Encountering the Digital in the Space of Ideation

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I.

Whether the digital media should assume an additive role and take a place alongside traditional modes of re/production in architecture or displace and supplant those, and what the exact ramifications of this displacement may be have proven themselves contentious questions that readily divide and polarize the parties to the debate rather than lead to consensus. This is owed to both the unique challenges of the digital media and the extent to which these challenges are intertwined with broader cultural and ideational trepidations about representation, reproduction, duplication, and imitation. It is this broader cultural and historical context to the current debate that I wish to focus on in this essay.

The current debate over digital re/production is, in many respects, an extension of the debate over mechanical re/production that began over a century and half ago. That debate did not end. Neither the various attempts then to deprecate and exclude mechanical fabrication, nor the various attempts to include and domesticate the media were in the end successful in warding off the ideational challenges that instigated the reactions. The potential lessons of that historic debate are what I wish to explore through a close analysis of Ruskin and Wright's ostensibly opposite stances on mechanical fabrication and reproduction.

II.

Ruskin's reservations and apprehensions about the use of machines and mechanical reproduction in architecture, much as it has in common with early reactions to digital reproduction, may be readily traced to what Walter Benjamin refers to as the loss of the aura of the work of art, i.e., its authenticity and historicity, in the age of mechanical reproduction (Benjamin 1978: 217-25), Addressing the question in some detail in the Seven Lamps of Architecture under the "Lamp of Life," Ruskin attributes his reaction to the immediacy of a need - impertinent before the 19th century - for a clear, qualitative distinction between two very different modes of production in architecture: the one relying on hand, the other on machines; the former producing authentic, individual forms or building components, the latter generic, spurious forms.[1] He argues that even though we may suppose "the abstract beauty" of "forms" to be "the same whether they come from the hand or the machine," the use of machines in the production of architectural forms is impermissible, because along with the abstract beauty of form there is another and equally important source of "true delightfulness" in all works of art (Ruskin 1979 [1849]: 55-56). He argues:

> .... things in other respects alike, as in their substance, or uses, or outward forms, are noble or ignoble in proportion to the fullnesses of life which either they themselves enjoy, or of whose actions they bear the evidence, as sea sands are made beautiful by their bearing the seal of the motion of the waters" (ibid: 142).

Works of architecture "become noble or ignoble in proportion to the amount of the energy of that mind that has visibly been employed upon them," of which they bear a visible *impress* or *seal* as sea sands bear the "seal" of the motion of the waters. The "true delightfulness" of a work of art, Ruskin asserts, "depends on our discovery in it the record of

thoughts, and intents, and trials, and heart-breakings - of recoveries and joyfulness of success" (ibid: 56). This is "the worth of the thing, just as the worth of anything else we call precious" (ibid).

Given this outlook, it is evident why Ruskin considers the formal products of machines "worthless." There is, however, more at stake here than the question of worth. The "substitution of cast or machine work for that of hand," Ruskin tells us, is "an imposition, a vulgarity, an impertinence, and a sin" (ibid: 55).

If Ruskin deems the condemnation and deprecation of "cast or machine works" imperative it is because "cast or machine works" fracture the "seal" that "bears" the "impress" of thought. Lost to the reproductive capability of the machine and its formal products is the causal link between the "thoughts and intents" that Ruskin presumes to animate, inform, and direct the human hand to leave a visible, external "record" of their presence. This link is not present in "cast or machine works," even though the external form - the visible "record of thoughts, and intents, and trials, and heart-breakings" - is. This is the impertinence and the sin of machine products. Their only "effect" is, Ruskin tells us, "to cast shame and suspicion over every part of the building" to which they are affixed as substitute for the work of "hand" (ibid).

I will return to the peculiar "effect" of cast or machine made products later. For now, it is important to note that, using approximately the same line of reasoning, the use of machines can just as readily be defended as it is condemned. A case in point is Frank Lloyd Wright's position on the use of machines a half-century after Ruskin. Wright tells us:

> John Ruskin and William Morris turned away from the machine and all it represented in modern art and craft. They saw the deadly threat it was to all they loved as such - and eventually turned again to fight it, to the death - their death. They did, however, remind us of what we were losing by using the machine or, as they might have said, letting the machine use us ... The Machine Ruskin and Morris believed to be the enemy of all life. It was and is still, but only because the artist has shirked it as a tool while he damned it; until now he has been damned by it (Wright 1975 [1927]: 135).

