

A study of Renaissance debates surrounding *disegno* reveals much about how twentieth-century design practices envisage the mutual relationship of imagination, drawing and design.

Drawing Adam's navel: the problem of *disegno* as creative tension between the visible and knowledgeable

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Ernest Gellner, in his discussions on nationalism, remarked that the existence or not of Adam's navel might end the riddle between creationism and Darwinian evolution. A similar riddle existed in the Renaissance: does visual creation follow nature or is it created in the mind?

Joseph Meder commented, '[...] the concept of *disegno* was a great theme for the hair splitting intellectuals of the late Renaissance'.¹ This hair splitting is largely lost in the translation of *disegno* into the separate ideas of practical drawing and intentional design in the Anglophone world. Lucy Gent has identified this as occurring as early as 1598 with the English translation of Lomazzo's *Trattato* by Richard Haydocke.² Baxandall's study of the Anglophone anxiety with the polysemic nature of *disegno* records some interference with the French notion of *dessein*; further he concludes that its closest translation should have been 'draught'.³ The French notion of *dessein*, though, is also similarly

semantically disjunctive as it is in the German.⁴ But the two Italianate semantic senses meet simultaneously in *disegno* and they are distinguished in contextual usage.

Though we inherit the weakness in translation in the modern day, the etymological hair splitting in the days of Vasari, Zuccaro and Lomazzo has much to inform us about the creative tension that exists between visual and intellectual knowledge, between the imagination and its manifestation, most particularly in relation to architecture as a problem of creative knowledge. The metaphor of Adam's navel, then, is the mystery in the problem of artistic creation – the reciprocities that continue in the struggles between conception, the imagination and the various possibilities of visualisation. The problem of intelligibility itself has very ancient roots.⁵ This paper will focus on aspects of *disegno* as a problem of knowledge, particularly in the *Cinquecento*, its formative role as the foundation of the arts, and its transformation in the early twentieth century.

The problem of knowledge and the arts

Knowledge in the Middle Ages was classified into the Trivium and the Quadrivium. The liberal arts comprise seven disciplines, which were believed to be connected to each other as an amalgam of universal knowledge. The Trivium was the basis of elementary education: grammar taught the craft of reading and writing; logic, of careful reasoning; and rhetoric, of effective communication. The Quadrivium on the other hand, was the basis of advanced education: arithmetic taught the art of number; geometry, number in space; music, of number in time; and cosmology, of number and time in space in relation to an overriding order.

Drawing, painting, sculpture or for that matter architecture fell into a lower category of the mechanical arts and did not belong to the formulation of universal knowledge. There is some mystery as to how builders and master masons communicated; and several arguments have been put forward on the oral tradition or the mysteries of medieval *exempla* or model books.⁶



¹ Fresco at Sala del Disegno, *Father Disegno and his three daughters*

We are of course concerned here with the mode of communication of architectural knowledge. The ability to communicate beyond the oral via ichnography – the tracing of ground plans – has been around since ancient times as we have many historical maps and even what seem to be measured floor arrangements resembling floor plans of the modern day.⁷ A communicative visual marking is at the root of this, and it is no surprise that the Latin root of the Italian vernacular of *disegno* is the verb *designare*. The modern notion still exists and serves to ascribe meaning in English, to ‘designate’, a marking that makes meaning. The medieval idea of the word had a connection with the medieval signature, a mark of the hand of a person, a designation of claim or an indication of ownership.

In the Trecento and early Quattrocento *bottega*, the vernacular expression of the idea as *disegno* was already in currency. Cennini’s craftsman’s handbook notes: ‘*El fondamento dell’ arte, di tutti questi I lavori di mano il prinipio é il disegno e’ l cholorire*’.⁸ Cennini’s handbook was handed down from *bottega* to *bottega* and not really published until the nineteenth century and it may be argued that the handbook did little to formalise the vernacular usage of *disegno* as ‘fundamental’. Lorenzo Ghiberti also supported the idea of foundation, ‘*el disegno é il fondamento et teorica di queste due arti*’, though in ‘*due arti*’ he was making reference to painting and sculpture.⁹

Brunelleschi formulated new confidence in *perspectiva artificialis* through his experiments on the image of the baptistery. The coincidence of natural and artificial perspective made possible the representation of phenomena as if ‘alike to appearance’. The optical conversion of the baptistery into a subject of perspective in his primitive camera obscura achieved in one stroke two consequences. One, perspective is formalised and understood mathematically – *perspectiva naturalis*, can now be ‘recreated’ through the geometry of *perspectiva artificialis*. The entry of artificial perspective gives rise to the second consequence – that visual reality is there to be ‘enframed, observed and investigated’ through observation. Prior to Brunelleschi, *perspectiva naturalis*, the natural vision of the eye, was experiential rather than observant. The role of *disegno*, in the semantic sense of artificially created manifestation in perspective, is no less implicated in the coincidental meeting of vision and visual description.

Argan observed that Brunelleschi’s usage of perspective differs markedly from his Trecento predecessors: he used it as an instrument of knowledge, simultaneously articulating and organising space as it was being represented. Unlike Massacio’s spatial settings for the depiction of subjects, Brunelleschi’s use of perspective was not imitating reality but ordering reality in itself.¹⁰ This sense of a visual ordering of reality is similar in Alberti’s *De re aedificatoria* where he variously describes *lineamenta* and *disegno* as ‘*imago quaedam ab omni materia separata*’ (a separation of image from all matter).

The term ‘*lineamenta*’ and its translation had itself a controversial history.¹¹ Semantically, its usage in

Alberti’s text varies, but we can infer from its usage, a simultaneous sense of measured control, of contoured separation of matter, and of ordering. These senses are simultaneously visual and conceptual. Alberti in Book I of his treatise confers four aspects of the duty of *lineamenta*: the prescription of appropriate place, exact numbers, a proper scale, and a graceful order.

