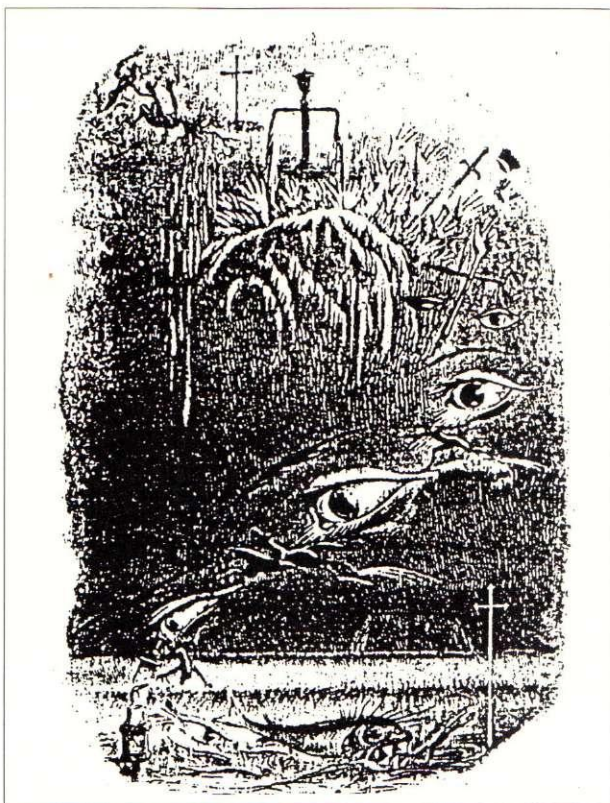# A *Glance* at the Eye(s) and the Body
in Perspectivalism and Cyberspace

Courtney Danielle Coyne

J.J. Grandville, *First Dream: Crime and Expiation*, 1847.
Paris, Bibliotheque Nationale.

IN HIS TEXT *The Work of Art in the Age of Mechanical Reproduction*, Walter Benjamin proclaims: "During long periods of history, the mode of human sense perception changes with humanity's entire mode of existence. The manner in which human sense perception is organized, the medium in which it is accomplished, is determined not only by nature but by historical circumstances as well."[1]

Yet some sixty years since Benjamin's *Illuminations* and some five-hundred years after the Renaissance's (re)founding of perspectival practice and theory, very little has actually transpired to change our current conditions of perception, especially in the realm of architecture. Today's available technologies, those, which Benjamin refers to as the medium have indeed evolved. However, the ongoing transformation from mechanical to electronic media has only served to restrict our mode of perception and further empower the hegemony of the eyes. The relationship between architectural drawings (methods of re-presentation) and conceptions of space (built and unbuilt works) remains subjugated by a prosaic reliance upon the mechanics of optics. It could even be argued that the contemporary practices and theories surrounding image production have become even more ocularly dependent than those originating in the quattrocento.

Locating the eye(s) and the body in the principal graphic and written treatises of the previous centuries can foster a better understanding of the implications of drawings on our current conceptions of space. More specifically, it can provide measure and insight to the present polemic surrounding architectural re-presentation in today's computer epoch.

Although there exists records of architectural drawings dating from as early as 2100 BC,[2] regardless of the fact that Greek and Roman architects utilized scale drawings to construct their temples, and despite standard techniques for drawing (plans and elevations) having been established during the Middle Ages, this discourse will take its departure in Renaissance perspectivalism. Prior to today's cyberspace simulations, the Renaissance's (re)invention of perspective provided the most pivotal development in the pictorial re-presentation of space. Perspective delineated the first instance where architects became "truly" capable of rendering their spatial intentions.

A critique of the foregoing relationships between re-presentation and conceptions of space can help emend the way in which we instrument and develop our current application and understanding of computers within the practice and study of architecture.

An attempt to *see* ourselves seeing

Before beginning with a *focus* on the eye and the body during the Renaissance, we must first *look* briefly to the construction of perspective as terminology. The meaning of the word *perspective* is of equal importance to that of its mechanical and theoretical constructions. Much of vision's primacy can be traced to the following etymological origins.

Perspective derives from the Latin verbs *perspectiva* meaning seeing through; looking attentively; surveying, and *perspecto* meaning to look at to the end; to look all about.[3] The adjectives, *perspectus* and *perspicuus* are defined as ascertained or fully known, and clear, transparent, and light.[4] It is thus no mystery that perspectival practices and theories throughout the ages have been repeatedly equated with the acquisition and demonstration of truth and knowledge.[5]

The Eye(s) and the (Abstracted) Body: From Alberti to Durand

Renaissance perspective originated in painting, with its earliest documentation being attributed to the Florentine

mathematician and architect, Antonio du Tucci Manetti. However, it was not until some fifty years later that perspective was first projected into the practice and theory of architecture. The investigations of Filipo Brunelleschi and Leon Battista Alberti provided the real catalysts to perspective's evolution... and eventual reign.

Filipo Brunelleschi, the (self)proclaimed, practical inventor of perspective,[6] based his perspectival praxis on a construct of panels, mirrors, and peepholes. He structured his visual pyramid with perspectival threads – *velo* – that, conceptually, projected outward from the eye. Although these *velo* were en*vision*ed to radiate beyond the frame into an infinite, external reality, they actually pulled conically inward. Perception of the world via perspective drawing was contained within and limited to the eye. At the apogee of Brunelleschi's visual pyramid peered a celestial, immobile, and disincarnated eye.

