weather-cock-like-spirits to make their buildings according unto things *a la mode*, especially of hats, bands, dublets and breeches; how might workmen laugh? And would not some (who cannot jeer without making use of scripture) quote *Ecclesiasticus*: "He that is hasty to give credit is light minded", chap. 19, v. 4. "And he that teacheth a Foole, as one that glueth a pot-sheard together", chap. 21, v. 7.

"Secondly, it notes how several great and judicious princes and magistrates have proceeded in their edifices, what they have shunned, and what they have curiously Observed; the particual care of Surveyours, their choice of materials, even to the preparing of their lime and clay: The care of their bricklayers in laying of a foundation, and that they have been firm and resolute in their undertakings to proceed on a well composed model, since alterations in a well begun building are very prejudicial.

"Thirdly, it notes the distinction between the well ordering of the Palace of the Soveraign, and that of meaner Habitations; and it cites some remarkable structures, as that between Babylon and Espaham, at a place called Carimonsharan; as also several remarkable ones in Europe. It omits not the description of the princely stables, and the necessary offices to their palaces, (as well as rooms of state, for great festival shows, and ordinary use) It also points at several incongruities committed by Surveyours; and who minded more to show that they were skilled in describing of columns, pilasters, cornices and frontispieces (though for the most part placed as the wild Americans are wont to put pendants at their nostrils) than to have studied conveniency, and what most necessary."

Gerbier's recapitualtion is, if mainly retrospective, in part prospective, and aligned to the themes of his new treatise. His critique of Jones's Surveyorship becomes more pointed, in the author's rereading of his earlier treatise. There he had concluded, "All which I do not write to undervalue any modern works, nor any of the Cavallier-like *Operas*, every good talent being commendable."

A note at the end of Gerbier's *Counsel and Advise to all Builders* (1663, p. 110) reads: "*Nota*, The first discourse concerning *Solidity, Conveniency* and *Ornament*; is to be had at Mr. *T. Heaths* within *Land*-gate at the Golden *Globe*." This statement offers a further confirmation of the complementary character of the two treatises.

In the first section of the treatise (pp. 1-28) the themes of 'solidity', 'conveniency', and 'ornament' are developed, if not perfunctorily, in terms of rather mundane considerations, the topics of which unfold in much the following sequence: the firmness of the ground for the foundations; a somewhat dismissive assessment of 'high architecture' as the true topic for architectural treatises; the functional placement of doors, windows and fireplaces for practical use and comfort; navigation (staircases); the maintenance of buildings and the costs of maintenance; the siting or settings of buildings; the use of architectural models and the requirement to conforn to the model in building; bricks and mortar; the need to accord freedom of action to the surveyor or architect in his execution of the project according to the model; the planning of costs prior to the commencement of building.

This practical strain is especially evident is Gerbier's second treatise, the *Counsel and Advise* of the following year, where Gerbier intentionally speaks, in "plain intelligible terms", the language of builders and "divers Workmen", "who do love to be spoken to in their own

phrases". But the studied Gerbier had also learned of the Horatian "*dulce et utile*", that instruction should delight and afford pleasure as well, and he writes, "This manual does both now and then proffer a word or two to cherish the reader's patience, for that bare names of materials, of forms, and several parts of works will too soon tire noble persons". And thus, too, the anecdotes of interesting or strikings incidents, events, or circumstances that enrich his *Discourse*, 'antidotes' to counteract boredom and to keep the reader turning the pages until the end is reached, which is a so noticeable feature of Gerbier's attractive little treatise. In *Counsel and Advise* (p. 102), Gerbier reports that the first discourse was "intermixt with recreative passages", so that the reader would not tire of the technical terms, which are treated more amply in his second treatise.

The reader is introduced to Noah's Ark, to wild Indians living in caves and hollow trees, with roofs of "Palmito-Leaves" and poles of "Bambouses"; to men who have the "Traditions of *Vignola* in their pockets"; to Barbarians with "Pendants in their nostrils"; to "Isabella Infanta of Spain" and her sudden death before a chimney-piece; to German travellers, who when they tasted the wine called "*Lagrima-Christi*", "they moaned and asked why He did not weep in their country"; to the old English proverb, "*Too many Staires and back-Doores makes [for] Thieves and Whores*"; to Iron-Tools that "break on the old Morter of the Amphitheaters at Verona and Rome"; to the French saying, "*Trop de Cuisineirs gattent le pottage*".

Balthazar Gerbier: A biographical Note

SIR BALTHAZAR GERBIER: born Middelburg, in Zeeland, 23 February 1592; died Hampstead Marshall, Berks, 1663, the son of Anthony Gerbier and his wife Radigonde Blavet, protestant refugees from France; active in England. Courtier, diplomat and political agent, calligrapher, miniature painter; scenographer; architect, publicist, writer on architecture and other topics, promoter of an academy.

In his youth Gerbier practised calligraphy and miniature painting. At the death of his father, he accompanied a brother to the Basque Gascony, where he acquired a knowledge of drawing, architecture, fortifications, and "the framing of war-like engines". Gerbier accompanied the Dutch ambassador to London in 1616. There he entered the service of George Villers, later the Duke of Buckingham, for whom in 1624-1625 he carried out alterations at York House. In 1625 he went with Buckingham to Paris, where he met Rubens, with whom he became intimate. Gerbier collected works of art on a large scale for Buckingham. Gerbier's pamphlets contain numerous allusions to his frequent missions abroad. After Buckingham's assasination in 1628, he entered the service of King Charles I, was knighted in 1638, and appointed Master of the Ceremonies at the court in 1641. Gerbier claimed a certain "Anthony Gerbier, Baron Douvilly", as his great-grandfather, and on occasion used the title himself. Gerbier also claimed himself to speak "several languages", as he surely did, and to have "a good hand in writing, skill in sciences, as mathematics, architecture, drawing, painting, contriving of scenes, masques, shows and entertainments for great Princes (...) as likewise for making of engines useful in war".

In 1641, according to Gerbier's own account, he was promised Inigo Jones's place as Surveyor of the King's Works, a post he had long coveted. In July 1641 he was effectively replaced as Master of the Ceromonies, and his career as a courtier was at an end. He kept an Academy at Bethnal Green. During the Interregnum he sought gold in the America's. When, in 1660, he returned to London he was suspended from the office of Master of the Ceremonies. It was at this time that he published his two architectural treatises, advertising his availability as an architect. In 1662 he was in charge of designing Hampstead Marshall for Lord Craven. He died the following year. Some of Gerbier's drawings survive, but the destruction of his buildings have impeded the assessment of his work as an architect. John Summerson (1953) quite reasonably attributed the York House water-gate, which survives in the Embankment Gardens, London, to Gerbier. Gerbier's own mentions of this work, along with others that implicitly belong to him, appear to speak for this assignment, but the work is usually given to Jones, and Summerson seems to have withdrawn his suggestion. Neverthess, the York House gate would fit seamlessly into a landscape by Rubens. Gerbier's criticisms of Inigo Jones have been received poorly in England, where Jones is an untouchable cultural hero, but the continental Gerbier, with his cosmopolitan experience, may have found Jones and his art in some of their aspects provincial. His view of English building practices was sometimes that of a slightly skeptical continental European.

Balthazar Gerbier: Bibliography

Both Joachim von Sandrart (*Teutsche Akademie*, 1675) and William Sanderson (*Graphice*, 1658) mention Gerbier. He figures large in the literature on Rubens: see *inter alia*, Rubens's correspondence and William Noel Sainsbury, *Original unpublished paper illustrative of the Life of Sir Peter Paul Rubens: as an artist and a diplomatist*, London: Bardbury and Evans, 1859.

The following biographical entries for Gerbier indicate much additional literature:

[Anonymous] "Gerbier, Sir Balthazar", in: *Dictionary of National Biography*, vol. 8, first published 1889/1890, pp. 1106-1108 (full and detailed information)

Rudolf Oldenbourg, "Gerbier d'Ouvilly, Balthazar", in: *Thieme-Becker*, vol. 13, Leipzig 1920, pp. 444-445

John Bold, "Gerbier, Balthazar", in: *Macmillan Encyclopedia of Architects*, ed. Adolf K. Placzek, vol. 2, New York-London: Macmillan, 1982, pp. 186-187

Howard Colvin, *A Biographical Dictionary of British Architects 1600-1840*, 3rd edition, New Haven-London: Yale University Press, 1995, pp. 396-398 (ample and well-informed)

Edward Chaney, "Gerbier, Sir Balthazar", in: Grove-Macmillan *Dictionary of Art*, vol. 12, London-New York: Macmillan Publishers, 1996, pp. 340-341 (brief but informative)

Sophie Reinhardt, "Gerbier (G. d'Ouvilly), Bathazar (Balthasar)", in: *Saur Allgemeines Künstler-Lexikon*, vol. 52, München-Leipzig: K. G. Saur Verlag, 2006, pp. 63-65

See further:

John Summerson, *Architecture in Britain 1530 to 1830*, London-Melbourne-Baltimore: Penguin Books, 1953, pp. 92, 96, pls. 50 A and 50 B

Johannes Dobai, *Die Kunstliteratur des Klassizismus und der Romantik in England*, 4 voll., Bern 1977-1984, vol. I, 1974, pp. 378 ff.