The machine for Wright is, in hindsight, "The architect's tool - whether he likes or not." It is "an engine of emancipation or enslavement," the agent of "life" or "death," a "savior" or a "monster," "according to the human direction and control given it, for it is unable to control itself" (ibid: 131). The machine, Wright argues, is similar, if not superior in function to our "Hands and arms and legs and feet" (ibid). Its worth, as with hands and arms, depends on "the mind that drives it or puts it to work and stops it" (ibid). Therefore, "how foolish," he argues, "to take a prevalent abuse of any thing for the thing itself" (ibid: 136). The "deadly threat" to architecture, as Wright envisions it, is not the machine but the lack of "creative-imagination," or in Ruskin's terms of "thought and intents," in those who have put it to use or rather abuse. The unwarranted, if not foolish, deprecation of the machine by the "imaginative artist" has left the machine to the abuse of those whose:

> ... "technique" may therefore be said to consist in reproduction, imitation, ubiquity. A form of prostitution other ages were saved from, partly because it was foolish to imitate by hand the work of another hand. The hand was not content. The machine is quite content. So are the millions who now have as their human understanding, things that were once the very physiognomy of the hearts and minds - say the souls of those whose love of life they reflected (ibid: 132).

As different as Wright's and Ruskin's positions on the use of machines are, it is important to keep in mind that they are both motivated by the same goal in their specific exclusionary prescriptions, and driven by the same vision in their particular delimitation of the modes of production in architecture. They are both, in their unique ways, looking for the impress of mind on an architecture whose external forms are the "very physiognomy" of the internal creative thoughts and intents of those who produce them. Imitation and reproduction are, for both, "An imposition, a vulgarity, an impertinence, and a sin." Whereas Ruskin, cognizant of the "deadly threat" of machines, took no chance with them, for Wright the gamble is not a matter of choice. The machine

is here to stay and we may rest assured that there is little chance of losing our gamble with machines because "to the extent that creative-imagination takes concrete form in the human fabrications," regardless of the mediation of the hand or the machine, "it makes the fabrication live as a reflection of that life any true man loves as such - spirit materialized" (ibid: 145)

The difference between Wright's and Ruskin's visions of the imagination's role in machine production is not as great as Wright would have it appear. After his vehement condemnation of "cast or machine works" and what might have appeared as a clear distinction between two different modes of "production" in architecture, the one by hand "bearing the impress" of "mind," the other by machine bearing only its *appearance* – a sure sign of "death" - Ruskin gives an interesting twist to the argument Wright was to advance in defense of the use of machines. Ruskin informs us that the deprecation of the machine does not by itself guarantee "life" in human production, because "It is, indeed, possible, and even usual, for men to sink into machines themselves, so that even hand-work has all the characteristics of mechanism" (Ruskin 1979 [1849]: 57-58).

The line separating what we were told to be two distinct modes of "production" in architecture is not, therefore, as sharp and clear as one might have hoped. The "deadly threat" to architecture, that otherwise may have been readily delimited and dismissed as peculiar to a new and foreign mode of production is, it turns out, an endemic threat. It is possible to find the very mind-less reproduction that is characteristic of machines in the works of hand. It is possible for men - Wright may well have agreed - to sink into machines, to re-produce the "impress" without the engraving "seal." However, Ruskin assures us that this perilous possibility is a form of "disease and decrepitude," i.e., a form of infection and extrinsic imposition, that he can diagnose and cure with recourse to the "immutable law" of Life.

In an attempt to identify the cause and diagnose the "disease" at issue, in an argument reminiscent of Wright's contempt for the abuse of machines, Ruskin tells us that, "when we begin to be concerned with the energies of man" that are "visibly" employed in the "production of things":

> ... We find ourselves instantly dealing with a double creature. Most part of his being seems to have a fictitious counterpart, which it is at his peril if he do not cast off and deny. Thus he has a true and a false (otherwise called a living and a dead, or a feigned or unfeigned) faith. He has a true and a false hope, a true and a false charity, and, finally, a true and a false life. His true life is like that of lower organic beings, the independent force by which he molds and governs external things; it is a force of assimilation ... His false life is, indeed, but one of the conditions of death or stupor, even when it cannot be said to animate, and is not always easily known from the true. It is that life of custom and accident in which many of us pass much of our time in the world; that life in which we do what we have not purposed, and speak what we do not mean, and assent to what we do not understand; that life which is overlaid by the weight of things external to it, and is molded by them, instead of assimilating them; ...(ibid: 143).