With the writing of *Della Pittura* in 1435, Leon Battista

Brunelleschi's two-panel system for viewing a perspective drawing. Courtesy Kevin Forseth.

Albert posited himself as perspective's theoretical interpreter. His work furnished Renaissance architects with the first general thesis defining the rules for re-presenting

objects 3-dimensionally in perspective. His discourse was structured by the same principal of *intercisione della piramide visiva* used by Brunelleschi. Alberti's canvas was a window[7] on the world; his perspectival method "a planar section of the visual pyramid." In *Della Pittura* he writes: "I inscribe a quadrangle… which is constructed to be an open window through which I see what I want to paint."[8] A perspectival re-presentation was an optic device for "seeing through."
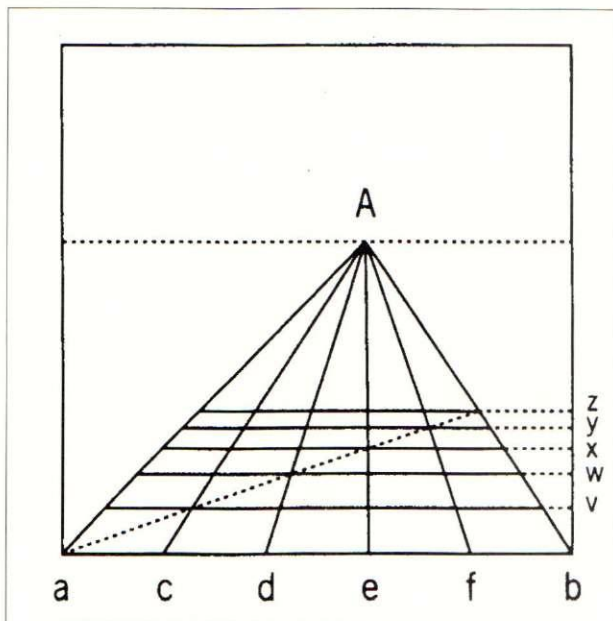

Perspectival construction of the checkerboard-type "ground square," according to Leon Battista Alberti. Reconstruction by Erwin Panofsky in *Perspective as Symbolic Form*.

For Alberti, perspective was also a narrative – *istoria* – to describe and propagate the newfound political, cultural, religious, and artistic ideals (*eye*-deals) of the time. The medium of perspective enabled the world to be possessed into a transparent text, which could be registered by the eye alone. Artists and scholars alike believed "the truth of the world could be reduced to its visual representation…"[9]

Perspective images aimed to depict a rationalized and divine reality based on order, geometric homogeneity, and balance. They were to symbolize a harmony between the mathematics of optics and God's will. It is important to note however that perspectives were not meant as literal, pictorial illustrations of the visual world. A perspective drawing was a visual "slice" of another reality. Architects *look*ed to the "real" world only as a means to see beyond (through) it. Perspectival theory and practice became the ultimate means to attain and illustrate veracity and wisdom.

As linear, one-point perspective came to manifest the mathematical regularities of optics and God's eye view from afar,[10] it concurrently disembodied the human body. This desired rationalization and order could only be achieved through a distancing. As a result, subject was divorced from object, and body from the experience of space. The central vanishing point and static, symmetrical geometry of Renaissance perspectivalism froze the body in both time and space. Although initially conceived as a means of contemplation and measure, the Renaissance body was quickly dis*regard*ed at the threshold of perspective's re-presented world. It was de-sensitized and devalued by a superimposition onto perspective's rational constructs. Moreover, the symbolic potential of perspective was over*look*ed in exchange for an enframing, optical control.
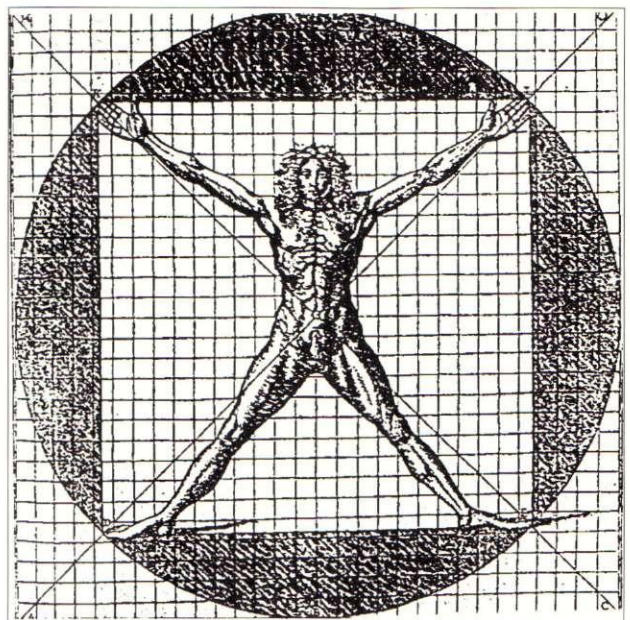
Vitruvius, Man at the center of the geometric cosmos (Cesariano edition, 1521).

The body, as a mechanism of multi-sensory perception, is markedly occluded in the written discourses of the Renaissance. For example, in *Della Pittura*, Alberti upheld the eye, asserting that painting was primarily a mechanism of sight. Leonardo da Vinci, in his *Trattato della Pittura*,[11] further exalted and promoted the eye writing: "The eye carries people to different parts of the world, it is the prince of mathematics, its sciences are most certain, it has created architecture and perspective and divine painting."

Even Michelangelo, despite being a proponent of an embodied mode of drawing and building went on to proclaim that the compass was in the eye(s) rather than the hand.