John Bold, *John Webb: Architectural Theory and Practice in the Seventeenth Century*, Oxford: Clarendon Press, 1989

Hanno-Walter Kruft, *Geschichte der Architekturtheorie von der Antike bis zur Gegenwart*, Studienausgabe, vierte Auflage, München: Verlag C. H. Beck, 1995, pp. 262, 592

The most detailed general treatment of Gerbier's architectural writings, in the context of his time and place, is found in:

Eileen Harris, *British Architectural Books and Writers 1556-1785*, Cambridge: Cambridge University Press, 1990, pp. 43-45, 206-208, 380

PORTRAIT OF THE AUTHOR: Balthazar Gerbier
Around the oval portrait: SE CONFIE / HEUREUX QUI EN DIEU [« Heureux l'homme que se confie en toi » : *Psaumes*, 84, 12/13] *On the medal over Gerbier's breast*: « CR [*Carolus Rex*]» . *Below*: « D. Balthazar' Gerberius, / Eques Auratus. b. d. / A.° 1653 / ». *Above*: Gerbier's coat-of-arms.

A Brief
DISCOURSE
Concerning the
Three chief Principles
OF
Magnificent Building.

VIZ. { *Solidity*, *Conveniency*, and *Ornament*.

By Sr *Balthazar Gerbier D'onvilly* Knight.

LONDON,
Printed in the Year 1662.

TITLEPAGE

A Note concerning 'Balthazar Gerbier II.'

Gerbier's *Discourse* of 1662 was conceived in tandem with his longer treatise, *Counsel and Advise to all Builders*, issued the following year, as the extended summary of the *Discourse* in *Counsel* (pp. 1-4: "a repetition of the summary contents") and a *Nota* at the end of the book (p. 110) testify. The titlepage of this second treatise reads:

"*Counsel and Advise to all Builders; For the Choice of their Surveyours, Clarks of their Works, Bricklayers, Masons, Carpenters, and other Work-men therein concerned. As also In respect of their Works, Materials and Rates thereof. Together with several Epistles to Eminent Persons, who may be Concerned in Building*. Written by Sir Balthazar Gerbier Douvily, Knight. London, Printed by Thomas Mabb, dwelling on St. Pauls-Wharff neer the Thames, 1663."

An electronic edition of this text will be issued in a subsequent number of FONTES. It will include a glossary of unfamiliar words and terms, brief explicatory commentary, and indices of persons, places and terms for both of Gerbier's architectural treatises, which to a large extent consititute a single unit, albeit in two parts.

T H E T E X T

A Brief

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By S[r] *Balthazar Gerbier D'ouvilly* Knight.

L O N D O N
Printed in the Year 1 6 6 2.

TO THE
K I N G S
MOST
Excellent Majesty.

May it please your Sacred Majesty:

My place of Master of the Ceremonies (which the King your

A 2

your Royal Father of blessed memory, confirmed unto me during my life, by the Great Seale of *England*,) is to introduce Forreign Princes or their publick Representatives to your Sacred Presence. And in regard the Place of Surveyor Generall was

was also intended to me (after late *Inigo Jones*) I doe make bold to introduce the three Capitall Principles of good Building to your Sacred Majesty, who hath seen more stately Palaces and Buildings, than all your Ancestors, and may be a Pattern to all fu-

future Posterity, by Building of your own Palace worthy your Self, and placing it as the *Italians* for their health, delight, and conveniency (as well as Solidity and Ornament,) *La Matina alle Monti*, *la Sera alli Fonti*, according to which the main body of your

your Royal Palace may be set on the side of Saints *James*'s Park, and the Gardens along the River.

If the Book affoards any thing worthy your Sacred Majesties further satisfaction, I have obtained my end, and done the Duty

ty intended by

Your Sacred Majesties

Most humble, most obedient, most

Loyal Subject and most zealous

Servant Balthazar Gerbier

D’ouvilly Knight.

TO

TO THE
L O R D S
AND
COMMONS
Assembled in
PARLIAMENT.

May it please your Honours :

I*T being lately reported that your Honours have deliberated to have the Streets*

Streets made clean, to enlarge some of them, and to Build a Sumptuous Gate at Temple-Barr. I thought it my Duty to present this small Discourse of the three Principles of good Building, and withall a Printed Paper concerning the Cleaning of the Streets, the Levelling the Valley at Fleet-Bridge, with Fleet-Street and Cheapside,

Dedicatory

Cheapside, add the making of a Sumptous Gate at Temple-Barr, whereof a Draught hath been presented to his Sacred Majesty, and is ready also to be produced to your Honours upon Command, with all the Devotion of

Your Honours

Most humble and most

obedient Servant

B. Gerbier Douvilly Knight.

[1]

A Brief Discourse, concerning the three chief Principles of Magnificent Building, *viz*. *Solidity*, *Conveniency*, and *Ornament*.

WHereas Building is much minded in these times, I thought fit to publish some Principles thereon, which may stand the lovers of it

[2]

it instead. Yet without spending time and Paper to Note how a Point, Line, Angle, Demi-circle, Cube, Plint, Baze, Pedestal, Columbe, Head, Architrave, Frize, Cornice, or Frontispiece must be made; and what Dimensions all those several parts (a Point excepted) must have, since all Master-Workmen ought to remember (as Scholars their Grammar, and Arithmaticians their Table) how every Particle must have its just proportion; and that the height of Windowes and Doores must be double their breadth; and also to be carefull to maintain the due esteem of their Art, since its Dimensions and Rules came directly from Heaven, when the great Architect and Surveyor of Heaven and Earth, prescribed the Rules and particular Orders for the Building

[3]

Building of a floating-Pallace, (*Noahs* Ark) and the glorious matchlesse Temple of Solomon, the perfect House of Prayer.

And therefore such Precedents may serve to convince those who say, That a wise-man never ought to put his finger into Morter, since there is a necessity for Building, especially among Nations who do not, or cannot live in Caves and hollow Treees, or as the Wilde *Indians*, who have no other Roofs but of Palmito-Leaves, nor Wainscot, but Bambouses, as they call the Poles to which they tye a Woollen Hammac to lye in.

There are three Capital Poinzts to be observed by men, who intend to build well:

VIZ,{ *Solidity*.
Conveniency.
Ornament.

Those

[4]

Those who have Marshald the Orders of Colombs (to make good the first point) have Ranged the Toscan to be the Supporter of a Building, but such an Atlas must stand on a firm ground, not as ill Builders place Colombs (either of Brick or Stone) like things Patcht or glewed against a Wall, and for the most part against the second Story of a Building, (contrary to the very *Gothish* Custome, who at least did begin their Buttrises from the Ground) as if their intent were, that the weight of the Colombs should draw down the Wall, on the heads of those that passe by.

Such Builders confound the first and essential point of Building, (to wit, *Solidity*, with *Ornament* and *Conveniency*).

They will make a shew of some thing, but misse thereby (as ill

Bow-

[5]

Bow-men) the Mark: They may perchance have heard of rare Buildings, nay, seen the Books of the *Italian* Architects, have the Traditions of *Vignola* in their Pockets, and have heard Lectures on the Art of Architecture, which have laid before them the most necessary Rules, as also the Origine of the several Orders of Colombs, and Discourses made thereon; that the *Toscan* is as the *Hercules*, so of the *Ionic* and *Corinthian*; the first of the two to resemble the Dressing of the Daughters of *Ionio*, who had Twists of Hair on both sides of their Cheeks. The *Corinthian* Heads to represent a Basket with Acante Leaves, and the Guttered Colombs, the Pleats of Daughter and Womens Cloaths.

That the *Grecians* (in remembrance of their Victories) did Range

[6]

Range the Colombs in their Buildings, to represent the number of Slaves which they had taken; the Grains, Beads, Drops, Pendants, Garlands, Enterlaced-Knots, Fruitage, and an infinite number of Ornaments, which are put on the Frize, to signifie the Spoiles which the Victors had brought away from their Enemies; and to preserve the Memory thereof, did place them on their Buildings, that they might also serve for a true History.

But none of such Ornaments were ever impediments to the strength or convenience of a Building, for they were so handsomly and well contrived, as once the Dutchesse of *Cheiveruse* (a French Lady) said of the English Females, that they had a singular grace to set their Ornaments right and handsomly.

The

[7]

The *Barbarians* and naked *Tapoyers*, *Caripowis*, *Alibis*, (and several *Charibdiens*) do place Pendants in their Nostrils, which are proper for the Eares; and these hinder not the use of the Lips; which ought to be observed by all Builders.

And as for the inside of Fabricks, Builders should in the first place set the Doores, Chimnies, and Windows, as may be most convenient for use.

Builders ought to be not onely experimented in House-keeping, but also good Naturalists, to know (before they spend time and Materials) the required Property to every part of a Building. A Doore to be so set as it may not convey the Wind toward the Chimney or the Bedstead, though opened never so little.

