Pedagogical Migrations: Constructing New Worlds Through Media

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Media-supported worldwide interdependence and transient cultural waves are essential forces activating the globalization phenomenon sweeping the planet. These newly emerging conditions have consequences not only within architectural practice, but the academy as well. Schools that have always engaged themselves in international dialogue, are now increasingly immersed in the rapidly developing media arena and global information networks.

This paper proposes a theoretical and pedagogical framework that engages this situation using the metaphor of migration. Migration is about purposely moving from one world into another and thus a suitable model for learning and moving into the new global community. Such pedagogy of migration was applied in two courses taught in the context of an ongoing international program between American and Argentinean schools of architecture. Both classes, offered in Argentina and the US, used media and the cultural condition of liminality as the framework to study (1) the migration from analog to digital civilizations and (2) the relationship between film and architecture. Internationally accepted film and architectural design methods, principles and tools in addition to the increasingly shared global culture were used as the communication and ideological plateau to encourage cultural diversity and at the same time to critically establish commonality.

INTRODUCTION

A globalization process of unprecedented scale and kind in human history is rapidly sweeping across Earth. Whether in Berlin, Phoenix, Jakarta, Rio de Janeiro, or Cairo this transformation is touching and transforming every aspect of our lives. National borders are not what they used to be in the middle of 20th century. Media and economy mercilessly trespass all physical and virtual frontiers between nations, cultures and people. Efforts to stop this phenomenon are futile as numerous examples in the past ten years have demonstrated. (Tiananmen Square, the fall of communism, etc.)[1]

There are two characteristics of this globalization process worth mentioning. First, globalization demands and depends on *interdependence*. The economic and political forces driving the process necessitate business and social stability and dependability. Recent wide stock market fluctuations across the globe are good examples of interdependence (the stock market crashes of 1997 Hong Kong and 1995 Mexico). Second, globalization manifests itself through *transient cultural waves* created to fuel and guarantee the consumption cycles of the consumer driven marketplace. These two characteristics of globalization are totally dependent on the power of media to (1) support the immediate and continuous communication flows necessary to run the unfathomably complex political-economic networks and (2) create enough cultural homogeneity to assure product consumption regardless of place. Telecommunication tech-

nology is the one ultimate source and force behind contemporary global civilization. *Media is the new vehicle of power.*

This phenomenon is directly impacting today's architectural practice and education. Foreign markets are not only the fastest growing business for large and medium architecture firms in the U.S. but also the major sources of work for large offices. Similarly, American architecture schools are increasing their foreign study and cultural awareness programs and moving them into the core of the curriculum. All this is happening in synergistic conjunction with what could be arguably described as the deepest changing force striking the architectural discipline in the past five decades.[2] The digital technological mutation underway is forcing us to reconsider our paradigms of education and practice.

We might wish to disagree with the rising "new world order," which undoubtedly, many cultures might choose to do also. Nevertheless the new power structure is here to stay! Observing what is going on in the fast developing economies of Asia and South America (but also in the more mature economies of the US and Europe) suggests that the students of the new millennium are going to be faced with enormous challenges.

A PEDAGOGY OF MIGRATION

How do we in academia wish to address these challenges? Do we ignore it ... or do we attempt to establish a means by which our students can begin to face the situation? What are the concrete and ethical ramifications of failing to do this? Clearly, we need to provide our students with opportunities for acquiring the tools and mindset to engage the new global arena. There is a pedagogical and ethical need to assist our students in the global "struggle" for survival, familiarizing them in the political, professional and cultural dimensions of the rising new civilization and its technologies. We have to help them become comfortable in navigating the dialectic turmoil between two apparently colliding cultures: one that is oriented to "material," local, and traditional values (the established status quo) and the other that is geared toward media, the global, and novelty (the avant garde of the new millennium).

We have developed a *pedagogy of migration* to address these concerns. The migration metaphor becomes very useful in conceptualizing the cultural and media shifts underlying globalization. As we participate in a mass migration from a national to a global culture, from a material to a media civilization, we are also moving to a new world. Consequently, we are immigrants caught in the act of crossing borders.