1) Filarete, *Construzione Legittima* in *Trattato di Architettura*, Cod. Magl. f.v. 177. Florence, Biblioteca Nazionale. 2) Leonardo da Vinci, *Camera Ottica*, Ms. f.r. 8. Paris, Institut de France. 3) Leonardo da Vinci, *The Human Eye*, Ms. f.r. 8. Paris, Institut de France.

Yet, it is perhaps the *Matteo de' Pasti*, a commemorative medal of Alberti that best personifies the polemic of perspective's ocularcentric regime. On the front side of the coin is a profile image of Alberti. A profile image, of course, delineates only one eye. On the reverse side is a soaring, "all-

seeing," winged-eye with the quotation, or rather question: "Quid Tum?" This is a question that remains pertinent to architectural image production in modernity: "What next?"

Matteo de' Pasti: commemorative medal of Leon Battista Alberti, 15th century. Washington D.C., National Gallery of Art.

The means and med iums with which space is re-presented consequently influence the three-dimensional creation of space. The unblinking and all-powerful eye that was established during the Renaissance created entirely new spatial conceptions and constructs. Explaining this reciprocation between techné and theory Erwin Panofsky writes: "Aesthetic space and theoretical space recast perceptual space in the guise of one and the same sensations; in one case that sensation is visually symbolized, in the other it appears in logical form."[12]
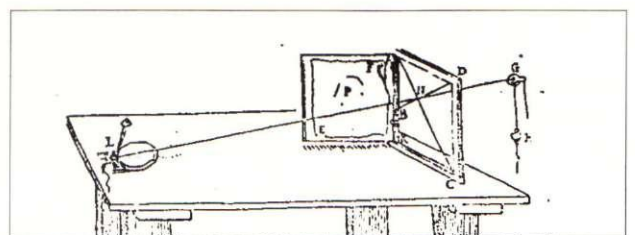

Giacomo Barozzi da Vignola, depiction of *velo* in *Due Regole di Prospettiva Practia*, 1583. Rome.

Unfortunately, what was established as a space of symbolic content soon became a dispassionate and intellectualized space. Space of the body was subsequently abandoned in exchange for space of the mind. Boundaries between exterior (eye) and interior (body) became clearly demarcated. Re-presentations intended to extend beyond the bounds of the painter's canvas and into infinity, instead

became stagnant, fixated, and devoid of meaningful projection. Architecture developed as voids and the body has since been isolated, forgotten … abject.

By the sixteenth century, the empirical practice and religious theory governing perspective had begun to break down. The medium of perspective had begun its transmutation into a scientifically systematized doctrine. The world would no longer be re-presented or perceived as divine rhetoric.

Rather than perspective images attempting to mirror themselves back into reality, they turned inwards, failing to look out. The work of Albrecht Dürer clearly portrays how perspective's gaze became unidirectional and petrifying. In his *Artist Drawing a Reclining Woman,* the veil of perspective sterilizes the subject, despite its intentions to arouse. The artist, even more so than his Renaissance predecessors, is distanced by the medium of perspective. Dürer's perspectival machine demonstrates the dangers of theory's literal construction into practice.
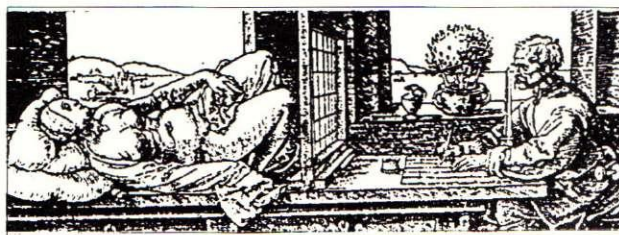
Albrecht Dürer, *Artist Drawing a Reclining Woman* in *Treatise on Measurement* (second edition, 1583); reproduced from *The Complete Woodcuts of Albrecht Dürer.*

Dürer's artist exists ironically both within and perpetually outside the image. Because the artist's perception of the nude is purely retinal (denying bodily involvement), she is consequently transfigured into a cold and infertile mass of stone. This act of petrifaction and sterilization occurred even more readily in the translation from architectural re-presentations to built works. Perspective as an art, as a science, and as a technology, had become an end unto itself. First, spectator was detached from spectacle, and then the ubiquitous eye was fully disembodied and estranged. *Artist Drawing a Reclining Woman* portrays the body's limited projection through a *blind* reliance upon perspectival vision and technology. Dürer's constructs can be *view*ed as one of the governing visual antecedent to the non-immersive computer generated perspectives, produced today.

By the beginning of the seventeenth century, any of the remaining traces of the Renaissance's holistic canons of space had dissolved. Baroque architecture provided expressions of a modern culture challenging the traditionally established notions of conceiving and re-presenting space. A single, ideal, and static center was denied in both Baroque space and re-presentation. The body remained autonomous as in the Renaissance, but was now viewing within a fluid, dilated space of optical illusions. The Baroque body existed mere as a receptacle for its eyes. The overabundance of disorienting and ecstatic images, again, privileged visual colonization of space over that of an embodied experience of space.
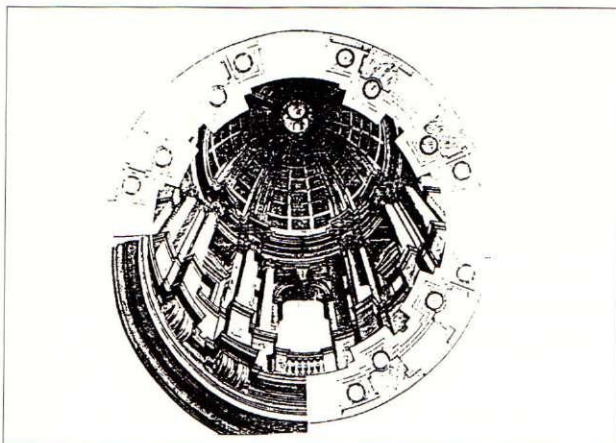
The seventeenth century also witnessed a change in the religious understanding of the world. The outbreak of modern science created a rupture between the whimsical and the rational, the symbolic and the mechanic, thus significantly reconfiguring the hinge between re-presentation and space. The major aim of re-presentation became one of reduction rather than enlightenment.