Alberti further recognised the difference between the use of drawings in painting and architecture: ‘*The difference between the drawings of the painter and those of the architect is this: the former takes pains to emphasize the relief of objects in paintings with shading and diminishing lines and angles; the architect rejects shading but takes his projections from the ground plan and without altering the lines and by maintaining true angles, reveals the extent and shape of each elevation and side – he is one who desires his work to be judged not by deceptive appearances but according to certain calculated standards.*’¹²

Elsewhere he discusses the model, where he describes the futility of making elaborate details, preferring the model to be an essential schema.

The elevation of the mechanical arts

It may be useful at this point to observe that Alberti attempted to raise these actions from the lower classes of the mechanical arts by relating them to the forms of knowledge in the Quadrivium. *Della pittura* was written in three sections, and in the prologue of his Italian version, Alberti described the structure to Brunelleschi:

‘*You will see three books: The first, all mathematics (tutto matematico) concerns the roots in nature from which arises this delightful and noble art. The second book puts the art in the hand of the artist, distinguishing its parts and demonstrating all. The 3rd, instructs the artist how he can and should acquire perfect skill and knowledge in the art of painting.*’

In book II, Alberti follows the model of the rhetorical arts, relating this time to the Trivium. Painting is divided again into three: circumscription, composition and the reception of light.¹³ Alberti wrote separately about painting, sculpture and architecture, opting to translate into Italian *Della pittura* but not *De re aedificatoria*. Despite modelling his 10 books on Vitruvius, the Vitruvian architectural text is a chronicle of past practice whereas Alberti proposes a theory of practice. Ludovico Dolce in his *Dialogo della pittura* also separated the labours of the painter into *inventione*, *disegno* and *colorito*.¹⁴ This tripartite schema is similar to the art of rhetoric: *inventio*, *dispositio* and *elocutio*. Though separated, the notions of *inventione* and *disegno*, as in *inventio* and *dispositio* before them, share the senses of creation, ordering and cognate form. The elevation of the mechanical arts reached its acme in the Cinquecento when Anton Francesco Doni related it to ‘divine speculation’ – the first act of *disegno* is the invention of the entire universe, imagined perfectly in the mind of the prime mover.¹⁵ The notion of the common source or foundation of the arts that was embodied in *disegno* is best described in de Hollanda’s *Four Dialogues on Painting* who noted that technique

separated the arts, but that *disegno* was the unity of the arts: '[...] the draughtsman will have the skill at once to build palaces and temples and to carve statues and to paint pictures [...]'.¹⁶

With reference to the Trivium and the Quadrivium, the newly elevated *disegno*, as visual knowledge, could be seen to be a complete consequence of the liberal arts, which encompassed and united the arts as its common foundation. *Disegno*, simultaneously creative intent and expression, is a rhetorical cosmic revelation of a thousand words of ordered number in time and space. Painting, sculpture and architecture of course, follow *disegno*.

The boldness of this notion is formalised in the *Accademia del Disegno* in Florence, the first proper school of design, with Giorgio Vasari as the leading principal.¹⁷ In the second edition, of his *Lives of the Artists*, he inserted a long introduction.¹⁸ The famous passage in which Vasari wrote of *disegno*:

*Perché il disegno, padre delle tre arti nostre architettura, scultura e pittura, procedendo dall'intelletto cava di molte cose un giudizio universale simile a una forma overo idea di tutte le cose della natura, la quale è singolarissima nelle sue misure, di qui è che non solo ne corpi umani e degl'animali, ma nelle piante ancora e nelle fabbriche e sculture e pitture, cognosce la proporzione che ha il tutto con le parti e che hanno le parti fra loro e col tutto insieme; e perché da questa cognizione nasce un certo concetto e giudizio, che si forma nella mente quella tal cosa che poi espressa con le mani si chiama disegno, si può concludere che esso disegno altro non sia che una apparente espressione e dichiarazione del concetto che si ha nell'animo, e di quello che altri si è nella mente imaginato e fabricato nell'idea. E da questo per avventura nacque il proverbio de' Greci Del-l'ugna un leone, quando quel valente uomo, vedendo sculpita in un masso l'ugna sola d'un leone, comprese con l'intelletto da quella misura e forma le parti di tutto l'animale e dopo il tutto insieme, come se l'avesse avuto presente e dinanzi agl'occhi.'*¹⁹ ('*Disegno*, father of our three arts of architecture, sculpture, and painting, that proceed from the intellect, derives from many things a universal judgement of form or idea of all things in nature, and is unique in its measurements. This happens not only in human bodies and those of animals, but in plants as well and buildings and sculptures and paintings, recognising that the whole has a proportionate relationship to the parts and the parts to other parts and to the whole. From this we recognise a certain notion and judgement such that something is formed in the mind which, when expressed, is nothing other than a visible expression and declaration of that notion of the mind, and this we refer to as *disegno*. We may conclude that *disegno* is not other than a visible expression and a revelation of our inner conception, or that which others have imagined and given form to in their idea. And from this, perhaps, arose that proved among the ancient Greeks, "*ex ungue leone*", when some worthy person, seeing carved in stone the claw only of lion, understood with the intellect from its measure and form, the parts of the whole animal and then

the whole animal together as if he had it before his eyes.')²⁰

The foundational role of *disegno* is both instituted and constituted at the same time; viz. its formalisation is recognition of a collected understanding, its embodiment in the knowledge of the time despite some variance. This is significant as its symbolic extensions depend on the maintenance of its institutional and constitutional coincidence. From this declaration, we have a whole multitude of ensuing problems and issues.²¹ First, we have the issue of the relationship of the trinity of painting, sculpture and architecture to the transcendent or supra notion of *disegno*. This is reflected in the *paragone* problem, or the problem of comparison of the arts, which Leonardo Da Vinci, Benedetto Varchi and others mooted. Leonardo in particular seemed to favour painting.

Then we have the issue of '*giudizio*' or judgement – which Vasari presupposed prior to creation, but in his manner of declaration, introduced the notion of critical judgement of work. His *Vite*, the lives of the artists, it has been argued is itself more than biographies of who's who, but can be seen in the later editions to be a narrative elaboration not dissimilar to ekphrasis.²² Vasari's *giudizio del popolo* was a notion he introduced in an anecdote describing how the public will make judgement on the sculpture of his champion, the Divine Michelangelo was transformed by Varchi into *giudizio universale*. Vasari raised the visual to a dominant role, though elsewhere in his introduction he also spoke of the tactile. He raised the issue of ideality. He also raised the issue of the imagination and its relationship to nature, and also to perception.