The distinction between the true and the false lives and their respective modes of production, we should note, supposes a *true* and a *false* relationship between the internal and the external, or mind and matter. In the "true" life, the internal assimilates the external. Here the mind of 'man' "molds and governs." Here signification proceeds from the inside. Hence, what is said is what is meant and what is done is what is intended done. This is the state of the normal, of life "living" and "true." Characteristic of production in this life is what Wright were to call - in the abstract - an architecture that "develops from within outward in harmony with the conditions of its being as distinguished from one that is applied from without." "Spirit materialized." (Wright 1975 [1914]: 122)

In the false life, in contrast, the life of death marked by accident and custom, all is feigned. The internal in this life - the mind of "man" - is molded by things external to it. Signification here proceeds in spite of any intention, whereby what is said or done is neither what is meant said, nor intended done.

It is perhaps needless to point out that for Ruskin the only "healthy and vital" mode of production in

architecture is the one that "molds and governs" things external to it as opposed to being "molded by them." His critical quest is to restore architecture to this state of health and vitality. The task is not, however, Ruskin informs us, without its difficulties. Whereas the works of machines are, for the most part, "always distinguishable, at a glance" (ibid: 58), the difference between the formal products of the two mutually exclusive modes of *human* production "is not always" - if ever - "easily known." The formal product of the "fictitious" production has the same external appearance as that of the real or the "true." Nevertheless, Ruskin insists that it is imperative to make a clear distinction between these two modes of production. To facilitate this admittedly difficult distinction, Ruskin offers us the Lamp of Life.

To the light that Ruskin offers, I will turn shortly. First, however, it is important to note that if the difference between the two modes of production in question "is not always" - if ever - "easily known," it is not for want of illumination. No amount of light is likely to ease the distinction, in part because the condition of the possibility of the "false" production is, in a manner, the impossibility of the "true" conceived as one engraving a "seal" or leaving an "impress" on the outside. The formal product of the true production can only be imitated, if its external appearance is imitable. This is to say that it can only be "feigned," if its external appearance was not *molded* or *governed* by an internal force; if this appearance never bore the undivided "impress" or "seal" of that internal force. The condition of possibility of signification, true or false, is the absence of a causal relationship between intention and signification, the "impress" and the engraving "seal." Else, signification would necessarily and always depend on the presence of an assimilating intention, and "impress" on an engraving "seal." Humans would then never be able to "speak" what they "do not mean" or "do" what they "have not purposed."[2]

The impossibility of a "true" life marked by productions impressed and sealed from the inside should not imply that humans cannot, for instance, "speak" what they "mean" or "do" what they intend, but that meanings or intentions do not *intervene*, *assimilate*, *mold*, or *govern* signification. Their presence or absence neither simply commences and halts signification, nor does it constitute a critical difference between a true and a false production. The only implication is that a gap persists in between the internal and the external, intention and signification, the "seal" and the "impress," as the condition of possibility of the original and its "feigned" imitation. This gap, we should note, is precisely what Ruskin here wishes to seal by appeal to a "seal." Its exposure, on the other hand, is the "deadly threat" of mechanistic production to which both Ruskin and Wright repeatedly allude. If Ruskin sees the exposure of this gap as a deadly threat it is because at stake is the adequacy and the authority of Ruskin's exclusionary critical model.

What is at stake in the question of living production for both Ruskin and Wright is the power of exclusion that is imperative to the delimitation of practice in the field. What prompts both to condemn and deprecate mechanistic production is the authority to delimit architectural practice not in the name of ulterior - cultural, social, or political - motives, but of truth, not arbitrarily, but according to "immutable laws."

What Ruskin and Wright propagate as a living architecture - Venetian or High Victorian Gothic by Ruskin and Organic-Modern by Wright - could not be more different formally and to a large extent conceptually. Each is a reflection of the cultural and historic context within which it was formed. However, both Ruskin and Wright place the weight of their authority to proscribe other modes of design, and for that matter each other's, on the life analogy. Both justify their preferred mode of design as the only acceptable mode, not on ideological grounds, but because its external forms are professed to be assimilated, molded, and governed internally as opposed to externally. Each is "spirit materialized," which is "not a matter of seeming but of being" (Wright 1975 [1927]: 149).

The critical distinction that each author makes is based on the assumption of authoritative control over external form and its potential for signification. At issue in each instance is the ability to tie signification not to context but to intent and purpose. An architecture that is imbued with the signs of life is one that is not subject to interpretation or changes in signification. It bears its meaning within as a seal. It is this privilege, however, that is threatened in the age of mechanical re/production.