The Scientific Revolution coupled with the works of René Descartes and Gérard Desargues caused perspectival practice and theory to regress into a purely analytical system. Its primary application was the control and dominance of knowledge. The new scientific belief that reality could truly (absolutely) be re-presented through descriptive, geometric quantities eliminated any of the orginal vestiges of thauma or myth, which had been imbued in perspective images. Geometry was stripped of any prior symbolic virtues – potential for meaning. The new objective was to depict with accuracy (*moto actionale*) rather than to depict the essence of a building (*moto mentali*). The mechanics of Descartes' gridded, Cartesian order eradicated all predilections for meaning, and with it the body. There was, again, to be but one *optimal* viewpoint, and one remote, bodiless eye in the generation and experience of re-presentations and space.
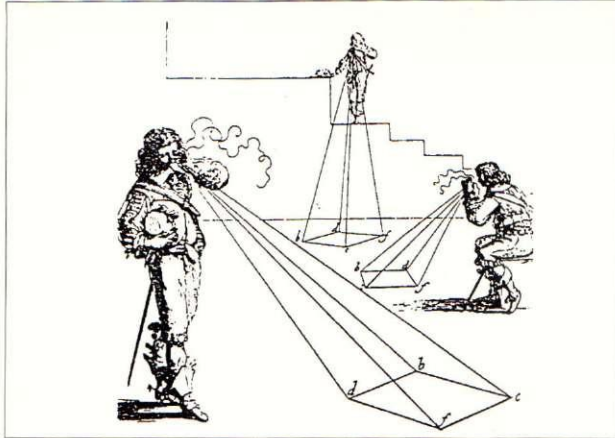
Abraham Bosse, *Manière Universelle de Mr Desargues pour Pratiquer la Perspective par Petit-Pied comme le Géométral*, 1647. Paris.

By the beginning of the eighteenth century, the limitations of geometry and Descartes' perspectivalism had begun to be exclaimed. Consequently, the importance of architectural drawings was transferred back to a practice of direct, empirical spatial manipulation. Architectural representations, as they once existed in antiquity and the Middle Ages, became secondary to process and built works. Through this transformation, the previously dominant Cartesian viewpoint became inaccessible to the body and its eyes. This is evident in both the period's Rococo buildings and frescos.

However, the emphasis on Baroque and Rococo space soon shifted. Towards the later half of the eighteenth century, the Industrial Revolution had returned architecture's *focus* back on re-presentation. The work of the military engineer and physicist, Gaspard Monge, proved instrumental in generating a renewed obsession in representational techniques. He fabricated a standardized method – *First Angle Projection* – for accurately re-presenting the correlation between frontal, side, and upper views of an object. This system realized the previous aims of autonomy pursued by Gérard Desargues and others. Monge's "object" quickly became architecture, and his "views" translated to elevation, section, and plan. From this point on, technical drawing would develop into its own art form… its own end.

At the turn of the nineteenth century, Jacques Nicolas Louis Durand's treatise *Précis des Leçons* launched an instrumental attack on the heart of architectural theory and practice, and with it its methods of re-presenting space. In due course, architectural education became formalized (i.e. *Ecole Polytechnique*) and the architectural profession institutionalized.

Andrea Pozzo, Trompe-l'œil ceiling fresco, 1707.
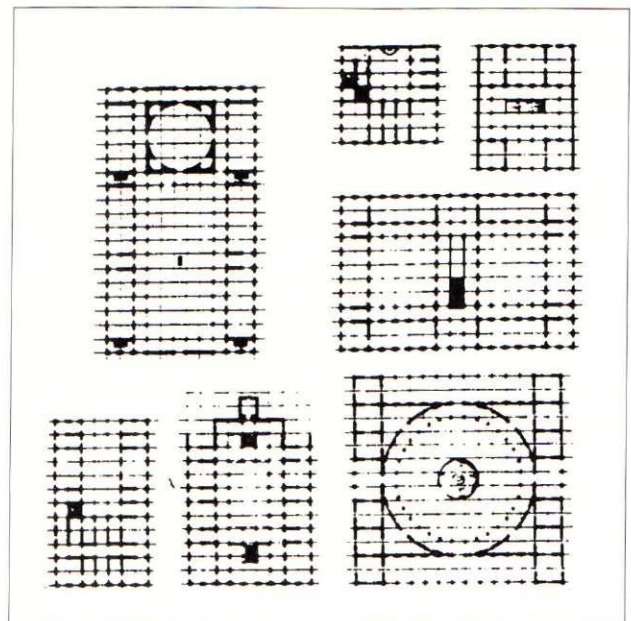
J.N.L. Durand, Typological combinations, 1809.

The primary objectives of Durand's theory were, above all else, efficiency and economy. His discourse was structured through a taxonomy of architecture; architectural re-presentation and space as the sum of their units. A logical order was coveted in place of the symbolic. Durand's theory and practice were never to address emotion or participation. Re-presentation and space were simply a matter of typology. Successful building was contingent upon knowing architecture's elements and types, and the rules for properly combining them.