The Windows to be so placed, as

B 2

[8]

as that the Fire made in the Chimney, may not attract the Aire and Moysture, and so prove the unwholesomest part of the Room for those that are near the Fire; Which was the main reason why the great *Isabella Infanta* of *Spain* (King *Philip* the Seconds Daughter, who Governed the Provinces of *Brabant*, *Flanders*, *Arthois*, and *Haynault*, during her many years Residence at *Bruxells*,) being prepossessed with a prejudice, never approached a Fire to warm her self; till at last being through wet (going a Procession in a great Rain, and by a Visit made by *Mary* of *Medicis*, Queen Mother to *Lewis* 13th, just as she returned to her Pallace) had no time to Shift her, she was constrained to approach the Fire to dry her self, and few dayes after she fell sick and dyed upon it: which Relation

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Relation being very true, and happening in the time that I resided for the King of blessed memory in that Court, I thought fit to mention, to perswade all Noble (and curious Builders, to place their Doors, Windows, and Chimnies in their proper places.

And though it be not my design in this small Discourse to Treate of Dimensions (which are fit for a Primar to Apprentices,) Yet I cannot desist (by reason of the West-*Indian* Herican-like-windes which happened *February* last, to perswade all Builders to forbear the Building any more those exorbitant Chimney-Shafts, which when they fall, break both Roofs and Sealings of Roomes, and kill good People in their Beds: since a Chimney some two Foote higher than the Ridges of the Roof of a Building, (which is not overtopt

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vertopt by a Church or Steeple, or some other eminency,) is as good a conveyance for the smoak, as any of a greater height. Neither are those high Shafts of Chimnies real Ornaments to a Building, much lesse to the Pallace of a Soveraign: nor do the *Germane* Travellers of this Age any more fill (as formerly) their Table-Books with the number of them, as they were very carefull to note the Names of their Hoatts, where the best Wine was, and when they tasted that called *Lagrima-Christi*, they moaned and askt why he did not weep in their Countrey. It is true, that the least addicted to Bibbing, did put in their Stam-books the Dimensions of the *Phanteon* and of the *Amphitheaters*; as also of *Caprazola fiescati*, and such Magnificient Structures above Ground in *Italy*, and under Ground

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Ground *La Pessina Admirabile, La Grota de la Sibila Cumana, Bagni di Cicerone, cente Camere, é le Sepulture de le nobili Antichi*. But they are now taught by *Tutors* to observe the Inside of Men and Buildings. And as the best Ornaments of a Face appears at first sight by the Eyes, Mouth, and Nose; so doth the best qualities of a perfect Building, by Windowes, and Doores well placed, as also by a large, magnificient, commodious, and well-set Staircase.

Noble, magnificient, and commodious Staircases, must in the first place participate of a Noblemans manner of Pace and Attendance.

There is no man of sound Limbs (and that hath a gallant Gate) but lifts his Toes at least four Inches, when he goeth an ordinary easie Pace;

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Pace; so that if two steps (each four Inches high) be eighteen Inches broad, or deep, which makes six and thirty Inches the two (the just measure of a mans two steps,) they may be ascended from the first Floor, to the higher Story, as if a man walked on a level ground.

2. Those Staires ought to be so long, that the Attendandts on each side the Noble Person, Prince or Soveraign, may not be streightned for roome.

Such were the Monarchlike Staires of the Pallace of *Darius* and *Cyras* the Great, at *Chelminor* in *Persia* near *Saras*, the Metropolitan between *Ormus* and

Espahan. I do speak indeed of a Pallace without comparison to any other, the Walls of Circumvallation of that Pallace, being four and twenty foote thick, and the Staires (as yet

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yet in esse) are fourty foot long, in number an hundred and eight, of Circular Form, and of so easie an Accesse, as that Travellers do ascend them on Horseback.

King *James* of blessed memory could not have been so much in danger of an Onset in a Paire of Staires, large enough for a Noble Retinue to his Person, as he was in a narrow Pair, which History mentions.

Neither had *William* Prince of Orange been so easily Shot at *Delff* in *Holland*, descending a narrow Pair of Stairs.

3. A Noble Paire of Staires should have a Cupelo, and no Windows on the sides, which for the most part serve but for Rude and Unadvised Men to break.

In some Pallaces and Noble-Mens

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Mens Houses, *Too many Staires and back-Doores* (as the old *English* Proverb) *makes Thieves and Whores*. And the setting the Front of a Building towards the North-West, and a Pallace, like Cardinal *Wolseyes* ill-placed one (now called *Whitehall*) on a low ground by the River side) makes work for Physitians, Apothecaries, Surgeons, Coffin and Grave-makers.

But as for a Seate on Moorish Grounds (except the Builders observe the practice of those in *Venice* (in *Italy*) and *Amsterdam* (in *Holland*) who bestow more timber of Oake in the Foundation of one, than in the Building of six Houses, in effect ’tis to build perpetually, leaving to their Posterity to prop and redresse their ill grounded Buildings; and they may well be rankt with the Duke of

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of *Arscot*, who built much in *Brabant*, and (in a merry humour) designed in his Will ten Thousand Gilders *per annum*, to support and alter what he had Built amisse.

I must also advise Builders on high Grounds, to cause their Surveyors to search for Springs, and shun them; which serve better to fill up Glasses to allay the Vapours of *Gascony* Wines, than to make a Pond in a Sellar.

Builders ought also to be very curious and carefull in the choice of the place to Build a Seat on, for good Prospect, well Garnisht with Woods, and the Water at hand, not too near, nor too far from a City or Town.

Item, I must wish all Princes and Noble Persons who are resolved to Build Pallaces and Seats answerable to their quality, to imitate those

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those who in the Heathen age were so carefull in the ordering of the Structure of their Stone Images, especially of their *Saturn*, *Jupiter*, *Apollo*, *Mars*, *Neptune*, (and all their Fry of wanton Godesses) as to empannel a Jury of Philosophers, Naturalists, Physiognomists and Anatomists, who were to direct the Sculptors how to Represent those Images. And so I would with Builders to proceed in the contriving the Models of their intended Fabrick, to wit, to consult (as those of *Amsterdam* did in the making the Model of their Town-House, divers experimented Architects, though they pitcht for the Front on the worst of all.

Item, Before the Workmen, make use of Materials, and not to Build at Randome, as the Custome of too many ill Builders is; And when once the Model is approved,

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proved, never to alter, nor to pull down what hath been well begun, nor to hearken to the diversity of opinions, which have been, and are the causes of many Deformities and Extravagancies in the Building; and especially those who seem to have had for Models Bird-Cages, to jump from one Roome into the other by Steps and Tressels, to cause Men and Women to stumble.

And the sides all of Glass (like Spectacles) the glass Windows of small Payns, with great store of Lead, to draw the more Wind and Moisture from the open Aire within Doores. As also Windowes with store of Iron Casements,

which rust, and never shut close, notwithstanding all the various devices of Smiths, to catch Money out of the Builders Purses, contrary to the good

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good custome in *Italy*, *Spain*, *France*, *Germany*, and the Low-Countreys, which certainly for plurality of Voices should be believed, and followed.

Those Nations cause their glass Windows to be fitted in woodden Casements treble riveted, to keep out Wind and Rain; they are lined with wooden Shutters, and have double boarded Shutters without, to resist all the violence of the Weather and Theeves.

Let no man mistake these Windows for wooden Casements, for such are usually seen here in *England* in old wooden Houses, the Casements scarce above one Foot and a half high, tottering things; for these are substantially, strongly, and curiously made Casements; nor are the wooden Shutters such Past-board

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board-like things, as are generally put on the outside of the Windows on the *London* and Suburbs Houses, but double-Deal well-riveted Windowes, with substantiall Locks, Bolts, and Hinges, and a double Iron Bar, with a Bolt fixt in the middle of them both.

Nor do good Builders affect partitions of Lime and Hair in their Houses, nor any of their Bricks to be daubed over with finishing Morter.

The *Romanes* are very curious in the tempering of their Morter, and in the laying it as thin as possibly they can, to prevent the sinking and bending of their Walls, which the laying of the Morter too thick doth cause; and experience sheweth, that when some walls are taken down in *England*, half of the substance

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substance is Sand and Dust.

The *Romanes* (as likewise the *Grecians* before them) did not make use of their Lime at the same time it was slakt, but for six Moneths time suffered to putrifie, and so putrified composed a Seiment, which joyned with Stone (or

Brick) made an inseparable union, and such strong work as I have seen Iron-Tools break on the old Morter of the *Amphitheaters* at *Verona* and *Rome*.

Their manner of preparing Lime is to lay it in Cisternes the one higher than the other, that the Water (after it hath been so stirred as that it is well mixt and throughly liquid) may drayn from one Cistern to the other, and after six Moneths time (the lime having evacuated its putrefaction) remains

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mains purified, and then they mix two parts of Lime with one part of Sand, and makes that strong and pure Morter, which if practiced in *England* would make a wondrous strong Union, especially if the Clay-makers did beat the Clay as it ought to be, the English Clay being better than the Italian, nay the best in the world.

They are very carefull in the making large and deep Foundations, and to let the Walls raised on the Foundations rest and settle a good while before they proceed to the second Story.

Some of our Capenters have learned to lay Boards loose for a time, the *Italians* and other Nations are not sparing therein, they nayl them as if for good and all, but rip or take them up again, to fit them for the second time. As

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As I said before, no Building is begun before a mature resolve on a compleat finisht Modell of the entire design: the Builder having made choice of his Surveyor, and committed to him all the care and guidance of the work, never changeth on the various opinions of other men, for they are unlimited, because every mans conceits are answerable to their profession, and particuar occasion.