There is, in other words, a great deal at stake in safeguarding the viability of a vital production. The difficulty that confronts any author who may wish to maintain this viability in the age of mechani-

cal re/production is, on the one hand, identifying what the signs of vitality are in a living architecture, and on the other hand, making the external manifestation of this vitality immune to the threat of reproduction.[3]

What indeed are the signs of life and vitality in the age of mechanical reproduction? How does the seal borne by external forms of internal intents manifest itself in any age? What justifies the preference for one mode of design over others, short of its ulterior motives?

It is these admittedly difficult questions to which Ruskin tries to provide answers under the Lamp of Life.

III.

To be imitated, repeated or re-produced, the original must itself be marked by the very characteristics that are assumed peculiar only to imitation, repetition, or re-production. The original, once produced, must already be in the position of the re-produced. On this point, however, we may seem in agreement with Ruskin who tells us that, "I suppose there is no conceivable form or grouping of forms but in some part of the universe an example of it may not be found" (Ruskin 1979 [1849]: 102). Every human "production" is an imitation or a re-production, because there is no conceivable form or grouping of forms of which an example may not be found in some part of the universe. Furthermore, every example, Ruskin tells us, bears "a certain seal, or impress of divine work and character, upon whatever God has wrought in all the world," as "the necessary consequence of the perfection of God's working" (Ruskin 1843: 24, 85). Human "production" begins with re-production - be it dead or alive, true or false, "noble" or "ignoble." Although this supposition renders the work of humans derivative, though it attributes imitation to them, nevertheless, it is founded on the supposition of an original production of which their work is an imitation.

In origin, therefore, as a certain theological/creationist model of production would have it, there is "life" and "production," i.e., a "true" life and a sealed, signed, and stamped "production." Re-production follows as a form of "disease and decrepitude." This supposition may appear to render the imitative work of humans "worthless," if not perilous. It appears to render this work the re-production of a sealed production, which by definition bears the very mark of "death and stupor" that Ruskin here wishes to "cast off and deny." However, Ruskin tells us that, "It is no sign of deadness in the present art that it borrows or imitates, but only if it borrows without paying interest, or if it imitates without choice" (Ruskin 1979 [1849]: 145). Ruskin thus re-assimilates imitation within the confines of his theoretical construct as a source of "true delightfulness." He renders the diseased "imitation," as he puts it, "healthy and vital," pending the payment of an "interest."

What began as a simple distinction between the work of hand and that of machines, rapidly transformed into a distinction between mechanistic and vital production because of difficulties contingent upon the former distinction. The latter has its own difficulties. Imitation, it now turns out, is not unique to mechanistic reproduction. It covers the entire field of human production. At every turn, the "deadly threat" that Ruskin has tried to set aside and to keep outside the realm of architectural production turns out to have already come from within. The "deadly threat" has thus far refused to be externalized in the name of machine or mechanistic production. Now, in a final defense, i.e., in defense of healthy and vital imitation as submitted to the questions of "choice" and "interest," Ruskin offers the same argument that we earlier saw Wright advance in defense of machines. Despite the similarity of the arguments, imitation is, we should note, a point of contention between Wright and Ruskin. Whereas Ruskin in his search for the signs of life took no chance with the machine, Wright took no chance with formal imitation. Whereas for Ruskin every formal production is a form of re-production, Wright assumes man's "creative-imagination" to be the "divine in him" that "differentiates him from a mere reasoning animal into a God himself." A "creative being," Wright argued, "is a God" that produces forms anew as testimony to his creative-imagination at work (Wright 1975 [1927]: 145). Ruskin, on the other hand, tells us that:

> Men's use and function (and let him who will not grant me this follow me no further, for this I purpose always to assume) is to be the witness of the glory of God, and to advance that glory by his reasonable obedience and resultant happiness. (Ruskin 1843: 4)

For Wright the novelty of form constitutes the sign of life, for Ruskin the evidence is in "reasonable obedience" and the interest paid. Both, however, we should note, try to overcome the "deadly threat" of reproduction with recourse to an established theological model of creation that readily lends its authority to the "seal" that is presumed to bind production to intention in origin. The difference is that for Ruskin vital human production is an imitation of divine production, for Wright it is a reenactment of it. The critical model is, nevertheless, the same, and its inevitable recourse to theology, it is important to note, speaks not solely of the critic's religious disposition but as well of a strategic necessity. Without recourse to a theological model of production (creation) neither Ruskin nor Wright can posit a clear distinction between living and dead production predicated upon a seal between intention and production in origin.