Under Durand's regime, not only was perspective considered nonessential and superfluous, any meaningful correlation between the other graphic projections (plans, sections, and elevations) was negated. He asserted that the plan drawing was to be the primary projection used to re-present a building because it permitted the quickest and clearest means to solve and depict a project's economic efficiency.

Durand's quest for the power inherent in ultimate forms led to yet another rationalized, rectangular, gridded system for composing, re-presenting, and constructing architecture. While the grid the equal to was instituted to reduce problems and costs, it concurrently diminished meaning.

Composition was never to be a question of the body or its participation in space. It was rather a commodified, mechanic process of memorization. *Méchanisme de la composition*'s foremost task was to emphasize the eyes' power and control. Visibility, a voyeuristic seeing without being seen was equated with power. With the panopticon as his model, Durand sought to construct perfect, all-seeing machines.

Character was at no time a criterion within Durand's method; yet it was not something that was completely unattainable. Character could be achieved through efficiently satisfying a project's programmatic requirements. Happiness could be attained through utility. Everything that was inefficient and pragmatic was irrelevant and denied within Durand's system. The moral nature of a re-presentation or a building rested solely in its usefulness.

While Durand's offensive can be credited with helping project architecture into the technological world, it can also be blamed for the supervisory gaze and meaningless dedication to efficiency, which plague contemporary practices and theories of re-presentation.

The Eyes and the (telepresent) Body in Modernity

The current study and practice of architecture continue the privileging of sight, yet in a manner that is unique from that of the previously discussed predecessors. If technology is understood, as Benjamin claims, to change the mode of human sense perception, than the most significant change since the inception of computers has simply been an increase in ocular madness. An increased occlusion and abjection of the body.

Computers have succeeded in prying open the previously, hermetically-sealed, other eye. This has only resulted in binocular obsessions. The speed of sight has accelerated from peeping and gazing to glancing. Modern eyes dart and move. They are transient and floating, scanning simultaneously as both the absent-minded observer and the panoptic surveyor.
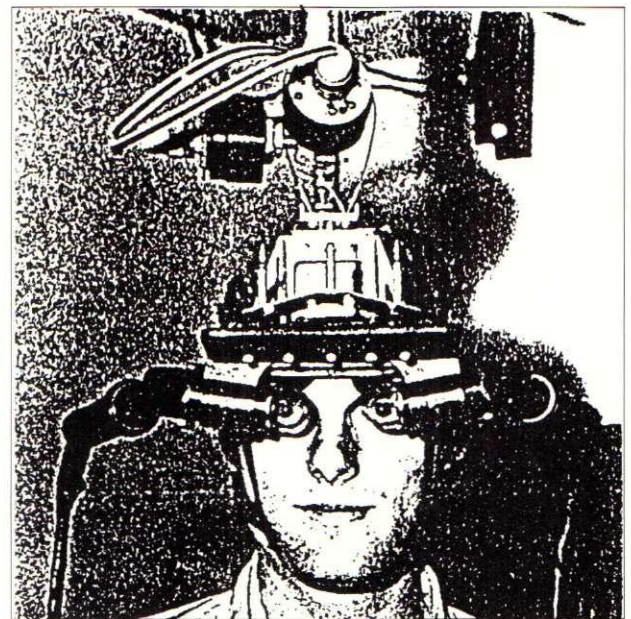
A glance to the future. Ivan Sutherland, designer of Virtual Reality, testing a prototype helmet equipped with television screens before the eyes.

Before venturing into a critique of cyberspace re-presentations (simulations) it is important to note that there are primarily two ways in which to *glance* at the eyes and the

body in modernity; both accounts are contingent upon the application of the current computer technologies. For the sake of clarity, these two modes will be referred to henceforth as non-immersive and immersive.

Use of computers as nothing more than advanced, high-tech perspectival machines is non-immersive, and only serves to prolong and intensify the hegemony of the eyes. In non-immersive re-presentations, the eyes and the body remain in an elevated and distant position, outside the realm of experience. Non-immersive practice and theory transfigure one into a voyeur. It is therefore important to ask: Is this outside spectator, this voyeur, to be considered a victim or the master of the situation? Does this new binocular dependence foster empowerment or impotence?

A non-immersive approach negates the possibility for multi-sensory meaning. Where the quattrocento once utilized perspective to conceive of a divine world (*huperouranios topos*),[13] modernity's mass-produced, non-immersive images engender a commodified world. If gazing at a painting was once an invitation to contemplation, then today's digitized perspectives can be *seen* as invitations to consume.

It again becomes crucial to question. Are non-immersive computer perspectives, especially those depicting architecture, nothing more than scrupulously constructed advertisements intended to tempt and seduce? Has the commodification of these computer images lead to creations of space that are nothing more than mere three-dimensional extrusions of two-dimensional media? Is the aim to portray an absence or a presence? Perhaps perspective has finally succeeded in extending beyond its frames – into a totalizing aesthetic.

The narrative function of Renaissance perspectivalism remains concealed under contemporary proclivities towards deconstructing meaning. Benjamin addresses this transition from an embodied poetic to a discarnate prosaic writing: "The replacement of the older narration by information... reflects the increasing atrophy of experience."[14] Perhaps today's images and their resultant spaces are simply awaiting meaning. But than from where? From whom?