A pedagogy of migration is about providing routes and directions in reaching new shores by constructing bridges. As in ordinary bridges, a pedagogy of migration first develops the areas closest to the landing and only then does it proceed to move inland. Very much

like the European colonization of America, migration unfolds from edges to centers. To migrate thus implies not only a willingness to initally be nowhere (i.e., in the no-man's land between shores) but also to be in the cultural periphery afterwards. To resolve this uncomfortable cultural and psychological condition,[3] the pedagogy of migration demands the *construction of settlements* and inroads within the new land. Construction engages the migrant beyond relatively passive traveling (i.e., guided), into the active actuality of *making* and *occupying. Construction stops migration* by anchoring the migrant in making a commitment . . . in other words, by making them *dwell*. In the act of construction, the immigrant participates with others in the very plight of the new world and in that sharing act moves from the periphery to a center. A pedagogy of migration is therefore one of guided travel and committed construction . . .

The migration metaphor proves to be a good ally in helping guide students (the future profession) as well as ourselves in the cultural transplantation. Six parallels between learning and migration facilitate the understanding and implementation of this pedagogy:

1. *Causality:* a catalyst for change is required to precipitate the migration. immigrants leave behind their homeland due to intolerable living conditions (political or religious repression; economic hardship, etc.). An optimistic ideology is often associated with such a radical move. Likewise, learning demands a recognition that existing knowledge (homeland) is not enough to secure the future (the new world).

2. *Re-contextualization:* migration means a *re-placing* of the old world by a new world without replacing the actual individual. In other words, the constant is the immigrant and the variable is the context. Of course, immigrants must undergo change themselves if they are to adapt and dwell in the new culture. So by changing contexts they seek and guarantee their own change. Teaching is the intentional act of creating artificial contexts to facilitate the transformation of students.

3. *Critique:* migration is a critical act, a commentary on the world left behind and is ultimately manifested through the construction of a new world, the actuality of making. Higher education always involves meta-cognitive abilities such as critical thinking and reflective doing.

4. *Implementation:* migration unfolds through a series of progressive interactions with a new land. This process may be said to have 4 stages: *exploration* (free probing aimed at understanding the unknown territory), *colonization* (preparation of the territory for inhabitation), *occupancy* (settlement of the new territory), and

dwelling (the territory has become familiar). This involves a tremendous personal mutation that goes from being alien to becoming native in the new world.

Here Jean Piaget's notions of *assimilation and accommodation* can be incorporated to describe what are perhaps the most politically charged concepts of 'colonization' and 'occupancy'.[4] Every time we encounter a novel situation (i.e., a new world), there is an automatic cognitive attempt at framing the event as something known (i.e., assimilation) accompanied with a parallel act of reframing due to the resistance of reality to conform with our projection (i.e., accommodation). Adaptation is the hybrid outcome of the competing forces of assimilation and accommodation. Of course, we can find assimilative forces describing historical colonization and occupation processes in which the arriving culture (often but not necessarily always European) imposed its cultural will upon another. And yet, we can also show that even in the most aggressive situations, the imposed culture had to be transformed to accommodate to the existing conditions of the culture and place being colonized.[5]

Further support to our analogical correlation between the stages of migration and those of learning can be found in John Dewey's discovery and hands-on driven learning theory (often referred to as "experimentalism"),[6] the progressive education movement,[7] and contemporary constructivist theories of knowledge,[8] etc.

5. *Residuals:* even though migration implies entering a new domain, residual elements of the original culture remain. Despite all, immigrants must ultimately refer to what they know and thus end up re-constructing, albeit critically, aspects of their previous culture within their new world. Migration cannot avoid importation, memory, the past . . . Learning is a process of construction in which previous cognitive, motor and affective layers are built upon, thus undergoing transformation but nonetheless retaining their fundamental assumptions. This resiliency of early models or paradigms eventually comes to an end but it takes time and incontrovertible evidence.[9]