A Soveraign or any other Landlord, is guided by naturall Principles, as well as by his own Resolve, taken on a long considered Modell, because they know (by experience) how suddain changes are able to cause monstrous effects.

They know that a well-experienced Surveyor must not be disturbed in his task, and undertaking,

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dertaking, but as the Silk Worm and [*t*]he Soul of Man, the first in his Husk, the second in the Womb, wherein both the one and the other (by the powers of the great Architect and director of all things) works out his own compleat Fabrick, if not interrupted; but if interrupted by any outward accident, it happens that those passions become the original causes of exorbitant Features and Forms. An *Item* for all Builders to suffer a good Architect quietly to pursue his task, if he understands it.

It hath been observed among the French (a Nation as much addicted to changes as any) that when the charge of an undertaking hath been committed to many, it caused but confusion, and therefore its a saying

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saying among them, *Trop de Cuisineirs gattent le pottage*, Too many Cooks spoils the Broth.

I shall not spend time, and transgress on the Readers patience, concerning the making of Clay, and burning of Bricks, only say, that it imports much the Clay should be well wrought, before it be put in the Mould: experience hath also taught Brickmakers to have them of such a length, thickness and wideness, that four of them (together with the Morter thereunto belonging) may raise a Foot.

As for Free-stone, *Portland* Stone works well, and makes a good union with Bricks, yet cannot be compared with Marble, nor to the Blewish Stone of the Quarries of *Liege* and *Namur*. But 'tis also certain, that this Climat makes Marble it self to Moulder very much;

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much; as for example, the *Cain* and *Abel* in the *York*-House Garden, which did not Moulder when it stood in that of the Duke of *Larma* at *Valedolid* in *Spain*, the coldnesse (together with the moistnesse of this Clime) being of a contrary operation to the temper of the Aire in *Italy* and *Spain*. And therefore when Builders see their Copings, Water-table, Cornisches, Railes, and Balisters to decay, they must have patience, since there is no Material but is subject

thereunto, and that Railes and Balisters (either on the top of the Walls of a Frontispiece, or in the Belconies) though never so well Painted in Oyle, and of the best seasoned Timber,), but must be renewed at fourty or fifty years end.

Builders ought to calculate the Charges of their designed Buildings, and especially with what Summe

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Summe of Money they are willing to part, and yet remember to imitate some Philosophical Humorist, who resolves to venture on a pretty thing called a Handsome Lady, without which their Fate seems to tell them they cannot live, and therefore makes an account beforehand that all things will not precisely answer his expectation. But on the contrary, the Lady instead of being a good Housewife, (and an assistant) proves expensive, and an impediment. And if it prove otherwise, he will be a great gayner by the bargain; for let Builders put their design to Master-Workmen by the Great, or have it Wrought by the Day, either the Workmen will over-reach themselves, or the Builder will be over-reached.

Charity to the one, and respect to the other, moves me to keep the

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the rest in my Pen, yet shall never be backward to inform either of them in the ear what may be the best for them to choose.

But I must freely advise all Builders in general, never to begin to Build on a Ground before it be purchased, as the late Duke of *Buckhingham* did at *York*-House, where there hath been much daubing and breaking through old rotten decayed Walls; first to make a Ladies Closet on the corner of a Wall where a Butteryses stood, and which was taken away for the Closet, intended only at first for a Closet of ease, and to serve untill the Archbishop of *York* could be perswaded to accept as good a Seat as that was, in liew of the same, which could not be so soon compassed, as the Duke of *Buckingham* had occasion to make use of Rooms, to entertain (according

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ing to the Dignity of a prime Minister of State) forreign Princes and Embassadors; so as on a suddain, all the Butterises that upheld that rotten Wall were thrown down, the Seelings of Roomes supported with Iron-bolts, Belconies clapt up in the old Wall, daubed over with finishing Morter, and all this (as a Toadestoole groweth in a night) to serve untill a Model for a Solid Building (to stand even with the Street) were made, and to be built of such Stone as the Portico or Water-Gate at the River side is; and this was done on a Moorish Ground, whereon no New Building could stand any time without Proppings, which was contrary to the main Principle of good Building.

I must proceed and conclude with my humble respects concerning Palaces of Sovereigne Princes, which

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which must differ as much from other Buildings, as their quality and condition from that of their Subjects.

And in the first place, as *Solidity* must be the first Principle in all good Building; so much more ought it to be observed in that of Sovereigns, unto whom the whole world hath access.

And as there must be spacious Ground before their Palaces, their Inner-Court ample, the Offices for their Retinue large and comodious, and so placed as they may neither be an annoyance nor of ill aspect.

The first Stories ought rather to be vaulted than boarded, to prevent such an accident as happened to *Lewis* 13th French King, (and his Queen at a Ball,) when the Floore of the Roome (with all the Company) fell down, the King

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King and Queen only remaining (by a special Providence) on the Hearth of the Chimney, setting under the Cloath of State.

And as there is a necessary Magnificience to be exprest on the Front and inside of Princely Buildings, answerable to their greatness; so is it absolutely necessary, that the Architect be possest with a Soul as great as the Player in the French Play, called the *Virionaries*, where he perswades himself to be *Alexander*, and governs his Motions accordingly. And the Lines and Strokes of the Architect must be *Alexander*-like: his Figures and Statues *Colosses*, his *Pyramidis* like those of *Ægypt*, and the Vaults like that Rock wherein *Alexander*

and *Darius* wrastle for Mastery in a Valley in *Persia*, between *Babylon* and *Espahan*, at a place called *Carimonshahan*,

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han, where formerly was a great City six English Miles long; in which *Groto*, the *Alexander*-like mind of the Sculptor, hath Hewn within the Rock, (besides *Alexander* on Horseback, and a number of Huntsmen and Ladies) the aforesaid *Alexander* and *Darius* wrastling to break a Ring between them.

Such a like mind Prince *Thomas* of *Savoy*, (Sonne to the Great *Emanuel* of *Savoy*) infused into his Architect, Sculptor, and Caster in Brass, who he imployed in the Designing and Building a Stable in Turin, within all of Marble, the Racks, Manger, and the upright Posts all of Copper, Richly Wrought, Conveyances of Water Pipes. The Manger fourteen Inches wide at the bottom, to contain a Pale of Water on all occasions. The uppermost edge of the Manger

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Manger three foote eight Inches high from the Ground, to accustome the *Neapolitan* great Saddle-Horse to raise their Neck. The Rack Poles three Inches asunder and upright, that as the Frenchmen saith, (*Lapetit vienten mangeant*) the Horse may feed more chearfully, the Hay and Dust may not fall on their Heads, as it doth out of a Rack which stands shelving: the under part of the Manger ought to be made up to keep in their Litters, and no Boxes made there for Dogs, as some not curious do, where no Harnesses, Saddles, Coverings of Horses, or any other Implements or Tooles, are not to be seen about the Postern, since those things do but impede the Accesse of a Cavallier to the Horses.

The disposing a Stable into a double Range, hath been affected by

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by some, who would see all their Horses at once.

Others love only a single Range, with a broad Walk, and if they have a great number of Horses, returne at the end into another Range, if the Ground can afford the same, so as a Wall makes the Partition between the Horses.

The Paving of such a Stable is very neat, being of white or yellow (twice burnt) *Flanders* Bricks, in *Dutch* called *Clinkart*, farre beyond Planking of

Stables, for divers Reasons. The Paviors (after the Bricks are laid) throw sharp Sand over them, and twice a day they are Watered with a Gardeners Watering-Pot, and Swept with a Broom, which the Grooms are to continue sometimes, because the Sand gets between the Joynts, and makes the Paving very close and firm. The Pavement

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ment at the Foot of the Manger, must be raised at the least six Inches higher, than the Gutter where the Posts are placed, which ought to be five Foot and a half distant one from the other, which Ground so Paved is of double use; first, that the higher a House (*sic = horse*) stands towards the Manger, the better sight it is, and especially when the Lights of the Stable strikes on the Horse their backs, which is the better Light.

Secondly, That a Horse its usual standing place being so much shelving accustomes the Horse (reposing more on his hinder Feet than on the foremost) to be more light and nimble in his Gate and Pace.

Thirdly, That his Stall doth not remain under him, and especially when its standing hath eight foot in length from the Manger to the Channel,

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Channel, which for neatness ought to be above Ground, the eight Foote in length, being at full the space which the Horse doth possess when in the night time he lyeth stretcht on his Litter.

I must not omit by way of Queries, to Write somewhat concerning the Kitchin of a Princely Pallace, *viz*. whether there should not be as much curiosity, if not more in the Kitchin than in the Stable; since the Meat prepared in a Kitchin, ought to be Drest with all Neatness, and preferred before a fine Lace about the Master Cooks Towel: Neither are the Vessels of Silver but in reference to the Neatness which ought to be observed in all Cookery. The French-Mans Glasse is wrenched as often as he drinks, and why should not Cooks be more Curious and Neat in their Kitchins,

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Kitchins, than Grooms in their Stables? And as a Stable can have conveyances for the Horses Water, so may Kitchins for Slabbering, for Guts of Fowls and

Deer, Coles, Ashes, and whatever else can cause Dirt and Nastiness, and be freed from the annoyance of Smoak, which many ill-placed Doors cause; nor ougnt [= *ought*] the Kitchin or other Offices and Selleridge, (as in some Palaces in *France*) to be so placed as they may prove prejudiciall to the Court, and if they are underneath a Palace they ought to be vaulted.