New modes of perception demand new conditions, new mediums, and new theories. We must constantly oscillate between questions of re-presentation and questions of space. Just as re-presentations have been used throughout history to question architecture, architecture must now critically challenge its means of re-presentation. "As long as architecture refuses to take up the problem of vision, it will remain within a Renaissance or Classical view of its discourse."[15]

Modern technology possesses the necessary means to depose the hegemony of the eyes and return to a multi-sensory knowledge of the body. Computers combined with bodily, participatory involvement retain the potential to create alternative forms of re-presentation. Perhaps even significantly altering our current conditions of perception for the better. There exists the possibility of a fiber *optic*, or rather a fiber haptic renaissance, if computers are utilized through an embodied consciousness. Technology need not continue the incessant bifurcation between eyes and body, and body from the re-presentation, creation, and perception of space.
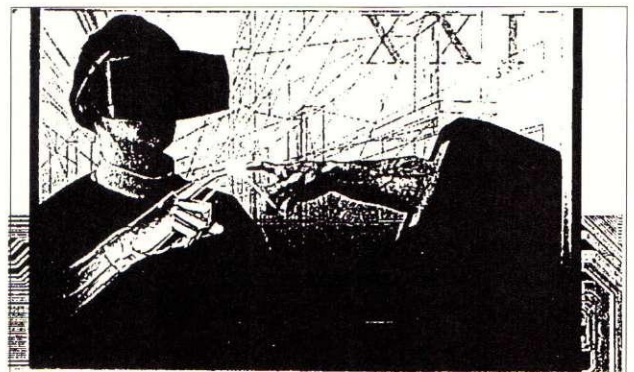
Gensler Associates, *Life Space XXI*, California.

The second application of computers, and that, which is most consequential to this discourse, is the use of computers to generate and access cyberspace – an immersive use. Herein lies the potential to properly (re)introduce the body to the practice and theory of image production. Just as it was important to examine the etymological and physical constructions of perspective, it is equally important to question the fabrication of cyberspace, as well as its relation to the eyes and the body as well.

Cyberspace is a term that was first created by William Gibson in his science-fiction novel *Neuromancer*. He describes cyberspace as: "a graphic representation of data abstracted from the banks of every computer in the human system.

Unthinkable complexity. Lines of light ranged in the non-space of the mind, clusters and constellations of data. Like city lights, receding."[16] He depicts a world in which humans interface directly (bodily) with computers (data) at a totally convincing level of realism. His virtual world is not so distant from the present cultural and historical moment.

In place of the previously discussed two-dimensional, non-immersive re-presentations, we now find immersive, quasi-physical, three-dimensional environments. Cyberspace is both re-presentation and corporal (corpo-real) environment where body and machine can coalesce into a single-space-entity. It is an (im)material construction of translucent walls and screens, fabricated out of images and light. Lucidity is no longer a virtue, as instruments of concealment – masks, veils, filters, and screens – are coveted. Ambiguity, uncertainty, and the blurring of the acuity of the eyes are meant to excite, whilst the notion of an absolute truth bores, repels, and often frightens.

Cyberspace is fluid, anisotropic, and dynamic space, where the body is free to move using a combination of its sense faculties,. It is an artificial yet tangible world, where the distinctions between re-presentation and space, and the boundaries between interior and exterior are in constant flux. In one and the same instance, cyberspace collapses the existing time-space continuum in order to generate its own, simulated "real-time-sqare." This blurring of limits consequently extends a previously unavailable invitation to ecstasy (*ekstasis*).[17] As Jane Gallop explains: "Ecstasy is when you are no longer within your own frame: some sort of going outside takes place."[18]

With this new medium, vision is no longer the primary impetus for projecting the body into space. Re-presentations are no longer a question of projecting a three-dimensional image 'onto' a two-dimensional surface, but rather, projecting the body 'into' a three-dimensional simulation. Cyberspace simulations are three-dimensional realities generated 'in' three-dimensional realms. They are constructed on, in, and beyond translucent screens. Space is not and cannot be contained in the traditional sense of a two-dimensional surface or the Albertian frame.

Comparable to the Renaissance, today's computer simulations yearn to re-present realities that cannot be fully realized- realities beyond. However, disparate from perspectivalism, cyberspace realities are temporal, heterogeneous, and fragmented. They are governed by information consump-tion and quickness. Ironically, these hyper-realities have come to resemble the current reality. Susan Sontag writes: "In the past a discontentment with reality expressed itself as longing for another world. In modern society, a discontentment with reality expresses itself forcefully and most hauntingly by the longing to reproduce this one."[19] We must then ask: Are cyberspace simulations merely attempts to extend the "real" world? Attempts to be over-real? Are questions concerning reality not altogether irrelevant seen in the light of cyberspace? Will our notions about reality (spatial realities) not be totally redefined or perhaps even eliminated due to the existence of cyberspace simulations?

Because cyberspace realities are corporal realities, they demand a bodily presence. Unlike Cartesian perspectivalism's projections and spaces, they are perceived and accessed through a co-operation of vision with the other senses. We are permitted to see and interact. Instead of existing at a distance, these other realities are contingent upon direct, bodily interaction – interface. They require confrontation and inhabitation.

An immersive virtual reality system being tested at NASA's Johnson Space Center in Houston, Texas. Courtesy NASA.

A cyber body cannot be *regard*ed as a body in the traditional sense. It is a simulated, "out-of-body" body, which exists in one space while occupying another. It is simultaneously absent and present – telepresent. It exists in a suspended state somewhere between dream and reality. Unlike the negated perspectival body, a cyber body possesses the ability to both hover in and zoom through space. Movement and speed are "key,"[20] as stagnant viewing is replaced by bodily monitoring (a body-centered *view*).