6. *Community:* migration success depends on immigrants' ability for collaboration and the maximization of their particular strengths as individuals. The larger the pool of diverse expertise and the higher the social cohesion in the migrant group the larger their likelihood for survival. Similarly, successful learning environments engage students in a partnership that encourages individual differentiation and freedom while strengthening community growth. Strong pedagogies advocate interpretive differences,
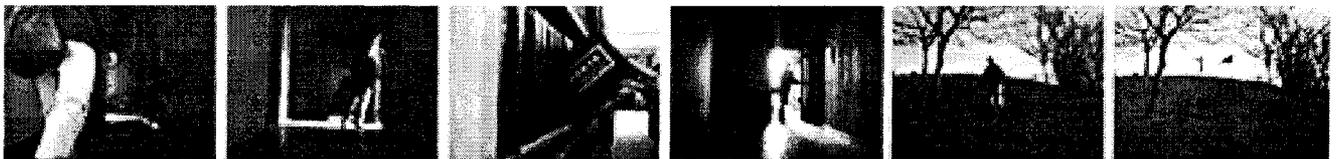
Fig. 1. Students from one culture (Argentina) anchor themselves within another (the U.S.). A series of doors (universal metaphors) and their contents, are utilized in both the picture novel and the spatial narrative to define their psychological (virtual) and physical (analog/real) states. They also rely on residual memory, cinematic genres, temporality, and architectural tectonics for anchoring their own ideologies within another culture. Students: Karina Artoni, Santiago Lejtman & Alfredo Nogueras

Fig. 2. Media Migratory Implementation (top to bottom). Analog sketch model is made and later video-taped. One image is selected, digitally captured and manipulated to attain a "first design interpretation'. Manual sketching distilling main architectural qualities follows. A final "synthesis image" convining analog and digital media allows students to dwell in a tectonic hybrid. Students: Rodolfo Castello & Andrea De Monte (Arqs.) (Design Studio in Argentina)

shared communal projects, and high levels of communication to mediate the two. Constructing a new world is essentially a social act illuminated and enhanced by individuality. Finally, the social interactions demanded by migration often transcend a particular group or class of individuals. "New" Worlds (whether Africa, America, or lately media) are always places where different kinds of people and cultures come together that must learn to coexist in reasonable peace. Likewise, the learning environment ought to encourage social conviviality.

The migration metaphor is very useful in describing the exploration, colonization and occupation of the new territories created by contemporary media technologies. There are natural parallels between the phenomenon of cultural and media migrations. Migration means to transfer values, customs, etc. from one culture to another. But that transfer necessitates a whole new set of rules, ways to accommodate the old world into the new world. There is an obvious analogy between that and drawing from reality into media that again necessitates adaptation — new ways of adjusting to, fitting within the framework of a particular medium. Given that media is the major broker of globalization and its concrete political, economic and social forces, we utilize the migration from reality to virtuality (i.e., media worlds) as our context within which cultural issues are examined. Learning how to migrate to new media environments is a survival skill in the rising global civilization.

APPLICATION TO STUDIOS

We developed and applied this pedagogy of migration in two courses taught in the context of an ongoing international program of academic exchange between American and Argentinean schools of architecture. Both classes, a *digitally-based design studio and a film studio*, were offered in Argentina and the US thus providing a good opportunity for looking at how cultural commonalty and difference impacted pedagogy and subject matter. In the US, the studios were attended by a few exchange Argentinean students within the context of the American culture. This situation was reversed in Argentina when the studios were taught by one American professor within the context of the Argentinean culture.

Not surprising, implementing the pedagogy of migration in our two studios created several commonalties between the classes. These commonalties served as a common language that transcended not only the geographic differences but cultural and linguistic barriers as well.

The *first* of these commonalities *defines media as the new world where the students are migrating to, propelled by the forces of globalization.* Whereas one studio immerses itself in the medium of film to explore the cultural aspects of globalization, the other studio uses the interaction between digital and analog media. Within film the notion of the original transformed through technology (mechanical reproduction) suggests questioning the role of the "aura" of the real and the limitations yet power of the mediatized. This of course is an extension of Walter Benjamin's inquiries, in particular his essay "The Work of Art in the Age of Mechanical Reproduction."[10] Within the design studio, a similar inquiry takes place. The focus is in how to negotiate the change-resisting yet unrepresentable rich qualities of the analog (i.e., the "aura" of the real) and the highly plastic yet sensory poor qualities of the digital. The studios use the lens of media (the camera, the computer) as vehicles to address,

study, and advance contemporary cultural and architectural discourses. In both classes, the migration efforts are channeled through an emphasis on the *poetics of representation* and not media technicalities.