I must not forget that the Roof of a Palace should be covered either with Lead or blew Slates.

The *Pantheon* at *Rome* was covered with Brass, which a Pope melted to cast Canons, no such as only eat, drink and sing.

No curious eye can well indure those

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those Barn-like Roofs of many Noble Persons, covered with red Tiles, which break and rot away, and then the Roof being mended and patcht, seems to be a Beggars Mantel, which I would not have the Nobles and Courtiers to be. See the Roofs of *Lester*, *Newport*, *Southampton*, and such like their Palaces, whether they do not look as Barns for Hay, and not Pybald, by their patched Tiles.

As for the main bulk of Palaces, its true some have a greatness in plainness, as that of *Farners* in *Rome*, whereof *Michael Angelo* made the *Architrave*, *Frize* and *Cornish*.

And as for Bigness and Solidity, that of *S*^{t} *Jeronimo*, and *Escuriall* in *Spain*; for Ornament, *Munikch* in *Bavaria*; the *Louver* at *Paris* for Vastness, Situation and Ornament, by the imbossed Imagery on the Fron-

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Frontispiece, variety of Orders of Colombs, with the delight of the annexed Tuilleries, wherein as especially in that of the Palace of the Duke of *Orleance*, but above all in the Cardinals their *Vignas* in *Rome*, is observed the form of a true Princely Garden, consisting not only in much Air, great plots of Grass, low borders, large Gravell-Walks, but for close Walks, Fountains, Groves, and Statuaes, to make good the Italian saying, *Per variar natura é bella*. And as for the imbossed carved Imagery on the Frontispiece of a Palace, their Dimensions must be according unto their distance from the Ground; which is a main point

requisite to be observed also in Scheames (*sic*), wherein divers undertakers commit very great faults, not only by the not reducing whatsoever is represented to the true Lines of Perspective,

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spective, but also by omitting the giving such Proportions to things, as may satisfie the sight of all the Spectators at their severall distances; for Excellency doth not consist in vastness, nor in the quantity of Objects, nor Shapes, nor Colours.

The Sphear in an Angle of a great Chamber in S^{t} *Pedro è Vaticana* in *Rome* confirms this truth, and every judicious Eye will be satisfied therewith. Seas must not only be seen to have naturall motion, but heard to make a noise of breaking of their Waves on the shoar, and against the Rocks. Clouds must not only drive, but be transparent. Winds, Thunder, Lightning, Rain, Snow, and Hail, must be so heard, seen, and felt, as that Spectators may think those sights to be naturall operations. The Sun, Moon, and Stars, no Past-board devices, but

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but so represented, as that they may dazle the Eyes of Spectators. And all the Motions of Sceanes and Mutations as insensible, and no more to be discovered, than that of the Hand of a Diall.

Neither can all great Rooms of Princely Palaces serve for this use, except they be after the Moddell of such as the Italians have built, as there is a good one at *Florence* in *Italy*, with conveyances for Smoak, and capacities for Ecchoes, which *Inigo Jones* (the late Surveyor) experimentally found at *Whitehall*, and by his built Banquetting House, so as having found his own fault, he was constrained to build a Woodden House overthwart the Court of *Whitehall*.

The greatness of a Sovereign consists not in the quantity of Stone and Timber heapt together, The Quarries possess more Stone, and the

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the Woods more Timber than a Banquet Room. Let any good eye judge, whether it be not true, that the extream height of a Room takes not away the

greatness of the company that is in the same, and that all Hangings of Tapistery make no shew at all, unless they reach to a proportionable height of a Room.

Since the greatness of a Nation consists not in a Husk, but in it self, and in its Sovereign, nothing should be suffered to diminish the appearance of that greatness within or without Doores. A Sovereign and his Retinue, in a too vast Roome in height, width and length, doth appear like a company in a Valley near high Mountains. Whenas a body standing on the brow of a Hill, and seen from below, seems to be a kind of *Colosse*, which argueth that there must be a great discretion used in making them fit and pleasing. All

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All which I do not Write to undervalue any Modern Works, nor any of the Cavallier-like *Operas*, every good Talent being commendable. As I am confident there are some that live, who will not deny that they have heard the King of blessed Memory, graciously pleased to avouch he had seen in *Anno* 1628, (close to the gate of *York*-House, in a Room not above 35. foot square,) as much as could be represented (as to Sceans) in the great Banquetting Room of *Whitehall*; and that diverse judicious persons will not deny, that the excellency of the several Triumphall Arches Erected in the City of *London*, consists not in their bulk.

The *Grecians* and *Romans* (who have shown their Master ship in them) did conform them to the respective places.

Things can be too great, as well as

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as too little, too massie, and too slender, too gaudy, and too plain; and Colours placed together, which agree not one with the other, as blew and green, God in his Rainbow having shewed us the best way of ordering Colours. Nor is it the quantity of Timber or Stone, that speaks love in an Arch; but rather when it is composed of the hearts of Loyal Subjects, which surpasseth all that can be made.

May therefore the oldest and most tottering House in the Land, breath forth of its Windows what may answer that true love, and in point of good Building, wherewith this Discourse is begun, (next to the giving such a new Form to the Streets of *London* and the Suburbs, as may in a manner equalize those in

Holland in neatness, if the Inhabitants will but take the right and onely course therein.) May his Sacred

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Sacred Majesty during his long prayed for and wished Raign, see St. *Pauls* Church in that magnificency, as the Metropolitan of the Houses of God, in the chief City of *Albion* justly requires. And his Royal Palace Built, so as to answer the matchlesse greatnesse of him, who all tongues of Loyal Subjects speaks to be *Carolum*, *Magnum*, *Secundum Dei gratia*, Angliæ, Scotiæ, Franciæ, & Hiberniæ *Regem*, *Ecclesiæ*, *Legum*, *& Libertatis Populi Restauratorem*; Which shall ever be the dutifull Wishes of

Balthazar Gerbier

Douvily Knight.

Printed by *A. M.* and are to be sold by *Richard Lowns* at the White Lion in S^{t} *Pauls* Church-yard, *Thomas Heath* at the Globe within *Ludgate*, and *Mathew Collins*. at the three Blackbirds in Canon-street at S^{t} *Nicholas*-lanes end Stationers. 1 6 6 2.

A MODERNISED TEXT

A Modernised Text of: **Balthazar Gerbier, *A Brief Discourse concerning the three chief Principles of Magnificent Building. Viz. { Solidity, Conveniency, and Ornament*. London, printed by A. M., 1662.**

Modernisation has been largely restricted to spelling and to the substitution of archaic words with their modern equivalents. Some persons and places have been identified. Punctuation has been left largely intact, except for some instances when it impedes comprehension.

Balthazar Gerbier, *A Brief DISCOURSE Concerning the Three chief Principles OF Magnificent Building. Viz. { Solidity, Convenience, and Ornament*. By S^{r} Balthazar Gerbier D'ouvilly Knight. LONDON, Printed in the Year 1662.

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VIZ.* { Solidity,
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By Sir Balthazar Gerbier D'ouvilly Knight.

LONDON
Printed in the Year 1662.

* '*videlicet*', namely

(The Epistle Dedicatory)

TO THE
KING'S
MOST
Excellent Majesty.

May it please your Sacred Majesty:
My place of Master of the Ceromonies (which the King your

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your Royal Father of blessed memory, confirmed unto me during my life, by the Great Seal of England,) is to introduce foreign princes or their public representatives to your Sacred Presence. And in regard the place of Surveyor General was

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was also intended to me (after late Inigo Jones). I do make bold to introduce the three capital principles of good building to your Sacred Majesty, who has seen more stately palaces and buildings, than all your ancestors, and may be a pattern to all fu-

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future posterity, by building of your own palace worthy yourself, and placing it as the Italians for their health, delight, and convenience (as well as solidity and ornament,) *La Matina alle Monti, la Sera alli Fonti,* according to which the main body of your

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your Royal Palace may be set on the side of Saints James's Park, and the gardens along the River.

If the book affords any thing worthy your Sacred Majesty's further satisfaction, I have obtained my end, and done the duty

–

ty intended by

Your Sacred Majesty's
Most humble, most obedient, most
loyal subject and most zealous
servant Balthazar Gerbier
D'ouvilly Knight.

TO

–

TO THE
LORDS
AND
COMMONS
Assembled in
PARLIAMENT.

May it please your Honours:

It being lately reported that your Honours have deliberated to have the Streets

–

Streets made clean, to enlarge some of them, and to build a sumptuous gate at Temple-Barr [*in Fleet-Street*]. I thought it my duty to present this small discourse of the three principles of good building, and withall a printed paper concerning the cleaning of the streets, the levelling of the valley at Fleet-Bridge, with Fleet-Street and Cheapside [*a street in the City of London*],

–

Cheapside, add the making of a sumptous gate at Temple-Barr, whereof a draught has been presented to his Sacred Majesty, and is ready also to be produced to your Honours upon command, with all the devotion of

Your Honours's
most humble and most
obedient servant
B. Gerbier Douvilly Knight.