Outfitted with a head-mounted display (HMD), a pressure-sensitive data suit, and data gloves, the human body (*quasi*)physically enters a re-presentation. Through this act of entry and inhabitation, a re-presentation is instantly enlarged to 1:1 scale. Previously unavailable elements of choice and control are introduced with the cyber body's newfound autonomy of movement. There is no single, *optimal*, or predetermined focal point in cyberspace simulations, but instead infinite foci. In this "real-time-space," the body has the opportunity to rejoin, not replace the eyes. Here, spectator can become player, participant, and actor.

Yet, as with all new technologies, we must approach this new method of re-presentation with both confidence and circumspection. Many nightmares do, after all, begin as fantasy-filled dreams. This new, electronic image machine, like all technologies, can also become its own nemesis. The multi-sensory perceiving of cyberspace has the capacity to both enhance and stifle the visualizations and experiences of architecture.

For each potential, there lurks a danger. There is the risk of producing too many images and too much stimuli. An over-stimulation can quickly result in ambiguous, confusing, and displaced architecture. There exists the ever-present temptation of control the looming threat of erecting yet another prosaic hierarchy. If this occurs it will only bring about monotony and sterility, inevitably killing the erotic impulse.

The most significant risk of this new method involves the body. Just as the Cartesian body was dislocated on the surface of a gridded plane, the cyber body can also easily be displaced. We must take precautions so that it does not become a "meat puppet" lost in a virtual abyss of simulations. If the body is lost in cyberspace who knows how long it could take to retrieve it again. Architecture cannot afford to have the body disappear yet again. Hasn't five hundred years been long enough? If the practices and theories structuring cyberspace simulations become standardized and systematized they will undoubtedly result in the creation of still lifes much like those created by Dürer's perspectival draftsman. The medium – the computer – must not become an end unto itself.
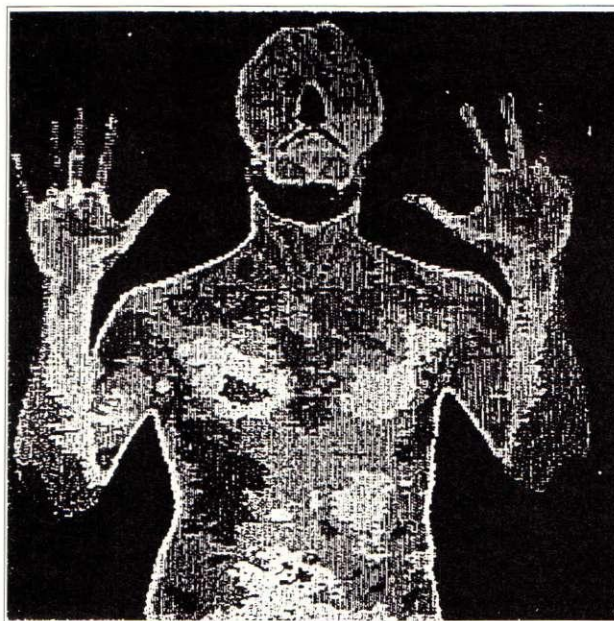
Thermal image by Richard Loweberg, Bio-Arts Laboratory, California.

The denial of the body and its authority in the re-presentation, conception, and experience of space will inevitably and invariably continue. Tendencies towards architecture as a retinal art will unfortuna tely always exist. What is most important, however, is that they do not continue to prevail. There will always be architects, theorists, and philosophers who believe that a building's two-dimensional re-presentation in magazines and journals is more important than that of its three-dimensional experience. Unfortunately, we will always find those who displace the site of the building to the realm of exhibitions and graphic publications,[21] – those who degrade architecture to mere media.

In order to escape the totalizations produced by the coupling of vision and computer technology, we must recall yet another Benjamin observation: "Buildings are appropri-

ated in a twofold manner: by use and by perception, or rather, by touch and by sight. Such appropriation cannot be understood in terms of the attentive concentration of a tourist before a famous building".[22] Just as perspective once provided a new mode of perceiving (looking at and designing) the world, today's cyberspace simulations can provide new, multi-sensory conditions for perceiving and conceiving the world. The gap that Cartesian epistemology created between spectator and spectacle can be sutured through a thoughtful human-computer interface, through an embodied vision. Embodied space calls for embodied re-presentation – both in theory and in practice.

The true task facing modernity is not to radically expel perspectivalism, but more accurately to critique it in relation to the application of the current computer technologies. Architecture must question vision's dominance by implementing and exploiting today's available technologies with the intention of returning to the wisdom of the body and its senses. Architects must problematize the interrelationship between re-presentations and built works. Today's re-presentational tools must be embraced with the intention of providing meaning through electronic-human sensing. Architecture must problematize the joint between what we see and what we sense. Our bodies, both absolute and simulated, must be recognized as the starting-point for the perception and conception of the world. Only then will the possibility exist to lose oneself completely 'in' a re-presentation – only then can perceiver and perception become one.[23]