A *second commonality* is to establish a *theoretical foundation*. The language commonality allowed by widely (i.e., internationally) accepted film and architectural design methods, principles and tools in addition to the increasingly shared global culture create the communication and ideological plateau to encourage cultural diversity and at the same time to critically establish commonality. This is a necessary logistic and philosophical decision. The classes have people (faculty and students) and contexts with very different cultures, languages and agendas (Argentina and the United States). This demands some mechanism that guarantees social interaction and cohesion while at the same time permits the free expression of diversity. The fact that the classes require interdisciplinary dialogues (e.g., between film and architecture) also add to this pressure for common grounds. The theoretical foundation thus works as a pedagogical "constitution" that ensures a necessary common ground for social coexistence while granting freedom of choice.

Paradoxically, this very representation foundation that serves as a cross-cultural territory also makes it impossible to reach ultimate consensus. The appropriation, manipulation and communication of cultural phenomena that film and digital media allow also separates us from the immediacy of things and encourages infinite interpretations thus preventing us from ever reaching agreement (e.g., grasping and communicating the "aura"). Ultimately we are thus confronted with representation as an interpretive lens striving for a kind of authenticity, or, by contrast, a kind of veil that while allowing for reflection, also might obscure reality.[11]

Occupancy of any culture by a migrating body necessitates the making of new environments if only, in the case of geographical migrations, for survival. Similarly, the rapidly emerging virtual worlds that media technologies are creating (e.g., digital space, the internet) require cultural constructions that permit the economic, social and professional "survival" of the global citizen. The *third commonality*, therefore, is based on *tectonics — the actual making of an artifact*, whether within the corporeal, real world, as architecture traditionally has done, or the virtual one that resides within both the computer and film. In either case, the purpose of the pedagogy is to establish an initial intentional migration from reality to virtuality that then returns to reality transformed by the experiences. In this context, *making* is the ultimate expression of a pedagogy of migration because it requires the student's strongest commitment: they have to engage the new world not just with their intellect but more importantly with their bodies. Making demands becoming "personal" with that which one constructs. It is just impossible to remain apathetic when one's full body is engaged in the tectonics of making. This brings us to agree with Frampton that a committed act of making allows for a deep understanding of cultural meanings.[12]

The design studio approaches making as the result of continuous migrations between two realms: the analog and the digital. The ultimate trust during media migrations is placed (literally) in the making, in what the immigrant ultimately makes. Precedents (e.g., direct assemblages of images, typologies, programs, etc.) are thus replaced by sources based on a "doing-driven" process — a phenomenological methodology that heavily uses the *"Da Vinci" device* as a tool for free interpretation. The architectural idea, therefore, is

Fig. 3. The authenticity of an original is explored through Walter Benjamin's notion of the "aura". What appears to be a poetically powerful, ritualized event (cosmological) is reduced to that of a consumable artifact (a commodification of the thing itself). Students: Jesse Hulse & Alfredo Nogueras.
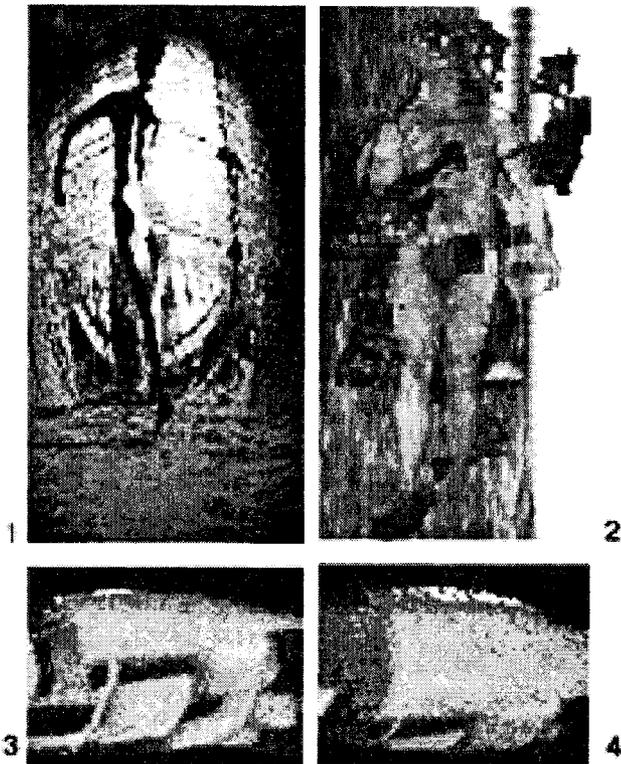
Fig. 4. The projects "Dancer Folding Space" (1), "Aural Cyborg" (2) and "Media-Tattooed Arm" (3 and 4) investigate hybrid conditions resulting from seeking to establish an emotional and conceptual bridge between material and media worlds through the human body. Students: Tae Chun (1). Jeff Farnum, Tom Thorum & Steve Wunderlich (2). Santiago Lejtman, Eric Tuomy & Erin Youngberg (3 and 4).