[1]

A brief Discourse,
concerning the
three chief prin-
ciples of Magni-
ficent Building,
viz. Solidity, Conve-
nience, and Orna-
ment.

Whereas building is much minded in these times, I thought fit to publish some principles thereon, which may stand the lovers of it

[2]

it in stead. Yet without spending time and paper to note how a point, line, angle, semi-circle, cube, plinth, base, pedestal, column, capital, architrave, frieze, cornice, or frontispiece must be made; and what dimensions all those parts (a point excepted) must have, since all master-workmen ought to remember (as scholars their grammar, and arithmeticians their table) how every particle must have its just proportion; and that the height of windows and doors must be double their breadth; and also to be careful to maintain the due esteem of their art, since its dimensions and rules came directly from heaven, when the great Architect and Surveyor of heaven and earth, prescribed the rules and particular orders for the building

[3]

building of a floating-palace, (Noah's Ark) and the glorious matchless Temple of Solomon, the perfect house of prayer.

And therefore such precedents may serve to convince those who say, that a wise man never ought to put his finger into mortar, since there is a necessity for building, especially among nations who do not, or cannot live in caves and hollow treees, or as the wild Indians, who have no other roofs but of palm leaves, nor wainscot, but bamboos, as they call the poles to which they tie a woolen hammock to lie in.

There are three capital points to be observed by men, who intend to build well:

{ Solidity.

VIZ., { Convenience.
{ Ornament.

Those

[4]

Those who have marshalled the orders of columns (to make good the first point) have ranged the Tuscan to be the supporter of a building, but such an Atlas must stand on a firm ground, not as ill-builders place columns (either of brick or stone) like things patched or glued against a wall, and for the most part against the second story of a building, (contrary to the very Gothic custom, who at least did begin their buttresses from the ground) as if their intent were, that the weight of the columns should draw down the wall, on the heads of those that pass by.

Such builders confound the first and essential point of Building, (to wit, Solidity,) with Ornament and Conveniency.

They will make a show of something, but miss thereby (as ill-

bow-

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bowmen) the mark. They may perchance have heard of rare buildings, nay, seen the books of the Italian Architects, have the traditions of Vignola in their pockets, and have heard lectures on the art of architecture, which have laid before them the most necessary rules, as also the origin of the several orders of columns, and discourses made thereon; that the Tuscan is as the Hercules, so of the Ionic and Corinthian; the first of the two to resemble the dressing of the daughters of Ionio, who had twists of hair on both sides of their cheeks. The Corinthian heads [= *capitals*] to represent a basket with acanthus leaves, and the guttered [= *fluted*] columns, the pleats of daughter and women's clothes.

That the Grecians (in remembrance of their victories) did range

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range the columns in their buildings, to represent the number of slaves which they had taken; the grains, beads, drops, pendants, garlands, interlaced-knots, fruitage, and an infinite number of ornaments, which are put on the frieze, to signify the spoils which the victors had brought away from their enemies; and to preserve the memory thereof, did place them on their buildings, that they might also serve for a true history.

But none of such ornaments were ever impediments to the strength or convenience of a building, for they were so handsomly and well contrived, as once the Duchess of *Cheiveruse* (a French Lady) said of the English females, that they had a singular grace to set their ornaments right and handsomly. The

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The Barbarians and naked Tapoyers, Caripowis, Alibis, (and several Charibdiens [*Indians*]) do place pendants in their nostrils, which are proper for the ears; and these hinder not the use of the lips; which ought to be observed by all builders.

And as for the inside of fabrics, builders should in the first place set the doors, chimneys [= *chimneypieces*], and windows, as may be most convenient for use.

Builders ought to be not only experienced in house-keeping, but also good naturalists, to know (before they spend time and materials) the required property to every part of a building. A door to be so set as it may not convey the wind toward the chimney or the bedstead, though opened ever so little.

The windows to be so placed, as

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as that the fire made in the chimney, may not attract the air and moisture, and so prove the most unwholesome part of the room for those who are near the fire; which was the main reason why the great Isabella Infanta of Spain (King Philip the Second's daughter, who governed the Provinces of Brabant, Flanders, Arthois, and Haynault, during her many years residence at Bruxelles,) being prepossessed with a prejudice, never approached a fire to warm herself; until at last being throughly wet (going a procession in a great rain, and by a visit made by Mary of Medicis, Queen Mother to Lewis 13th, just as she returned to her palace) had no time to shift her [= *to change her clothing*], she was constrained to approach the fire to dry herself, and a few days after she fell sick and died upon it: which relation

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relation being very true, and happening in the time that I resided for the King of blessed memory in that Court, I thought fit to mention, to persuade all noble and

curious builders, to place their doors, windows, and chimneys in their proper places.

And though it be not my design in this small Discourse to treat of dimensions (which are fit for a primer to apprentices,) yet I cannot desist (by reason of the West-Indian Hurricane-like-winds which happened February last,) to persuade all builders to forbear the building any more those exorbitant chimney-shafts, which when they fall, break both roofs and ceilings of rooms, and kill good people in their beds: since a chimney some two foot higher than the ridges of the roof of a building, (which is not overtopped

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vertopped [= *towered above*] by a church or steeple, or some other eminency,) is as good a conveyance for the smoke, as any of a greater height. Neither are those high shafts of chimneys true ornaments to a building, much less to the Palace of a Sovereign: nor do the German travellers of this age any more fill (as formerly) their table-books [= *pocket notebook*s] with the number of them, as they were very carefull to note the names of their hosts, where the best wine was, and when they tasted that called *Lagrima-Christi*, they moaned and asked why He did not weep in their Country. It is true, that the least addicted to imbibing, did put in their stam-books [cf. '*Stammbuch*'] the dimensions of the Pantheon and of the Amphitheaters; as also of *Caprarola fiescati* (*sic*), and such magnificent structures above ground in Italy, and underground

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ground *La Pessina Admirabile* [piscina mirabile], *La Grota de la Sibila Cumana* [lago d'Averno], *Bagni di Cicerone, cente Camere* [cf. Serlio, Bk. 3], *é le Sepulture de le nobili Antichi*. But they are now taught by tutors to observe the inside of men and buildings. And as the best ornaments of a face appears at first sight by the eyes, mouth, and nose; so do the best qualities of a perfect building, by windows, and doors well-placed, as also by a large, magnificient, commodious, and well-set staircase.

Noble, magnificient, and commodious staircases, must in the first place participate of a nobleman's manner of pace and attendance.

There is no man of sound limbs (and that hath a gallant gait) but lifts his toes at least four Inches, when he goes an ordinary easy pace;

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pace; so that if two steps (each four inches high) be eighteen inches broad, or deep, which makes thirty-six inches the two (the just measure of a mans two steps,) they may be ascended from the first floor, to the higher story, as if a man walked on a level ground.

2. Those stairs ought to be so long, that the attendandts on each side the noble person, Prince or Sovereign, may not be streightned [cf. '*confined*'] for room.

Such were the monarch-like stairs of the Palace of Darius and Cyras the Great, at Chelminor in Persia near Saras, the Metropolitan between Ormus and Espahan. I do speak indeed of a Palace without comparison to any other, the walls of circumvallation of that Palace, being twenty-four foot thick, and the stairs (as yet

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yet *in esse*) are fourty foot long, in number an hundred and eight, of circular form, and of so easy an access, as that travellers do ascend them on horseback.

King James of blessed memory could not have been so much in danger of an onset [= *assault*] in a pair of stairs, large enough for a noble retinue to his person, as he was in a narrow pair, which history mentions.

Neither had William Prince of Orange been so easily shot at Delft in Holland, descending a narrow Pair of Stairs.

3. A noble pair of stairs should have a cupola, and no windows on the sides, which for the most part serve but for rude and unadvised men to break.

In some palaces and noblemen's

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men's houses, *Too many Staires and back-Doores* (as the old English proverb) *makes* [for] *Thieves and Whores*. And the setting the front of a building towards the northwest, and a palace, like Cardinal *Wolseye's* ill-placed one (now called Whitehall) on a low ground by the riverside) makes work for physicians, apothecaries, surgeons, coffin- and grave-makers.

But as for a seat on moorish grounds (unless the builders observe the practice of those in Venice (in Italy) and Amsterdam (in Holland) who bestow more timber of oak in the foundation of one, than in the building of six houses, in

effect it is to build perpetually, leaving to their posterity to prop and redress their ill-grounded buildings; and they may well be ranked with the Duke of

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of Arscot, who built much in Brabant, and (in a merry humour) disposed in his will ten thousand gilders *per annum*, to support and alter what he had built amiss.

I must also advise builders on high grounds, to cause their surveyors to search for springs, and shun them; which serve better to fill up glasses to allay the vapours of *Gascony* Wines, than to make a pond in a cellar.

Builders ought also to be very curious and careful in the choice of the place to build a seat upon, for good prospect, well-garnished with woods, and the water at hand, not too near, nor too far from a city or town.