Computers as extensions of Descartes' Cartesian planes, or as an extension of the body, is not nearly as important as the computer as a medium to extend the body back into re-presentations, back into the creation, perception, and experience of architecture. The body must be recognized as the agent rather than the classical servant. It must be taken as the point of departure and be the point to which the discourse unceasingly returns.
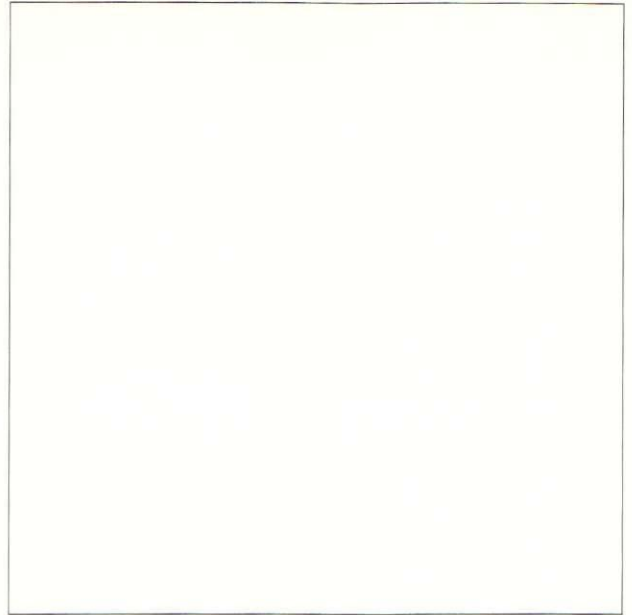
The body as mediator. Insert your cyber body here.

Notes

1. Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," in *Illuminations*, ed. and with an introduction by Hannah Arendt, trans. Harry Zohn (New York: Schocken Books, 1969), III. p.222.

2. The earliest, still-existing, architectural drawing dates from ca. 2100 BC. It is a roughly scaled, linear drafting of a landscape plan for a tamarisk grove situated in front of the Egyptian temple at El-Dier el-Bahari near Memphis. The medium is ink on limestone. (Metropolitan Museum of Modern Art, Museum Excavations, 1920–22, Rogers Fund 1922).

3. *The New College and Latin and English Dictionary*, trans. John C. Traupman, Ph.D. (New York: AMSCO School Publications, Inc., 1966), p.224.

4. Ibid., p.224.

5. Theory has, interestingly enough, always been bound to sight and visuality. We need only look to the Greek origins of the word *theory* in order to understand the reciprocal relationship between theory and vision. The Greek word *theôria* stems from *thea* meaning seeing, and *hora* meaning care. Thus, as Marco Frascari claims, *theory – theôria –* is "then measured on careful seeing." ["A Secret Semiotic Skiagraphy: The Corporal Theater of Meaning in Vincenzo Scamozzi's Idea of Architecture," in *VIA #11 "Shadow,"* (Philadelphia: Journal of the Graduate School of Fine Arts, University of Pennsylvania, 1990]. Renaissance artists and scholars simply intensified this parallel between knowledge, and the acuity and clarity of vision.

6. Leon Battista Alberti substantiated this assertion by crediting Brunelleschi with the practical invention of perspective in his 1435 treatise, *Della Pittura*.

7. In *Privacy and Publicity: Modern Architecture as Mass Media*, Beatriz Colomina makes note of the fact that the etymology of the English word *window* combines both wind and eye (Cambridge: The MIT Press, 1969). p.378.

8. Leon Battista Alberti, *Della Pittura* (written 1435, published 1511). [*On Painting*, trans. John R. Spencer (New Haven: Yale University Press, 1966), p.56].

9. Alberto Pérez-Gómez and Louise Pelletier, *Architectural Representation Beyond Perspectivism*, in *Perspecta 27, The Yale Architectural Journal* (New Haven: Yale University Press, 1997), p.5.

10. Martin Jay, "Scopic Regimes of Modernity," in *Dia Art Foundation Discussions in Contemporary Culture*, Number 2, ed. by Hal Foster (Seattle: Bay Press, 1988), p.17.

11. Leonardo da Vinci, *Treatise on Painting*, ed. by P. McMahon, 2 vols. (Princeton, 1956).

12. Erwin Panofsky, *Perspective as Symbolic Form*, trans. Christopher S. Wood (New York: Zone Books, 1991), p.45.

13. *A place beyond the heavens.*

14. Walter Benjamin, "Some Motifs in Baudelaire," in *Illuminations*, ed. with an introduction by Hannah Arendt, trans. Harry Zohn (New York: Schocken Books, 1969), II. p.159.

15. Peter Eisenman, "Visions Unfolding: Architecture in the Age of Electronic Media" in *Theorizing a New Agenda for Architecture*, ed. by Kate Nesbitt (New York: Princeton Architectural Press, 1996), p.558.

16. William Gibson, *Neuromancer*, (London: Grafton, 1986), p.51.

17. *Ekstasis* stems from the Greek *ex* meaning *out* and *histanai* meaning *to place*. Thus, *ecstasy* could also be understood as *placed out*.

18. Jane Gallop, *Thinking Through the Body* (Columbia University Press, 1988), P. 152.

19. Susan Sontag, *On Photography* (New York: Farrar, Straus and Giroux, 1973).

20. Note that the use of the word, *key*, in this context implies both *essential* and *a means of access*.

21. Beatriz Colomina provides an extensive critique of architecture as a system of representations in her book *Privacy and Publicity: Modern Architecture as Mass Media* (Cambridge: The MIT Press, 1969).

22. Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," in *Illuminations*, XV. p.240.

23. Arthur Schopenhauer, *The World as Will and Representation, Volume 1*, trans. E.F.J. Payne (New York: Dover Publications, Inc., 1969), p.178.

Courtney Danielle Coyne
Ph.D. Student, The Royal Danish Academy of Fine Arts, School of Architecture, Copenhagen, Denmark.