seized in the act of creative making, or better said, in *playing*. The amazing power of playing in the learning process has been known in education for quite a long time.[13] In our pedagogy of migration playing is the essential force to start the effort. Playing always begins as a free exploration of the new territory's conditions. It then progresses to more commitment by elaborating rules that increasingly assure the reality of the game, thus moving to occupancy.

In the film studio the act of making acquires several attributes. These involve utilizing the "reality" of place and creating an action — a narrative that follows either traditional constructs of time and space, or else spatial narratives[14] that suspend these traditions. Furthermore they are based on the notion of "genre" — the cinematic equivalent of typology in architecture. What gives the iterations particular power, however, involves the students' abilities to transcend and question these genres and traditional/spatial narratives through the creation of hybrids. This is brought about again through the act of *playing*. Based on the particular topics being discussed (i.e., genre, narrativity, ideologies, etc.) students begin by simply filming the real world around them. These *cinéma verité*[15] experiments later lead to transformational (virtual) iterations, particularly as they pertain to the spatial narrative explorations. The suspension of time/space referents suggest a contrast between the real, phenomenological vs. the more abstract stream of consciousness attributes of making.

Anchoring is the *fourth commonality* between the two studios. Not surprising, here appears again the essential human reference and dependence on the body. It is the corporeal immersion that demands foreign students/faculty to culturally adapt to their new migratory condition while providing a remarkable grounding effect. It permits individuals to counterbalance not only the instability of their new occupancy (e.g., Argentineans in the US) but also, and now related

to the courses, the transiencies of film and the virtual world of the computer. The resulting works suggest subtle overlays of one set of cultural values upon another, coupled with their experimentations with "real" environments being re-presented *vis-a-vis* film (the "virtual" environment) as well as within the analog/digital media dialogue (a hybrid environment).

The simple fact of having to fully, bodily immerse in a foreign culture to start the migration process also demonstrates the limitations of contemporary tele-communication technologies. This is particularly relevant because the students and instructors involved in the international exchange are quite conversant with those technologies. It appears that actual presence remains the ultimate way to occupy a new land by permitting a direct and personal relationship to the surroundings. Both studios make a point in bringing these realizations into the foreground at the time of learning (i.e., migrating to) the new media. Such discussions and analogies clearly help everyone involved in the migration process, be it to an actual country (as in the case of the American faculty in Argentina) or to a new virtual world (as in the case of all the students).

In short, it is apparent in both studios that students can freely and openly deal with the cultural transiency of globalization and the fluidity of the media but only by *anchoring* themselves to the reality of their own bodies through social interaction and the notion of place. Our pedagogy of migration in media studies thus goes full circle: students migrate from materiality and the body to the new world of media and disembodiment only to *re-turn* to the body.[16]

The *fifth commonality* between the two studios is *the use of criticism*. Migration, as argued, is inevitably a critical act — a critique. From an architectural perspective, critical architecture is a kind of mediation between architecture as an instrument of culture and architecture as autonomous form.[17] In other words it resists operations of a dominant culture, but it is also not reducible to purely formal structures disengaged from place and time. In this context, the studios use media to reflect and reconsider (1) the existing cultural and professional implications of globalization (the message. content) and (2) the nature and power of representation itself (the medium). So, for example, when students are asked to a create a film they are really asked to reflect on what they are doing as subject matter and as media artifact. Their migration turns into a critique. Likewise in moving between digital and analog media students are expected to appropriately use each media as it meets the necessities of the occasion. The medium is *not* just the message.[18] The media *and* the message are to be critically considered by the emigrants to the new global world.