Whereas for Wright all formal imitations constitute dead production, for Ruskin imitation, covering the entire field of human "production" or re-production, is a sign of "deadness," if and only if it does not or cannot *give* more than what it receives; if and only if no interest is or can be paid in return. The latter is, we should note, the only type of imitation that Ruskin considers "an imposition, a vulgarity, an impertinence, and a sin." The problem, however, is how to decipher the difference that Ruskin has told us: "is not always easily known," that is, the difference between "vital" and "dead" imitation conceived as two mutually exclusive modes of production in architecture? What are the signs of life as distinguished from the signs of death? What to venerate as a vital imitation and what to condemn as a diseased imitation? In short, as Ruskin asks it: "How is imitation to be rendered healthy and vital"? He answers "that two very distinguishing characters of vital imitation are, its Frankness and its Audacity."

Frankness is that absence in imitation of "any effort to conceal the degree of the sources of its borrowing." Audacity is the "unhesitating and sweeping sacrifice of precedent when precedent becomes inconvenient." Neither, however, as Ruskin realizes can give us a sure hold on the line separating living and dead imitation. Both could be imitated and one may never know whether the presence of either is a sign of "vital imitation" or the product of a dead re-production. Hence:

> Nobler and surer signs of vitality must be sought - signs independent alike of the decorative or original character of the style, and constant in every style that is determinedly progressive.
> Of these, one of the most important I believe to be a certain neglect or contempt of refinement in execution, or, at all events, a visible subordination of execution to conception, commonly involuntary, but not unfrequently intentional (ibid: 147).

The most important sign of "life," of "vital" or "healthy" imitation is, therefore, a visible subordination of execution to conception. It is the "struggle toward something unattained, which causes all minor points of handling to be neglected" (ibid: 148). It is the "contempt of exact symmetry and measurement which in dead architecture are the most painful necessities" (ibid: 149). It is those "variations" that are not "mere blunders nor carelessnesses, but the result of a fixed scorn, if not dislike, of accuracy in measurements; and a determined resolution to workout an effective symmetry by variations as subtle as those of Nature" (ibid: 159).

These are the "nobler and surer" signs of "vital imitation." When we see them we may rest assured that the architecture says what is meant and it is what it was purposed to be. There is, however, a paradox in this enumeration. If a "nobler and surer" sign of "life" is indeed a "visible subordination of execution to conception," a "contempt of exact symmetry and measurement" or "variations as subtle as those of Nature," if, in fact, "life" has a "sign" or "signs" that can be marked, enumerated, stated in a text and given the status of a law that can then be intentionally applied - has been applied - to architectural "production" with uniform result or signification, would not the "sign" or the "signs" of "life," marked and then re-produced, at once bear the very mark of "death" they are meant to efface?[4] Would not the application of the law of "life" as such necessarily amount to and indeed require imitation, so long as a living production, in order to be recognized as such, must display a "visible subordination of execution to conception," a "contempt of exact symmetry and measurement" and "variations as subtle as those of Nature?" Is it not in fact only through dead imitation or machine like re-production of the "signs" of "life" that the imitation or re-production of a thing or anything is rendered "healthy" and "vital," in so

long as the recognition of life is dependent on the presence of specific signs? In short, has Ruskin, within the confines of his theoretical construct, any choice but to rely on "death" to ensure the desired "life" in "production"?

Once one is caught in between the desire for "life" and the stated impossibility of defining or communicating "life," of separating "life" from "death," "vitality" from "stupor," without resort to a number of imitable, imitated "signs," the paradox is indeed only unavoidable. The "signs" of "life," enumerated, become the "signs" of "death" that were cast off and denied. Also, enumerated, these "signs" at once point to a certain gap or lack, a certain missing "seal" in "life" that mandates the supplementary reinforcement of those "signs" without which the difference between "life" and "death" cannot be "easily" marked. If "vital" imitation did indeed bear the "impress" of the "mind" of its producer as "sea sands" bear "the seal of the motion of the waters," if "living" imitation was not already in the position of "dead" imitation, this enumeration, if not impossible, would at best be superfluous. Once enumerated, however, the "signs" of "life" in the same gesture efface the very dividing line they produce or re-produce. The latter two amount, in a manner, to the same.