Item, I must wish all princes and noble persons who are resolved to build palaces and seats answerable to their quality, to imitate those

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those who in the heathen age were so carefull in the ordering of the structure of their stone images, especially of their Saturn, Jupiter, Apollo, Mars, Neptune, (and all their train of wanton goddesses) as to impanel a jury of philosophers, naturalists, physiognomists and anatomists, who were to direct the sculptors how to represent those images. And so I would proceed with builders in the contriving the models of their intended fabric, to wit, to consult (as those of Amsterdam did in the making the model of their Town-Hall [*v. Amsterdams Historisch Museum*], diverse experienced architects, though they pitched for the front on the worst of all.

Item, before the workmen, make use of materials, and not to build at random, as the custom of too many ill-builders is; and when once the model is approved,

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proved, never to alter, nor to pull down what hath been well begun, nor to listen to the diversity of opinions, which have been, and are the causes of many deformities and extravagances in the building; and especially those who seem to have had for models, bird-cages, to jump from one room into the other by steps and tressles [= *trestles*], to cause men and women to stumble.

And the sides all of glass (like spectacles) the glass windows of small panes, with great store of lead, to draw the more wind and moisture from the open air within doors. As also windows with store of iron casements, which rust, and never shut close, notwithstanding all the various devices of smiths, to catch money out of the builders's purses, contrary to the good

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good custom in Italy, Spain, France, Germany, and the Low Countries, which certainly for plurality of voices should be believed, and followed.

Those nations cause their glass windows to be fitted in wooden casements treble-riveted, to keep out wind and rain; they are lined with wooden shutters, and have double-boarded shutters without, to resist all the violence of the weather and thieves.

Let no man mistake these windows for wooden casements, for such are usually seen here in England in old wooden houses, the casements scarcely above one foot and a half high, tottering things; for these are substantially, strongly, and curiously made casements; nor are the wooden shutters such paste-board

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board-like things, as are generally put on the outside of the windows on the London and suburbs Houses, but double-deal well-riveted windows, with substantial locks, bolts, and hinges, and a double iron bar, with a bolt fixed in the middle of them both.

Nor do good builders allow partitions of lime and hair in their houses, nor any of their bricks to be daubed over with finishing mortar.

The Romans are very ingenious in the tempering of their mortar, and in the laying it as thin as they possibly can, to prevent the sinking and bending of their walls, which the laying of the mortar too thick causes; and experience shows, that when some walls are taken down in England, half of the substance

[20]

substance is sand and dust.

The Romans (as likewise the Grecians before them) did not make use of their lime at the same time it was slaked, but for six months time suffered to putrify, and so putrified composed a cement, which joined with stone (or brick) made an

inseparable union, and such strong work as I have seen iron tools break on the old mortar of the amphitheaters at Verona and Rome.

Their manner of preparing lime is to lay it in cisterns, the one higher than the other, so that the water (after it has been so stirred as that it is well-mixed and throughly liquid) may drain from one cistern to the other, and after six months's time (the lime having evacuated its putrefaction) remains

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mains purified, and then they mix two parts of lime with one part of sand, and makes that strong and pure mortar, which if practiced in England would make a wondrous strong union, especially if the clay-makers did beat the clay as it ought to be, English clay being better than Italian, nay the best in the world.

They are very carefull in the making large and deep foundations, and to let the walls raised on the foundations rest and settle a good while before they proceed to the second story.

Some of our capenters have learned to lay boards loose for a time; the Italians and other Nations are not sparing therein, they nail them as if for good and all, but rip or take them up again, to fit them for the second time. As

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As I said before, no building is begun before a mature resolve on a completely finished model of the entire design: the builder having made choice of his surveyor, and committed to him all the care and guidance of the work, never changes on the various opinions of other men, for they are unlimited, because every man's conceits are answerable to their profession, and particuar occasion.

A Sovereign or any other landlord, is guided by natural principles, as well as by his own resolve, taken on a long-considered model, because they know (by experience) how sudden changes are able to cause monstrous effects.

They know that a well-experienced surveyor must not be disturbed in his task, and undertaking,

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dertaking, but as the silk worm and the soul of man, the first in his husk, the second in the womb, wherein both the one and the other (by the powers of the

great Architect and director of all things) works out his own complete fabric, if not interrupted; but if interrupted by any outward accident, it happens that those passions become the original causes of exorbitant features and forms. An *Item* for all builders to suffer a good architect quietly to persue his task, if he understands it.

It has been observed among the French (a nation as much addicted to changes as any) that when the charge of an undertaking has been committed to many, it caused but confusion, and therefore its a saying

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saying among them, *Trop de Cuisineirs gattent le pottage*, 'Too many Cooks spoils the Broth'.

I shall not spend time, and transgress on the reader's patience, concerning the making of clay, and burning of bricks, only say, that it imports much the clay should be well wrought, before it be put in the mould: experience has also taught brickmakers to have them of such a length, thickness and wideness, that four of them (together with the mortar thereunto belonging) may rise a foot.

As for free stone, Portland stone works well, and makes a good union with bricks, yet cannot be compared with marble, nor to the bluish stone of the quarries of Liege and Namur [*Belgium*]. But it is also certain, that this climate makes marble itself to moulder very much;

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much; as for example, the *Cain and Abel* in the York House Garden [= *Giambologna's* Samson and Philistine], which did not Moulder when it stood in that of the Duke of Lerma at Valladolid in Spain, the coldness (together with the moistness of this clime) being of a contrary operation to the temper of the air in Italy and Spain. And therefore when builders see their [*wall*-]copings, water-table [= *projecting ledge, molding, stringcourse, designed to throw off rainwater*], cornices, railings, and balusters to decay, they must have patience, since there is no material but is subject thereunto, and that rails and balusters (either on the top of the walls of a frontispiece, or in the balconies) though ever so well painted in oil, and of the best seasoned timber,) but must be renewed at fourty or fifty years end.

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Builders ought to calculate the charges of their designed buildings, and especially with what sum

sum of money they are willing to part, and yet remember to imitate some philosophical humorist, who resolves to venture on a pretty thing called a Handsome Lady, without which their fate seems to tell them they cannot live, and therefore makes an account beforehand that all things will not precisely answer his expectation. But on the contrary, the lady instead of being a good housewife, (and an assistant) proves expensive, and an impediment. And if it prove otherwise, he will be a great gainer by the bargain; for let builders put their design to master-workmen by the great [*i.e., by the work*], or have it wrought by the day, either the workmen will over-reach themselves, or the builder will be over-reached.

Charity to the one, and respect to the other, moves me to keep the

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the rest in my pen, yet I shall never be backward to inform either of them in the ear what may be the best for them to choose.

But I must freely advise all builders in general, never to begin to build on a ground before it be purchased, as the late Duke of Buckingham did at York House, where there hath been much daubing and breaking through old rotten decayed walls; first to make a ladies's closet on the corner of a wall where a buttress stood, and which was taken away for the closet, intended only at first as a closet of ease, and to serve until the Archbishop of York could be persuaded to accept as good a seat as that was, in lieu of the same, which could not be so soon compassed, as the Duke of Buckingham had occasion to make use of rooms, to entertain (according

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ing to the dignity of a Prime Minister of State) foreign princes and ambassadors; so as on a sudden, all the buttresses that upheld that rotten wall were thrown down, the ceilings of rooms supported with iron-bolts, balconies clapped up in the old wall, daubed over with finishing mortar, and all this (as a toadstool grows in a night) to serve until a model for a solid building (to stand even with the street) were made, and to be built of such stone as the Portico or Water-Gate at the riverside is [= *York Water Gate, now Victoria Embankment Gardens*]; and this was done on a moorish ground, where upon no new building could stand any time without proppings, which was contrary to the main principle of good building.

I must proceed and conclude with my humble respects concerning palaces of sovereign Princes, which

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which must differ as much from other buildings, as their quality and condition from that of their subjects.

And in the first place, as Solidity must be the first principle in all good building; so much more ought it to be observed in that of Sovereigns, unto whom the whole world hath access.

And as there must be spacious ground before their palaces, their inner court ample, the offices for their retinue large and comodious, and so placed as they may neither be an annoyance nor of ill aspect.

The first stories ought rather to be vaulted than boarded, to prevent such an accident as happened to Lewis 13th French King, (and his Queen at a ball,) when the floor of the room (with all the company) fell down, the King

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King and Queen only remaining (by a special providence) on the hearth of the chimney [-*piece*], setting under the cloth of state.

And as there is a necessary magnificience to be expressed on the front and inside of princely buildings, respondent to their greatness; so is it absolutely necessary, that the architect be possessed with a soul as great as the player in the French play, called the *Virionaries*, where he persuades himself to be Alexander, and governs his actions accordingly. And the lines and strokes of the architect must be Alexander-like: his figures and statues *Colosses*, his Pyramids like those of Egypt, and the vaults like that rock wherein *Alexander and Darius* wrestle for mastery in a valley in Persia, between Babylon and Espahan, at a place called *Carimonshahan*,

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han, where formerly there was a great city six English miles long; in which grotto, the Alexander-like mind of the sculptor, hath hewn within the rock, (besides Alexander on Horseback, and a number of huntsmen and ladies) the aforesaid *Alexander and Darius* wrestling to break a ring between them.