More precisely, the design studio questions conditions of "authority" by asking the students to migrate between media without carrying unnecessary baggage. This means to reject historical pressures on the basis that new ways of ideation are required to support our cultural migration to the new media civilization. Students are to use instead criticism to review and select their spontaneous acts of making. Critical awareness also extends to the selection and thus the movement to the appropriate media (analog or digital) for responding to the situation at hand.[19] In the film studio, criticism is approached as a series of acts aimed at mediating between the new and old worlds. Students are asked to engage in a dual occupancy of territories that necessitate "bridging." This bridging involves more a "liminal" state of betweenness than a moving back and forth between the two conditions (as in the design studio). This "gray" state (neither black nor white) relates to being between shores during the migratory journey and is very successful at developing critical observation.

A concluding *sixth commonality* emerges from the notion of the *residual*. Emigrants leave behind a world, but also bring with them certain residual attributes of the old cultures. From such previous cultural arrangements, including those involving architectural typologies (the house is one obvious example) entirely new cultural constructs are developed. This might also be said of technologies as

they move from one generation to another. Indeed, migration occurs at several levels. Previous technologies, for example, have had residuals that were deemed necessary in order to carry culture into new, unknown territories.[20]

Within the film studio it becomes apparent that residual elements appear — notably, at first in the more literal, "realistic" depictions of things observed. These reinforce Kracauer's "realist" notion of film.[21] On the other hand, some of the students also experiment with very abstract aspects of an idea based on "feedback" mechanisms — part of a new technological landscape, overlaid, in part, with residues of collage from modernist ideologies. What becomes obvious in the final works, however, is the overlay of cultural residual elements (e.g., memory, language — bodily, primarily, and points of view) that both distinguish but also bond the two cultural groups (Argentina and U.S.) together.

In the design studio these appearances are perhaps less visible. The digital world suggests a kind of leveling attribute: an homogenizing thrust — much like earlier technologies (i.e., the automobile, the telephone, television, and now the computer). The studio's emphasis on establishing intense migrations between the analog and the digital often result in true hybrids that are quite difficult to relate back to their "genetic" parents. (See work in Argentina).

The work of the studios also shows that contemporary migration residuals come out of the dilemmas intrinsic to today's globalization forces. Students have to negotiate between two polarities: (1) the *universalization* attributes of globalization with its transient, hybridization and homogenization drives, and (2) the *particular notions of place and culture* trying to affirm presence, individuality and heterogeneity. The results necessarily bear memory of the struggle. Residuals are acknowledgments of the broad cultural challenge before us. In this regard we are reminded of Paul Ricoeur's commentary: [22]

> ... it is a fact: every culture cannot sustain and absorb the shock of modern civilization. There is the paradox: how to become modern and to return to sources; how to revive an old, dormant civilization and take part in universal civilization ...

Thus what begins with generically based premises and theories, and is transformed through critical making emerges *vis-a-vis* residualness in a new set of occupancies. These occupancies involve not only geography, culture and interdisciplinary studies, but habi-
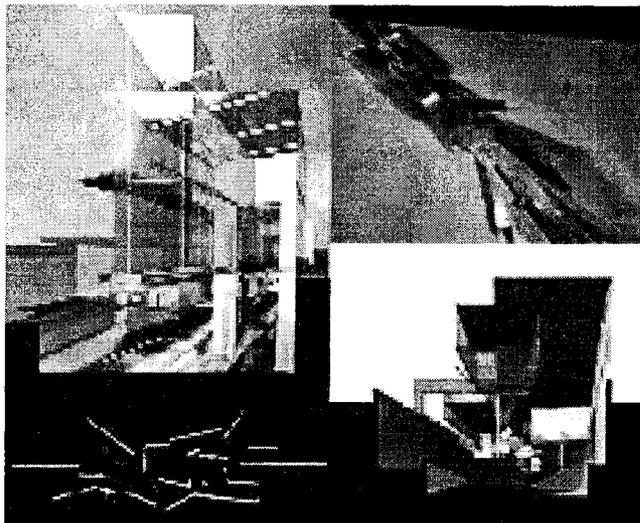

Fig.5: New University International Center. Responding to real (on campus) and virtual (off-campus, on-line) communities demands totally new institutional and architectural paradigms. The proposal critiques existing tectonic, compositional, contextual and technological models through a hybrid condition. Students: Jeff Farnum, Tom Thorum & Steve Wunderlich.

tation in new worlds that co-inhabit the real and the virtual. This in turn also raises an entirely new set of questions regarding residualness. What resides and what continues?