As a matter of course, Wright and the other proponents of Modernism were to fair no better than Ruskin. Their condemnation of formal imitation and their emphasis on the novelty and originality of form as the sign of life could not succeed in overcoming the deadly threat of imitation any more than Ruskin's condemnation of machines and his emphasis on "a visible subordination of execution to conception" as a "nobler and surer" sign of vitality. Wright's bitter article of 1914 is a vivid testimony. After every effort to ground his forms in intention and more specifically in function, Wright finds himself left witnessing in "dread" the originality that he took for a sign of life, traded on and sold as "mere form" by "disciples, neophytes, and brokers." This "piracy, lunacy, plunder, imitation, adulation," Wright tells us, "endanger the cause, weaken the efficiency of genuine work, for the time being at least; lower the standard of artistic integrity permanently; demoralize all values artistically; until utter prostitution results" (Wright 1975 [1914]: 123). As a final defense he asks us to "let his forms alone," less they be rubbed of their authority as the bearers of the signs of life (ibid: 129).

IV.

What I have tried to point out thus far is not that Ruskin or Wright failed to achieve what they wanted. I do not presume that a more stout critic may somehow overcome the obstacles they faced in trying to enumerate the signs of vitality in production. It also has not been my intention to argue that Wright is as much a Romantic as Ruskin. If nothing else, it is the rational outlook of the one and the Romantic outlook of the other that makes the similarity of their struggle noteworthy.

What I have tried to point out are the difficulties contingent upon any rigorous distinction between originality and imitation, production and repetition, authenticity and duplication, hand and machine. What I have tried to take issue with is not the role of intention and purpose in formation and production, but the attempt to establish a causal link between them. What I have tried to point out is that the persistent distinction between hand and machine or mechanistic and vital production is related to a broader desire for control over signification. It is related to the wish for a causal link between intention and formation or meaning and form. This link is the condition of control over signification. The attempt to bring signification to closure requires the exclusion of every threat, i.e., every other mode of re/production or every other mode of design but the one that through exclusion provides the illusion of control.

Focusing on the machine as a reproductive tool, Ruskin saw it as an irredeemable treat to that idealized model of production that the 'work of hand' had readily lent itself to before the advent of mechanization. Wright, on the other hand, hoped to purge the machine of its reproductive ills and turn it into a tool for production capable of authenticity and immediacy, evidenced by originality of form.

Neither Ruskin's rejection of the machine, nor Wright's attempt at domestication of the machine succeeded to safeguard the originality, authenticity, and immediacy they both sought in production. This was not due to any fault of the machine. Rather the problem was and remains today the impossibility of the idealized concept of production predicated on an indivisible bond between an animating intention

and an animated form. The mechanical then and the digital now are merely forceful reminders of this impossibility. They merely resist various inclusionary and/or exclusionary attempts at their ideological appropriation.

The challenge posed by mechanical media has not dissipated, but perhaps irredeemably amplified by the digital media. Whereas the seemingly distinct functions of the mechanical media as a tool for passive representation and duplication or a tool for active manipulation and creation allowed Ruskin to focus on the former and Wright on the latter, what distinguishes the digital media among other tools of the industrial and post-industrial age is precisely its overt overlapping of passive representation and active fabrication to the point of indistinctness.[5]

The digital media combines, patently and indiscriminately, what has been latent in other comparable tools of the industrial age, e.g., the camera. The latter and similar mechanical tools for representation have always been susceptible to fabrication and actively involved in isolating and constituting the subject of their representations. Nevertheless, these tools have the aura of neutrality and objectivity, i.e., of merely looking at and reflecting reality. This is because their visual representations are irrevocably tied to what they represent—their referents. They ceaselessly testify to the past presence of the referent out there "in the real world."[6] This is the presence they confess to merely re-present. The digital media, on the other hand, does not merely re-present. It can fabricate representation. It can simulate reproduction. The computer's representations require no subject and no referent outside themselves.

The digital media's ability to fabricate the subject of its representation collapses the spatial and the temporal distance that separates the subject from its representation in other comparable tools. The camera is irrevocably temporal. The digital media is unique in erasing the time and the space that had hitherto separated the subject from its representation.

The digital media's ability to create virtual realities, independent of the actual as the point of departure and return, radically disturbs the economy and the structure of representation, as we once knew it.[7] It further diminishes the aura of the *real* that began, to a good measure, with the advent of mechanical re/production in general and the invention of the camera, in particular.[8] The latter allowed the visual content of reality to assume different substantive contents (from photographic paper to beams of light emanating from a picture tube). The digital media dispenses with any potential or presumed tie between the visual and substantive contents of reality altogether.