Panofsky derided Vasari's declaration as not fully understanding the Platonic notions before him.²³ The declaration itself is actually syncretic of Aristotelian and Platonic traditions, and this has been supported by more recent scholarship.²⁴ Of the contributors to the discussions on *disegno*, and very clearly of the Platonic tradition, is the figure of Federico Zuccaro, brother of Taddeo the painter. In the creation of architecture and art, the problem of *disegno* was brought into sharp focus by Zuccaro as *disegno interno* and *disegno esterno* in his *L'idea de Pittori, Scultori et Architetti*.²⁵

Though Zuccaro may have published his ideas of *disegno interno* and *disegno esterno* in his *Scritti*, they were neither startlingly novel nor entirely original as there had always been some recognition of the semantic differences and their distinction in context. In Alberti, we have seen the tendency to distinguish. It is not difficult to see a speculation on separation of the semantic senses as a plausibly obvious conclusion, though he made no show of this at his lectures. Zuccaro repeatedly assigned lectures on *disegno* to others, and when the assigned person was unable to cope, Zuccaro would waltz in and pontificate on the manifestation of the hand and the intellection of the idea.²⁶ He also made the conceited pun out of *disegno* of *segno dei* – the sign of God.

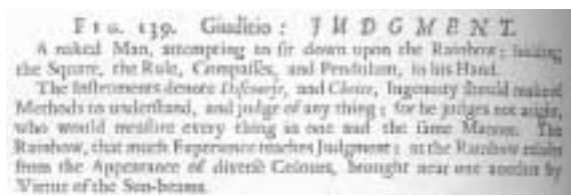
An earlier statement on the separation of imaginative intention from visual manifestation is



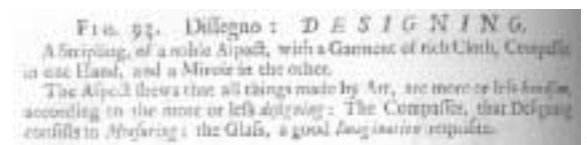
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noted here: 'Il disegno é di due sorte, il primo e quello che si fa nell' Imaginativa, et il secondo tratto da quello si dimostra con linee'.²⁷ This comment was uttered by no less than Benvenuto Cellini, commenting on the seal of the Accademia in Florence. Here is a clear recognition of the two semantic senses of *disegno* outside of contextual understanding prior to Zuccaro, the abstract imaginative idea and practice of linear description. Wolfgang Kemp has made the plausible argument of Zuccaro's dependence on Cellini, although despite the separation of *disegno interno* and *disegno esterno*, Zuccaro maintained the foundational role of *disegno*, celebrated most dramatically in the ceiling fresco in the *Sala del Disegno* at the Palazzo Zuccaro [1].

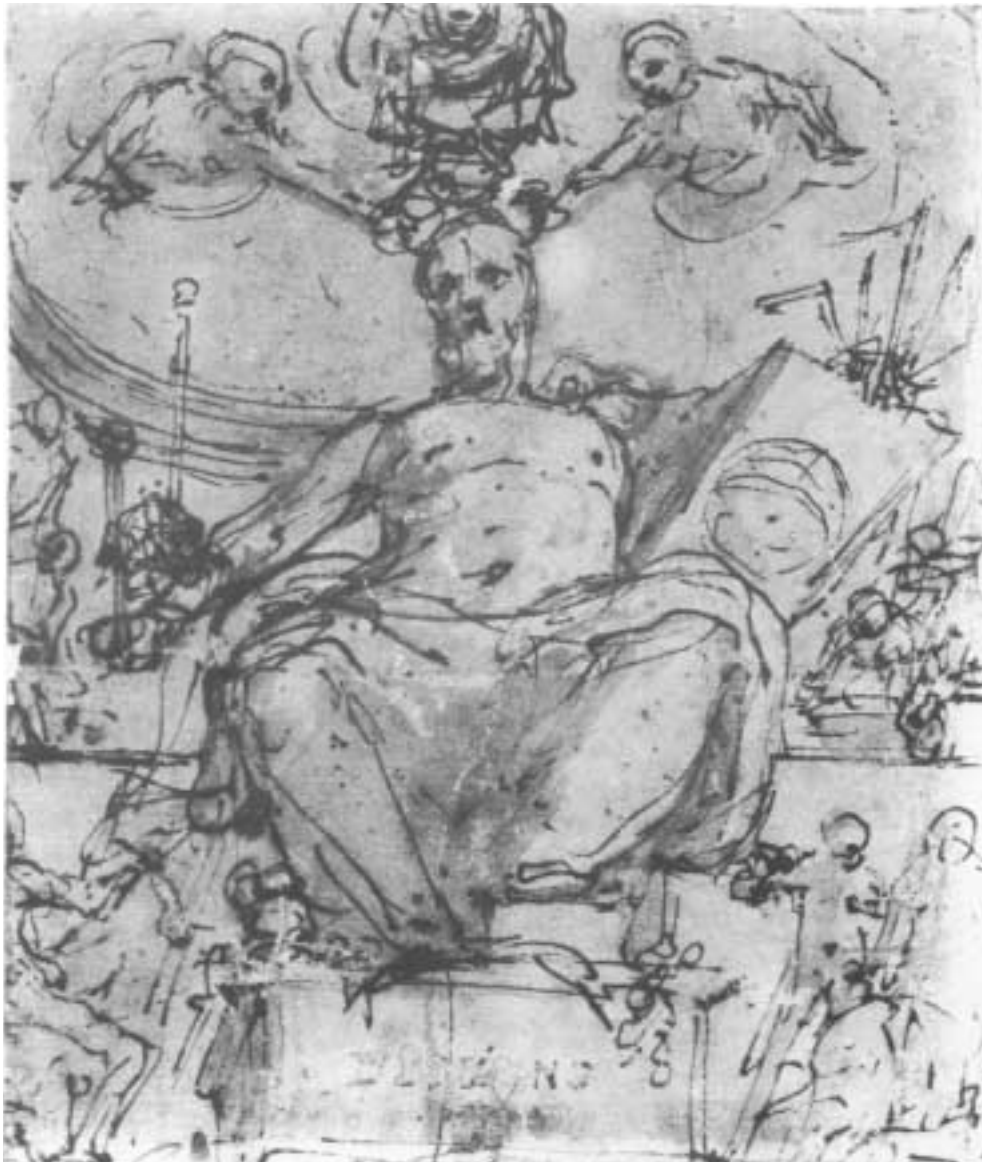
The three sister arts surround the personification of father *disegno*, resembling God the Father, who holds a sceptre in his right hand. On his left, he wields the compass and square of architecture and the tools of sculpting and painting – hammer, inkpot and quill – and a painting. The iconography is comparable to the iconologies of *disegno* and *giudizio* in Cesare Ripa's *Iconologia* of 1603 [2 & 3]. The sceptre is thought to be representative of the moral intellect, while the relationship of *disegno* and *giudizio*, raised earlier in Vasari, can be seen to have a mutually dependent coexistence. Ripa's *disegno* is depicted as a well-dressed nobleman, carrying in one hand the compasses of measurement, and in the other the mirror of imaginative reflection. *Giudizio*, who is depicted naked and therefore honest, sits on the rainbow of a wealthy experience carrying a square, rule and compasses. The notion of *giudizio*, exemplified by the visual judgement of *giudizio dell'occhio* is closely tied to the secret of *disegno*. In the story of Donatello's abacus, Macro Barbo sought the secret of Donatello's abacus, believing it to be the tool by which he measured his art. Donatello eventually revealed that