Such a like mind Prince Thomas of Savoy, (son to the great Emanuel of Savoy [= *Thomas Francis of Savoy, 1596-1656*]) infused into his architect, sculptor, and caster in brass, who he employed in the designing and building a stable in Turin, within all of marble, the racks, manger, and the upright posts all of copper, richly wrought, conveyances of water pipes. The manger fourteen

inches wide at the bottom, to contain a pail of water on all occasions. The uppermost edge of the manger

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manger three foot eight inches high from the ground, to accustom the Neapolitan great saddle horse[*es*] to raise their neck[*s*]. The rack poles three inches apart and upright, that as the Frenchmen says, (*La petit vient en mangeant*) the horse may feed more cheerfully, the hay and dust may not fall on their heads, as it does out of a rack which stands shelving: the under part of the manger ought to be made up to keep in their litters, and no boxes made there for dogs, as some not curious do, where no harnesses, saddles, coverings of horses, or any other implements or tools, are not to be seen about the postern [= *secondary door or gate*], since those things do but impede the access of a cavalier to the horses.

The disposing of a stable into a double range [= *row, file*], has been practiced by

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by some, who would see all their horses at once.

Others love only a single range, with a broad walk, and if they have a great number of horses, return at the end into another range, if the ground can afford the same, so as a wall makes the partition between the horses.

The paving of such a stable is very neat, being of white or yellow (twice burnt) Flanders bricks, in Dutch called *Clinkart*, far beyond planking of stables, for diverse reasons. The paviors [= *bricklayers*] (after the bricks are laid) throw sharp sand over them, and twice a day they are watered with a gardener's watering pot, and swept with a broom, which the grooms are to continue sometimes, because the sand gets between the joints, and makes the paving very close and firm. The pavement

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ment at the foot of the manger, must be raised at the least six inches higher, than the gutter where the posts are placed, which ought to be five feet and a half distant one from the other, which ground so paved is of double use; first, that the higher a House [*sic = horse*] stands towards the manger, the better sight it is, and especially when the lights of the stable strikes on the horse their backs, which is the better light.

Secondly, that a horse its usual standing place being so much shelving accustoms the horse (reposing more on his hind feet than on the foremost) to be more light and nimble in his gait and pace.

Thirdly, that his stall does not remain under him, and especially when its standing has eight foot in length from the manger to the channel,

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channel, which for neatness ought to be above ground, the eight foot in length, being at full the space which the horse does possess when in the night-time he lies stretched on his litter.

I must not omit by way of queries, to write something concerning the kitchen of a princely palace, *viz*. whether there should not be as much curiosity, if not more in the kitchen than in the stable; since the meat prepared in a kitchen, ought to be dressed with all neatness, and preferred before a fine lace about the master cook's towel. Neither are the vessels of silver but in reference to the neatness which ought to be observed in all cookery. The Frenchman's glass is rinsed as often as he drinks, and why should not cooks be more curious and neat in their kitchens,

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kitchens, than grooms in their stables? And as a stable can have conveyances for the horse's water, so may kitchens for slabbering [= *drooling*], for guts of fowl and deer, coals, ashes, and whatever else can cause dirt and nastiness, and be freed from the annoyance of smoke, which many ill-placed doors cause; nor ought the kitchen or other offices and selleridge, (as in some palaces in France) to be so placed as they may prove prejudicial to the court, and if they are underneath a palace they ought to be vaulted.

I must not forget that the roof of a palace should be covered either with lead or blue slate tiles.

The Pantheon at Rome was covered with brass [*bronze*], which a Pope melted to cast canons, no such as only eat, drink and sing.

No curious eye can well endure those

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those barn-like roofs of many noble persons, covered with red tiles, which break and rot away, and then the roof being mended and patched, seems to be a

beggar's mantel, which I would not have the nobles and courtiers to be. See the roofs of Lester, Newport, Southampton, and such like their palaces, whether they do not look as barns for hay, and not piebald, by their patched tiles.

As for the main bulk of palaces, its true some have a greatness in plainness, as that of Farnese in Rome, where of Michelangelo made the architrave, frieze and cornice.

And as for bigness and solidity, that of S^{t} Jeronimo, and Escurial in Spain; for ornament, Munich in Bavaria [*Residenz*]; the Louvre at Paris for vastness, situation and ornament, by the embossed imagery on the fron-

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frontispiece, variety of orders of columns, with the delight of the annexed Tuilleries, wherein as especially in that of the Palace of the Duke of Orleans [*Paris*], but above all in the Cardinals their *vignas* in Rome, is observed the form of a true princely garden, consisting not only in much air, great plots of grass, low borders, large gravel walks, but for close walks, fountains, groves, and statues, to make good the Italian saying, *Per variar natura é bella* [Tasso]. And as for the embossed carved imagery on the frontispiece of a palace, their dimensions must be according unto their distance from the ground; which is a main point requisite to be observed also in scenes, wherein diverse undertakers commit very great faults, not only by the not reducing whatsoever is represented to the true lines of perspective,

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spective, but also by omitting the giving such proportions to things, as may satisfy the sight of all the spectators at their several distances; for excellency does not consist in vastness, nor in the quantity of objects, nor shapes, nor colours.

The sphear [= *sphere*] in an corner of a great chamber in S^{t} Pietro in Vaticano in Rome confirms this truth, and every judicious eye will be satisfied therewith. Seas must not only be seen to have natural motion, but heard to make a noise of breaking of their Waves on the shore, and against the rocks. Clouds must not only drive, but be transparent. Winds, thunder, lightning, rain, snow, and hail, must be so heard, seen, and felt, as that spectators may think those sights to be natural operations. The sun, moon, and stars, no paste-board devices, but

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but so represented, as that they may dazzle the eyes of spectators. And all the motions of scenes and mutations as insensible, and no more to be discovered, than that of the hand of a dial.

Neither can all great rooms of princely palaces serve for this use, except they be after the model of such as the Italians have built, as there is a good one at Florence in Italy, with conveyances for smoke, and capacities for echoes, which Inigo Jones (the late surveyor) experimentally [= *though experience, by chance*] found at Whitehall, and by his built Banqueting House, so as having found his own fault, he was constrained to build a wooden house overthwart [= *opposite*] the Court of Whitehall [= *a timber building of identcal proportions built to the east of the Banqueting House in 1637-1638*].

The greatness of a Sovereign consists not in the quantity of stone and timber heaped together. The quarries possess more stone, and the

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the woods more timber than a Banquet Room. Let any good eye judge, whether it be not true, that the extreme height of a room takes not away the greatness of the company that is in the same, and that all hangings of tapestry make no show at all, unless they reach to a proportionate height of a room.

Since the greatness of a nation consists not in a husk, but in itself, and in its Sovereign, nothing should be suffered to diminish the appearance of that greatness within or without doors. A Sovereign and his retinue, in a too vast room in height, width and length, does appear like a company in a valley near high mountains. When as a body standing on the crest of a hill, and seen from below, seems to be a kind of *Colossus*, which argues that there must be a great discretion used in making them fit and pleasing. All

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All which I do not write to undervalue any modern works, nor any of the cavalier-like *Operas*, every good Talent being commendable. As I am confident there are some that live, who will not deny that they have heard the King of blessed memory, graciously pleased to vouch he had seen in *Anno* 1628, (close to the gate of York House [cf. *supra*], in a room not more than 35 foot square,) as much as could be represented (as to scenes) in the great Banqueting Room of Whitehall; and that diverse judicious persons will not deny, that the excellency of the several triumphal arches erected in the City of London, consists not in their bulk.

The Grecians and Romans (who have shown their mastership in them) did conform them to the respective places.

Things can be too great, as well as

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as too little, too massive, and too slender, too gaudy, and too plain; and colours placed together, which agree not one with the other, as blue and green, God in his rainbow having showed us the best way of ordering colours. Nor is it the quantity of timber or stone, that speaks love in an arch; but rather when it is composed of the hearts of loyal subjects, which surpasses all that can be made.

May therefore the oldest and most tottering house in the land, breathe forth of its windows what may answer that true love, and in point of good building, wherewith this Discourse is begun, (next to the giving such a new form to the streets of London and the suburbs, as may in a manner equalize those in Holland in neatness, if the inhabitants will but take the right and only course therein.) May his Sacred

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Sacred Majesty during his long prayed for and wished reign, see St. Paul's Church in that magnificence, as the Metropolitan of the Houses of God, in the chief City of Albion [= *most ancient known name of Britain*] justly requires. And his Royal Palace built, so as to answer the matchless greatness of him, who all tongues of loyal subjects speaks to be *Carolum*, *Magnum*, *Secundum Dei gratia*, Angliæ, Scotiæ, Franciæ, & Hiberniæ *Regem*, *Ecclesiæ*, *Legum*, & *Libertatis Populi Restauratorem*; which shall ever be the dutiful wishes of

Balthazar Gerbier

Douvily Knight.

Printed by *A. M.* and are to be sold by *Richard Lowns* at the White Lion in S[t] *Paul's* Churchyard, *Thomas Heath* at the Globe within *Ludgate*, and *Mathew Collins*. at the three Blackbirds in Canon Street at S[t] *Nicholas'*-Lanes End Stationers. 1 6 6 2.