The new tool's indiscriminate overlapping of representation and fabrication takes away from representation the claim to innocence and objectivity that comparable tools readily supported in the past. The digital media is not, however, unique in its overlapping of representation and fabrication. There is, for instance, the pencil, among other comparable tools. The digital media is unique, however, in the manner in which it overlaps the tasks of representation and fabrication. The digital media's representations come too close to the "real" in a manner that the pencil's representations never can. In this respect, the digital media is similar to the camera. Whereas the pencil maintains a safe distance and the camera's representations can readily be referenced to reality, the digital media actively creates a representation that is neither sufficiently distant nor readily reduced to an existing referent outside it.[9]

The digital reproduction's dispensation with the referent as the point of origin—without the loss of pretense to objective representation—brings to surface, with greater force than before, a gap between the visual and the substantive contents of reality. This gap between form and substance, or image and identity, may be covered but never bridged. The exposure of this gap offers a serious challenge to the privileged antecedence and alterity of reality as measured against representation. The antecedence and alterity both Ruskin and Wright did their best to safeguard through deprecation of machine reproduction. Digital reproduction subjects the aura of humanist reality to radical query insofar as the possibility of its fabrications and the proximity of its representations strip reality of its endowed authority as the site of a causal link between form and substance, or image and identity. The visual content of the real can only be made to precede and be independent of its actual substantive content in the virtual world if the two had not a causal, but a conventional relationship in the real. The digital media can only give visual content spatial and temporal mobility, if reality that is always rigorously distinguished from representation is itself

already a form of representation. Subject as it is to digital media's manipulative interventions and virtual doubling that forgo the possibility of a site for causality, humanist reality stands to disappear as a selfsame entity, only to surface as a suppressed virtuality and a purposed construction.

Our response to digital media's challenge to humanist presuppositions about the nature of reality and representation has closely followed the trajectory of the debate surrounding mechanical re/production.

Advanced from one end of the spectrum are arguments reminiscent of Ruskin's express fear of an impending loss and his ensuing preoccupation with maintaining a proper relationship between inside and outside, mind and hand, thought and action, living and dead reproduction. For instance, "images that once were fabricated *within* the mind's eye," we are told, "are now being manipulated *external* to the body via the keyboard and the mouse." (Ellis, p.37) In contrast to this new *external* impediment,

> The pencil carries with it a history of use and iconography. Its graphite trace is an extension of the human hand, its thickness contingent on the pressure exerted by the body behind it. ... As an instrument of the architect's vision, the pencil is a direct conduit from the mind to the outside world. In capturing the quickness of a brilliant thought on paper, the pencil becomes transparent. No mediation exists between idea and tangible expression. The computer mediates by being placed between the "point of the pencil" and the "paper." (Ellis, p.43)

In contrast to the ideal or rather idealized immediacy and transparency of pencil – its virtual non-existence:

> Operations on the computer are so mysterious that we have no idea how they are performed. Because all technique happens automatically, there is less opportunity for the autonomously free decision. We begin to unlearn how to make rational decisions and become totally dependent on the correct functioning of the technology. (Ellis, p.44)

This is in Ruskin's words, that "feigned" life and production in which "we do what we have not purposed, and speak what we do not mean, and assent to what we do not understand; that life which is overlaid by the weight of things external to it, and is molded by them, instead of assimilating them." In consequence of our reliance on the digital media, another author tells us, we are witness today to the emergence of:

> .... an architecture that casts no shadows. An electro-shadowless architecture made by vampires for vampires, forever condemned to live a soulless immortality in front of the flickering phosphorescent glow of computer displays as cities crumble around them. An architecture without the presence of angels in the global space of temporalized flows? The birth of an inbred couture culture groomed to watch space, rather than to directly participate in it? (Beckmann, p.15)

It is important to note that digital media's re/productions, much like mechanical reproductions before, are not seen as merely bad, lifeless, and ineffective, but also dangerous. They are seen to effect, infect, and supplant the very immediacy, transparency, authenticity they are said to lack.

> These are such seductive and divisive technologies that there is a pressing need to establish a critical appreciation of the ways in which they will disturb, even undermine, conventions in teaching and practice. This is particularly true in the way the medium tends to depersonalize the theoretical and historical measures that have characterized the formation of architecture throughout history. .... The problem is very simple - all representational softwares and the machines on which they run ... when mastered, not only produce convincing artifacts but also persuade the user that they are personal creations. They give the user remarkable confidence and a sense of fulfillment, so much so that the desire to build is potentially diminished. (Balfour, P.268)

The way to curtail the "seductive and divisive" power of the new tool is, by another account, to return to "what has traditionally given

architectural representation its particular power of conceptualization - that is to say, its necessary degree of abstraction, the distance interposed between the thing and its representation." (Stan Allen, pp.246) Another solution coming from the other end of the spectrum, reminiscent of Wright's dream of a non-representational engagement with the machine as a tool for fabrication rather than reproduction, is the call for non-mediated, non-representational engagement with digital media.