he was himself his abacus – he had the ability of *giudizio dell'occhio* – the judgement of the eye.²⁸

In a comparative study of a preparatory cartoon of the fresco [4], Hermann-Fiore argued that the sketch of a sphere corresponding to the indiscernible detail of the painting in the left hand of father *disegno* represents the sphere of the cosmos. In the cartoon, the pedestal is inscribed faintly with the word '*disegno*'. A more elaborate script is seen in the corresponding pedestal of the fresco: LUX INTELLECTUS ET VITA OPERATIONUM (The Light of the Intellect and the Operation). We may see the cartoon as the fresco in shorthand, the inscription '*disegno*' in the cartoon corresponding to the fuller inscription in the fresco with its expanded explication of the intellect. The notion of SCINTILLA DIVINITAS (Divine Spark) written into the frame below the fresco adds further commentary [5].

We can see in both the fresco at the Sala del Disegno and its preparatory cartoon, Zuccaro's position on the *paragone*. 'Architecture' is remotely connected to *disegno*, and her sister 'Painting' is closest to father *disegno*. It has been recorded that the short definitions of each daughter's inscription in relation to father *disegno* was agreed with principal Zuccaro. Further, discussions on the *paragone* were forbidden in the statutes of the academia. An even more curious observation of the statutes records that the *paragone* conflict pertained only to painting and sculpture and architecture was omitted. In the fresco, 'Architecture' is supported by the inscription PARENS COMMODITATIS, that which gives comfort. 'Sculpture' carries the inscription CUSTOS EFFIGIEI, the appearance of form. The inscription AEMULA NATURAE supports 'Painting' – she is the imitator of nature. The relationship to nature is reflected in the relationship to father *disegno*, the daughter 'Painting' is closest as she is the most universal of the arts.

- 2a *Giudizio* from Cesare Ripa's *Iconologia*
- 2b Description of *Giudizio* in Cesare Ripa's *Iconologia*
- 3a *Disegno* from Cesare Ripa's *Iconologia*
- 3b Description of *Disegno* in Cesare Ripa's *Iconologia*
- 4 Preparatory cartoon, fresco at Sala del *Disegno*, *Father Disegno and his three daughters*, Federico Zuccaro



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Zuccaro elaborated on his metaphysical notion of *disegno interno* in his *Scritti*, he wrote that as God created nature after an idea in the mind, God might be said to possess *disegno interno*.²⁹ Zuccaro compared the *disegno interno* of God and angels to the *disegno interno* of man. Unlike animals, man has a soul, and unlike angels man has a body. But for the body, man would be like a divine being. God created the world by bringing things into existence – man only apprehended them. So man is inferior to God; humanity is properly suited to the realm of acquiring knowledge through sense. Therefore, the human intellectual soul has by nature a possibility of knowing through sense the ‘spiritual forms representing all the things in the world’.³⁰

This virtue, which comes from God, makes man ‘almost a second God’. In this sense he is able to form a ‘new world’, a world of human creation. Man ‘almost imitating God, and emulating nature may produce infinite artificial things similar to the natural, and by means of painting and sculpture, make us see new paradises on earth’.³¹ *Disegno interno* is described as a ‘light’ that guides the lower sensing

faculties. The *disegno interno* is at once transcendental, passive and active. It is passive in that it is susceptible to all things. It is also active as it has the nature of intellection. It has the capacity to ‘form one image from many’. The transcendence of the *disegno interno*, its status as ‘light’ and ‘divine spark’, is dependent on God. The pun of *segno dei*, is probably cleverer if seen in these terms, than when dismissed out of hand by various commentators.

Curiously, we can see some prior consideration of the divine spark in an earlier preparatory sketch for the central scene in the vault in the chapel of the Villa Farnese at Caprarola, outside Rome – *The Creation of the Sun and Moon* – two luminous bodies [6].³² The work reveals a more conventional tendency within Zuccaro’s representation of the creation and his support of God’s miraculous *creatio ex-nihilo*. On this evidence, we may comment that his ideas in his *Scritti* must have developed much later, particularly on the consideration of the body and soul in the question of *disegno*, which may have been a result of a forced attempt to elevate the visual arts through the academy. Quiviger has observed Zuccaro passionately



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5 Inscriptions: *LUX INTELLECTUS ET VITA OPERATIONUM* (The Light of the Intellect and the Operation) and *SCINTILLA DIVINITAS* (Divine Spark). Detail from fresco at Sala del Disegno, Father Disegno and his three daughters

6 Preparatory cartoon, fresco at Villa Caprarola, *The Creation of the Sun and Moon*

7 Frontispiece, Lomazzo's *Treatise on Painting*

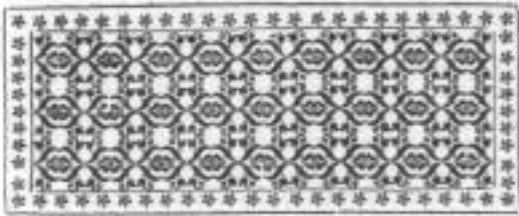
believed in academies.³³ He had earlier tried to interest the literary academies with the idea of a Roman *Accademia del Disegno*, but with no success. Mundy has argued that the rulings of the Council of Trent affected the spiritual quality of Federico's work.³⁴ This may have contributed a more spiritual turn against his earlier Michelangelo-influenced expression of the creation.

On the strength of his theories, Zuccaro gained admission into the *Accademia degli Innominati* of Parma and the *Accademia Insensata* at Perugia. His concern, it would seem, would be the ambition of parity that painting might have with poetry in the literary academies, via doctrine and respectable activity in the academy.³⁵ Indeed as late as 1605, four years before his death, he published a lamentation on painting.³⁶ The *Accademia di San Luca*³⁷ was finally established in Rome. The annals recorded by Romano Alberti show that Giacomo Della Porta, who was to represent the voice of 'Architecture' was absent on several occasions and eventually replaced by others. Payne observed Zuccaro's exploitation of the situation to declare that *disegno* the root of all the arts, despite giving painting the edge.³⁸ While this may be true on the evidence of the proceedings, it is also true that apathy on the part of other

contributors led to the demise of Zuccaro's academy. Quiviger also noted that Zuccaro's parallel of visual thinking could be seen as similar to a philosopher's syllogisms:

*'You should know that there are two kinds of disegno, that is one called intellettivo, and one called prattico. This is because there are in us two intellects. One is called the speculative intellect, and its aim is to understand things universally. The other is the practical intellect, and its specific and ultimate aim is action [operare], or rather, it is the principle of our actions. It is therefore related to our [two] intellects. One is the subject of the speculative intellect, and represents to this intellect things universally understood [le cose universalmente intese]. The other is the object of the practical intellect and it represents individual things to the intellect.'*³⁹

Zuccaro actually travelled to England to offer his services to the Queen. A letter of introduction from Belgium exists in the British Museum.⁴⁰ His *Scritti* have not been translated into English, though various commentaries in English exist. We can only speculate what the possibilities might have been had he travelled and pontificated on *disegno interno* and *esterno*. A contemporaneous text by Lomazzo, however, made it in 'translation' to the Anglophone world and had considerable influence on Inigo



TO THE RIGHT
WORSHIPFULL THO-
MAS BODLEY
ESQUIRE.

SIR, it hath so falne out (with what successe I know not) that many my spare howeres of recreation, haue bin occupied in the sweete Contemplation, and delightfull Practise of the more curious kindes of Painting, Carving, and Building; as may in some sorte appeere, by my paines taken in translating this worke, the worth whereof I forbeare otherwise to commend vnto any other, then by recommending mine indevours therein vnto your selfe, whose foundnesse in variety of Learning, whose skill in this and the better Languages, and whose hartie affection to all good Artes, though it were every way sufficiently knowne to the most, yet hath it more abundantly discovered it selfe in that memorable Monument of your exceeding louetowards this our Vniversity, begun already with no small charge, and happily heereafter to bee finished to your great Honour.

In regard-full acknowledgement whereof, I could with I were as worthy, as I am willing, to bee the first, who shoulde steppe forth, to yeelde you Publique thanks, in the name of the

¶ ij ¶ Whole



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8 Page from
Lomazzo's *Treatise
on Painting*

9 Goya, *Sleep of Reason*

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Jones, Roger de Piles and others. Haydocke translated Lomazzo's central subjects in the *Trattato dell' arte della pittura, scultura et architettura*, as 'painting, carving and building' [7 & 8].⁴¹ What *disegno* sought to unite in the different techniques the arts, is in fact unravelled and returned to its separate constituent techniques. Lucy Gent was scathing of the Haydocke translation: 'When Lomazzo writes about "arte disegnatrice", Haydocke is floored'.⁴²

We have seen the modulation of the notion of *disegno* from Cennini to Zuccaro and its formulation in the academy. With Zuccaro, the modern split between drawing as manifestation and design as intent can be said to commence. Despite this variance in *disegno*, the word itself carries no special mystery. Its role as the foundation of the arts, or as the notion that gives the arts unity, is a curious one as we come to modern times. The pursuit of a possible unity of the arts after the Baroque, the last authentic *gesamtkunstwerk*, can be seen in the attempts of Richard Wagner, who privileged drama but saw architecture as its frame.

'Architecture can set before itself no higher task than to frame for fellowship of artist who in their own persons portray the life of man, the special surroundings necessary for the display of the human artwork. Only that edifice is

*built according to necessity, which answers most befittingly an aim of man; the highest aim of man is the artistic aim of man; the highest artistic aim – the drama.'*⁴³

Wagner was not alone in recognising the possibility of unity, Bruno Taut proclaimed the *Zukunftskathedrale* – the Cathedral of the future:

*'Together let us build a stupendous structure! A building that is not only architecture, but in which everything – painting and sculpture – all together will form great architecture and wherein architecture once again merges with the other arts. Here architecture must be frame and content all at once.'*⁴⁴

It was the pursuit of similar ideals of unity that inspired a young Walter Gropius, who took these aims and developed the Bauhaus along the lines of a unity of the arts. Ironically, in the modern *gesamtkunstwerk* of Gropius, the merger of industry and the arts meant that the notion of design was to be seen quite differently. The elevation of vernacular craft into one where production was a consideration meant that the everyday product had to be conceived, and visualised – in other words, products could be *designed* for industrial production.⁴⁵ In the literature of the time, design is often included as a sister craft, and is no longer father to the arts as in

Zuccaro or Vasari. From his first manifesto of the Bauhaus, Gropius radiates the statement of his programme, which is quoted here at length to fully appreciate its evangelistic zeal bordering on vitriol:

The ultimate aim of all visual arts is the complete building! To embellish building was once the noblest function of the fine arts; they were the indispensable components of great architecture. Today the arts exist in isolation from which they can be rescued only through the conscious, cooperative effort of all craftsmen. Architects, painters and sculptors must recognize anew and learn to grasp the composite character of a building both as an entity and its separate parts. Only then will their work be imbued with the architectonic spirit which lost as "salon art".