> Outside of the realm of 3D modeling and 4D animation, there exists a dimensional domain of computation that is directly (that is, nonrepresentationally) spatial. Fuzzy logics applied to computer vision, autonomous interactions among distributed robotic systems, and self-organizing neural network structures exemplify computers' extension of spatial dimension beyond D into a realm in which space is engaged (and even, in some cases, invented) in an n-dimensional framework.
>
> To critically engage computation, we must escape intra-representational spatiality. (Lonsway, p.25)

We must, the author insists, "transcend our seduction by the representational effects of software's D and to enlist the numeric, structural, and (hardware) architectural aspects of computation," if we are to see and take advantage of what computation is, rather than what it is made to pretend or make believe to be.

In all of the above and numerous other examples one may site, there is a shared and persistent assumption that behind every representation, every doubling, every make-believe, every virtual, there is, at a critical and unabridged distance an authentic, actual, original, real phenomenon in contrast to which the former is a complication, negation, and nevertheless a seductive mask that leads us inevitably astray. However, if the prolonged debate over mechanical reproduction has an abject lesson to offer us in this regard, it is that what is illusive and perpetually desired is the authentic, the real, the immediate and the causal. What is presumed susceptible to loss and disappearance is in fact what is never had and always desired.

As a final note, if the preoccupation with the place and the role of the digital media in architecture appears particularly acute, if it generates as much passion as it does, this is in part because of a particular affinity between architecture and the digital media. Architecture itself is a medium that is literally and overtly engaged in the fabrication of our cultural or virtual reality. It is a medium through which our cultural beliefs, ideas, and values assume spatial and formal dimensions by allowing subjectivity to assume the guise of objectivity and the virtual to assume the aura of the actual. It is the medium or place of passage where the line between the virtual and the actual is most volatile and the distance most acute. Traditionally, the field has maintained the distance between its virtual productions and its actual products—between what it does and what it produces—with recourse to various modes of representation, whose abstraction did not cross or shed doubt on the presence of the line between the actual and the virtual or between reality and representation.

The distance that drawings and models, in their abstraction, have carefully maintained is now threatened with collapse by the digital media. The field's available modes of representation—indissociable from its modes of conception and creation—are subject to radical transformation by the digital media.

This transformation is unavoidable, because even if we choose not to engage the tool, we must nevertheless contend with its products. These have us see in ways that we had not and could not before. Insofar as the digital media constitutes a particular way of looking at and manipulating the world, its impact on our perceptions and conceptions is as unavoidable as it is problematic.

The futile exclusion and deprecation of the digital from the space of production much as various attempts at its domestication are not likely to fare better than similar postures toward mechanical fabrication, because the problem is not mechanical or digital in nature, but ideological. What should be interrogated is not the digital per se, but the desire for originality, authenticity, and immediacy in various guises that guide and frame much of the debate over the place and role of the digital. It is

this desire framed as it is by broader trepidations about representation, reproduction, duplication, and imitation that require close critical scrutiny, if we are to fully explore how and why we engage the media, put it to use and/or abuse. Be the medium architecture or the digital. There is, in a manner, no difference.

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NOTES

[1] This is not to imply that machines had no role in architectural production before the 19th century, but that their profusion and prevalent use in the 19th century took on a critical dimension.

[2] For a comprehensive discussion of this issue see Jacques Derrida, 1982.

[3] This is regardless of whether in the end the machine is totally rejected or conditionally accepted.

[4] The intention to re-produce "life", we should note, does not exempt the re-production of "life" from the realm of dead imitation, because it is simply an intention to re-produce an original. This intention is assumed present in all dead imitations.

[5] The computer's potential for representation and fabrication is in inverse ratio: The more active the computer's fabrication, and the more forceful its intervention, the closer is the appearance to passive representation.

[6] This is regardless of whether the subject is actual or fabricated for the occasion. The merits of the subject do not bear on the representational functions of the tool.

[7] For a discussion of the impact of duplication on the economy of representation please see Jacques Derrida 1981.

[8] For a comprehensive discussion of the impact of mechanical reproduction, in general, and the camera, in particular, please see Roland Barthes, 1981 and Walter Benjamin, 1978. See also J. Hillis Miller, 1992.

[9] The computer also forgoes the traditional dependence of the pencil and similar tools of representation on the hand. It does not lend itself to the idealization that the hand readily lent itself to by simulating a direct relationship between mental images and their graphic representations. The computer's representations are at best mediated and never direct.