The old schools of art were unable to produce this unity, since art cannot be taught. They must merge once more with the workshop. The mere drawing and painting world of pattern designer and the applied artist must become a world that builds again. When young people take a joy in artistic creation once more begin their life's work by learning trade, then the unproductive "artist" will no longer be condemned to deficient artistry, for their skill will now be preserved for the crafts, in which they will be able to achieve excellence.

*'Architects, sculptors, painters, we all must return to the crafts! For art is not a "profession". There is no essential difference between the artist and the craftsman. The artist is an exalted craftsman. In rare moment of inspiration, transcending the consciousness of his will, the grace of heaven may cause his work to blossom into art. But proficiency in a craft is essential to every artist. It is there that the primary source of creativity lies. Let us then create a new guild of craftsmen without the class distinction that raise an arrogant barrier between craftsman and artist! Together let us desire, conceive and create the new structure of the future, which will embrace architecture and sculpture and painting in one unity and which will one day rise towards heaven from the hands of a million workers like the crystal symbol of a new faith.'*⁴⁶

Curiously, the Bauhaus development of the split between creative intellection and manifestation and drawing, normally differentiated in Italian through contextual usage of *disegno*, enters Italian discourse in the early twentieth century with the industrial

design of products as *disegno industriale*. So we have come full circle. The split between creative visualisation and creative intellection is everywhere and is a thoroughly modern phenomenon. The institution of 'design' in the industrial sense has lost its coincidence with its constituted identity. The unity that existed in *disegno* has largely been lost; and lost with it is the integral relationship with *giudizio* – the capacity to make integral judgement. Without this integral relationship, *disegno* as separated manifestation and intellection suffers from an exposure to relativism. As if discussing architecture, Ernst Cassirer offered an uncanny description of the responsibility of the historian in analogy to a draughtsman:

*'Even the historian, like the draughtsman, produces only caricatures if he sketches detailed circumstances and events merely as they seem to present themselves and as they follow upon each other. The apprehension of events must be guided continually by ideas; yet on the other hand these ideas must not be merely added on the history as an unrelated appendage – an error into which philosophical history so-called easily fell. The "idea" can appear only in the natural connection of things and can never be separated from them as something independent and existing for itself alone.'*⁴⁷

The relationship between knowledge and critical observation developed in the nineteenth century in the form of the modern novel, and in particular the modern novel set in the modern city. Visual knowledge, in particular, developed in nineteenth-century culture in the manifestation of the spectacle.⁴⁸ When we understand we say 'I see'. In the legal accounting of truth the eyewitness is all-important. Under the modern rule of law we have enshrined this hegemony of vision – vision is knowledge.⁴⁹ The unity of *disegno* married both the intellection and manifestation, and allowed for *giudizio* to be consequentially and integrally possible in a meaningful way. Goya, in the *Sleep of Reason [9]*, used an integrated *disegno* to tell us this: that otherwise the sleep of reason produces hallucinatory monsters, or in the true sense of the word *monstra* – imagined constructions without the ability to construe.⁵⁰

Notes

1. Joseph Meder and Winslow Ames, *The Mastery of Drawing*, 2 vols (New York: Abaris Books, 1978), I, 22–3.
2. Lucy Gent, *Picture and Poetry 1560–1620: Relations between Literature and the Visual Arts in the English Renaissance* (Leamington Spa, England: J. Hall, 1981), pp. 8–10.
3. Michael Baxandall, 'English Disegno', in: *Words for Pictures: Seven Papers on Renaissance Art and Criticism* (New Haven; London: Yale University Press, 2003), pp. 83–97. Baxandall took a more prosaic perspective of the English reception of *disegno*. He described four senses of the word: (1) intention, (2) graphic expression, (3) ideation, design, (4) activity. We have no disagreement with this exposition of the semantic senses. Baxandall also noted the first appearance of the word 'design' in English is spelt 'dessein', which is closer to the French 'desseing'.
4. Jacqueline Lichtenstein's entry for *disegno* in the *Dictionnaire de la langue française 'le Grand Robert'* traces its etymology and its entrance into French, German and English thought.
5. Leen Spruit, *Species Intelligibilis: From Perception to Knowledge* (Leiden; New York: Brill, 1994).
6. See for example: Joseph Rykwert, 'On The Oral Transmission Of Architectural Theory', *AA Files* 6 (1984), 14–27 and Robert Scheller, *Exemplum: Model-Book Drawings and the Practice of Artistic Transmission in the Middle Ages (ca. 900-ca. 1470)* (Amsterdam: Amsterdam University Press, 1995); the most famous of these is the exemplum of Villard de Honnecourt.
7. Vitruvius records *ichnographia*, *orthographia* and *scaenographia*. The Vitruvian text of course had famously lost its illustrations.

- Orthographia* is not thought to have developed fully until the 16c. See: James Ackerman, 'Architectural Practice in the Italian Renaissance', *The Journal of the Society of Architectural Historians*, 13, (no. 3, Oct 1954), 3–11.
8. Cennino Cennini and Fernando Tempesti, *Il libro dell'arte: o, Trattato della pittura* (Milan: Longanesi, 1975). Translated as Cennino Cennini, *The Craftsman's Handbook: The Italian 'Il libro dell'arte'* (New York: Dover, 1960). A nineteenth-century translation is Cennino Cennini, Giuseppe Tambroni and Mary Philadelphia Merrifield, *A Treatise on Painting* (London: Lumley, 1844).
 9. Lorenzo Ghiberti, *I commentari* (Napoli: Ricciardi, 1947). Ghiberti's work has been known since the Quattrocento but not published until the twentieth century. A further tendency to recognise the value of the separated semantic senses can be seen in Angelo Poliziano's lecture on *Panepistemion*, which has been described to be 'a whole intellectual system in outline, based on the Aristotelian premise of the unity of knowledge [...]' See: David Summers, *Michelangelo and the Language of Art* (Princeton, NJ: Princeton University Press, 1980), pp. 242–61. In Poliziano's outline, the arts of design fell under the lower category of the practical arts, and these would include *architectura* and *graphike*. The latter idea of *graphike* is similar to *disegno*, both shared the semantic sense of the intelligible differentiated from the visible.
 10. G. C. Argan, 'The Architecture of Brunelleschi and the Origins of Perspective Theory in the Fifteenth Century', *Journal of the Warburg and Courtauld Institutes*, 9 (1946), 96–121.
 11. S. Lang, 'De Lineamentis: L. B. Alberti's Use of a Technical Term (in Notes)', *Journal of the Warburg and Courtauld Institutes*, 28 (1965), 331–5. Lang's conclusion that 'lineamenta' is the ground plan is unsatisfactory. Also see the glossary in Leon Battista Alberti, *On the Art of Building in Ten Books* (Cambridge, MA: MIT Press, 1988).
 12. Leon Battista Alberti, *On the Art of Building in Ten Books* (Cambridge, MA: MIT Press, 1988), p. 34.
 13. Leon Battista Alberti, *On Painting* (New Haven: Yale University Press, 1966), p. 66. In *Della pittura* the words are *circonscrizione*, *composizione* and *ricevere di lumi*. The observation of the rhetorical model is well known as has been discussed variously by many scholars. For a recent study, see: David Rosand, *Drawing Acts: Studies in Graphic Expression and Representation* (Cambridge, UK; New York: Cambridge University Press, 2002), pp. 54–5.
 14. Mark W. Roskill, *Dolce's Aretino and Venetian art theory of the Cinquecento* (New York: for the College Art Association of America by New York University Press, 1968). Dolce was influenced by Pietro Aretino, and Paolo Pino before him. *Disegno*, as a Florentine or Roman notion, and *colore* as a Venetian notion were thought to be in conflict. The conflict is not in the ambit of this paper, though elsewhere I am developing a wider study that includes colour as a problem. An excellent resource on the problem is Maurice Poirier, 'The *disegno-colore* Controversy Revisited', *Explorations in Renaissance Culture*, 13 (1987), 80–6.
 15. James Haar and Paul E. Corneilson, *The Science and Art of Renaissance Music* (Princeton, NJ: Princeton University Press, 1998).
 16. Hollanda, Francisco de, *Four Dialogues on Painting*, trans. by Aubrey F. G. Bell (London: Oxford University Press, 1928), pp. 28–46 (p. 36).
 17. See for example: Mary Ann Jack, 'The *Accademia del Disegno* in Late Renaissance Florence', *Sixteenth Century Journal*, 7 (no. 2, Oct 1976), 3–20. A more recent study is: Karen-Edis Barzman, *The Florentine Academy and the Early Modern State: The Discipline of Disegno* (Cambridge, UK; New York: Cambridge University Press, 2000).
 18. Indeed it has been extracted and published on its own. See: Giorgio Vasari & G. Baldwin Brown, *Vasari on Technique: Being the Introduction to the Three Arts of Design, Architecture, Sculpture and Painting, prefixed to the lives of the most excellent painters, sculptors and architects* (New York: Dover, 1960). Various arguments have been made that the second edition was a reaction to both the ill reception of his work, and of *disegno*, in response to Dolce and others.
 19. Giorgio Vasari, Carlo Ludovico Ragghianti and Giorgio Vasari, *Le vite dei piu eccellenti pittori, scultori e architetti* (Milan: Rizzoli, 1945).
 20. In my translation of the passage, I have left the word *disegno* as it was used. Other published English translations have either substituted 'design' or 'drawing' in place of *disegno*. A recent exegesis of Vasari's declaration can be found in Robert Williams, *Art, Theory, and Culture in Sixteenth-Century Italy: From Techne to Metatechne* (Cambridge, UK; New York: Cambridge University Press, 1997).
 21. A classic study is Maurice Poirier, 'The role of the concept of *disegno* in mid-sixteenth century Florence', in *The Age of Vasari: A Loan Exhibition under the High Patronage of His Excellency, Egidio Ortona, the Ambassador of Italy to the United States at Art Gallery* (Notre Dame, IN: University of Notre Dame, 1970), pp. 53–68. We have seen recently in the work of Karen-Edis Barzman, Robert Williams and others, a renewed interest in the exegesis of Vasari.
 22. Svetlana Alpers has dealt with the moment of *ekphrasis* in Vasari, and David Summers has chronicled the issues on Judgement of Sense following the rise of naturalism.
 23. Erwin Panofsky, *Idea: A Concept in Art Theory* (Columbia: University of South Carolina Press, 1968), p. 62.
 24. Barzman, pp. 149–51.
 25. Federico Zuccaro, *Scritti d'arte di Federico Zuccaro*, curated by Detlef Heikamp (Florence: Olschki, 1961); containing facsimiles of: Romano Alberti and Federico Zuccaro, *Origine, et progresso dell'Accademia del Disegno, de' pittori, scultori, et architetti di Roma* (Pavia, 1604); Federico Zuccaro, *Lettera a prencipi, et signori amatori del disegno, pittura, scultura, et architettura; con un lamento della pittura* (Mantova, 1605); Federico Zuccaro, *L'idea de' pittori, scultori, et architetti, divisa in due libri* (Torino, 1607). Federico Zuccaro was a somewhat difficult character as has been famously noted in the incident involving his commission of a painting for Pope Gregory, which resulted in his banishment from Rome until 1583. Ten years after his return he was elected as the principal of the Accademia di San Luca in Rome. He had tried earlier to organise the Roman Academia del Disegno unsuccessfully on the model of the literary academy. See: François Quiviger, 'The presence of Artists in literary academies', in *Italian Academies of the Sixteenth Century (Colloquium)* (June 1991: London), (London: Warburg Institute, 1995), pp. 105–12.
 26. Meder and Ames, I, 22. Many episodes resulting in the dominant soliloquy of Zuccaro can be seen in Romano Alberti, *Origine et progresso* (Pavia, 1604); in Zuccaro, *Scritti*.
 27. Cited in Wolfgang Kemp, 'Disegno:

- Beiträge zur Geschichte des Begriffes Zwischen 1547 und 1607', *Marburger Jahrbuch für Kunstwissenschaft*, 19 (1974), 219–40.
28. Summers, *Michelangelo and the Language of Art*, p. 364.
29. Federico Zuccaro, *L'idea de' pittori, scultori, et architetti* (Torino, 1607); in Zuccaro, *Scritti*. I have also consulted the following commentaries on Zuccaro: David Summers, *The Judgement of Sense* (Cambridge, UK: Cambridge University Press, 1990), pp. 283–310; Anthony Blunt, *Artistic Theory in Italy, 1450–1600* (London: Oxford University Press, 1962), pp. 137–59; Panofsky, pp. 71–153; Robert Williams, pp. 123–86.
30. Summers, *The Judgement of Sense*, p. 291.
31. Summers, *The Judgement of Sense*, p. 292.
32. Federico Zuccaro worked on the decoration of the Villa Farnese in Caprarola after the death of Taddeo in 1566. Zuccaro's fresco is the central scene in the dome.
33. Quiviger, p. 111.
34. Federico Zuccaro, E. James Mundy, Elizabeth Ourusoff De Fernandez-Gimenez, Milwaukee Art Museum, National Academy of Design (U.S.) and Taddeo Zuccari, *Renaissance into Baroque: Italian Master Drawings by the Zuccari, 1550–1600* (Milwaukee: Milwaukee Art Museum; Cambridge, UK: Cambridge University Press, 1989), p. 19. For a background on the Council of Trent and Art see: Blunt, pp. 101–36.
35. Quiviger, p. 110. Blunt notes that Zuccaro and Lomazzo joined academies that had 'nothing in particular to do with their professions' (Blunt, p. 147).
36. Federico Zuccaro, *Un Lamento della pittura* (Mantova, 1605); in Zuccaro, *Scritti*, pp. 119–29.
37. St. Luke is the patron saint of artists.
38. Alina Alexandra Payne, *The Architectural Treatise in the Italian Renaissance: Architectural Invention, Ornament, and Literary Culture* (Cambridge, UK; New York: Cambridge University Press, 1999), p. 228.
39. Quiviger, p. 111; translation by Quiviger, taken from Romano Alberti, *Origine e progresso*, p. 19; in Zuccaro, *Scritti*, p. 31.
40. Roy C. Strong, 'Federigo [sic] Zuccaro's Visit to England in 1575', *Journal of the Warburg and Courtauld Institutes*, 22 (no. 3/4, Jul-Dec 1959), pp. 359–60. Mundy notes greater activity in England: Zuccari, Mundy and others, p. 20. I argue though on the dispute over his portraits of the Queen, that the resemblance of his *maniera* in *disegno* is not strong at all.
41. Giovanni Paolo Lomazzo and Richard Haydocke, *A Tracte containing the Artes of Curious Paintinge Caruinge Buildinge written first in Italian by Paul Lomatius Painter of Milan and Englished by R. H. Student in Physik* (Oxford: Ioseph Barnes for Richard Haydocke, 1598).
42. Gent, p. 9.
43. Richard Wagner, cited in: Dieter Borchmeyer, *Drama and the World of Richard Wagner*, trans. by Daphne Ellis (Princeton, NJ; Oxford: Princeton University Press, 2003).
44. Bruno Taut, 'Eine Notwendigkeit', *Der Sturm*, 4 (no. 196–7, Feb 1914), 174–5; translated as Bruno Taut, 'A Necessity', in *German Expressionism: Documents from the end of the Wilhelmine Empire to the rise of National Socialism*, ed. by Rose-Carol Washon Long (Berkeley: University of California Press, 1995), pp. 122–39 (p. 126).
45. I use the word 'design' here thoroughly in the dominant modern sense of motivated intent. The other sense of 'design' as visual manifestation is still recognisable in the English language, as it is in French and German, but this usage is only possible after production. The paradigm of industrial production is the real wedge that sustains 'design' as separated motivated intent from its visual manifestation.
46. Walter Gropius, 'Programme of the Staatliche Bauhaus in Weimar' (April 1919), in Hans Maria Wingler, *The Bauhaus: Weimar, Dessau, Berlin, Chicago*, ed. by Joseph Stein (Cambridge, MA: MIT Press, 1969), p. 31.
47. Ernst Cassirer, *The Problem of Knowledge: Philosophy, Science, and History since Hegel* (New Haven: Yale University Press, 1950), p. 239.
48. Jonathan Crary, *Suspensions of Perception* (London; Cambridge, MA: MIT Press, 2000).
49. David Levin, *Modernity and the Hegemony of Vision* (Berkeley: University of California Press, 1993).
50. Marco Frascari, 'The Tell-the-Tale Detail', in *Theorizing a New Agenda for Architecture: an anthology of architectural theory 1965–1995*, ed. by Kate Nesbitt (New York: Princeton Architectural Press, 1996), pp. 500–514.

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Courtsey of Allen Memorial Art Museum, Oberlin, Ohio, 6
Huntington Library, San Marino, CA, 7, 8
Mark Harden, Artchive, 9

Acknowledgements

The author wishes to thank Marco Frascari, James McQuillan and Thomas Kong for many conversations in the preparation of this paper.

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