CONCLUSIONS

Developing a pedagogy of migration requires a reflective practice of education.[23] Instructors must be critical yet fully engaged actors in the difficult but rewarding job of guiding the migrating students into the new world of tomorrow. To do this, teachers must be experienced immigrants themselves. They must have traveled and explored the new world and returned to find and lead committed emigrants to the colonization and occupation of that new world. To succeed, given the complexity and novelty of the new territory, the teacher must turn the emigrants into self-conscious, independent agents as soon as possible. This requires to develop *reflective practitioners*[24] that can adapt and thrive in a global world continuously shaken by unprecedented migratory waves.

A pedagogy of migration places the students in a space of betweenness — be it between the real and the virtual world as in the case of the film studio, between the material and digital civilizations as in the case of the design studio, or any other kind of liminal condition. Hence we are brought back to Heidegger's bridge. The bridge by its very presence acknowledges *separations* of the geographical as well as technological embankments. It also, however, acknowledges the *connections* that engage both shores. A pedagogy of migration is not just a one way educational crossing. For the stability of the established link —the bridge, allows and encourages interactions between homeland and the new country — a dynamic and continuous dialectic movement, a *relationship* ... This *relationship* is about boundary, threshold and habitation. As Norberg-Schulz notes: [25]

> In a building the threshold separates and simultaneously unites an outside and an inside, that is, what is alien and what is habitual. It is a gathering middle where an outlook on the world is opened up and set back on earth.

Perhaps the occupancy of these new worlds, the realm of thresholds and bridges — the pedagogy of migration, still requires our ability to sustain a kind of middle ground — the liminal territory that prevents us from moving exclusively into either terrain.

NOTES

[1] The globalization phenomenon is now an incontrovertible fact. Works spanning the last 20+ years provide ample evidence to support this claim. For example, see D. Bell, *The Coming of Post-Industrial Society* (New York: Basic Books, 1973). Peter Drucker, *The Age of Discontinuity. Guidelines to our Changing Society* (New Brunswick: Transaction Publishers, 1992). P. Kennedy, *Preparing for the Twenty-First Century* (New York: Random House, 1993). J. Naisbitt & P. Aburdene, *Megatrends 2000* (New York: William Morrow & Company, 1990). Alvin Toffler, *PowerShift. Knowledge, Wealth and Violence at the End of the 20st Century* (New York: Bantam Books, 1990). Alvin Toffler, *The Third Wave* (New York: Bantam Books, 1980).

[2] Michael Benedikt, *Cyberspace. First Steps* (Cambridge, MA: The MIT Press, 1991). William Mitchell, *City of Bits. Space, Place, and the Infobahn* (Cambridge, MA: The MIT Press, 1995). Nicholas Negroponte, *Being Digital* (New York: Alfred A. Knopf, 1995).

[3] Migration means an existentially unstable "crossing", a "bridging" in the Heideggerian sense, that is a moving from an anchored edge (old culture) to a new, full of potential but at the same time de-stabilizing/disorienting position. Martin Heidegger, *Poetry, Language, Thought* (Harper & Row Publishers, New York, 1971), p.152.

[4] See for example, R.M. Beard, *An Outline of Piaget's Developmental Psychology for Students and Teachers.* (New York: Basic Books Inc. Publishers, 1969). H. Gruber & J.J. Vonèche (eds.): *The Essential Piaget.* (New York: Basic Books Inc. Publishers, 1977). Jean Piaget, *The Principles of Genetic Epistemology* (London: Routledge and Kegan Paul, 1972). Jean Piaget, *Psychology and Epistemology* (New York: Grossman Publishers, 1971).

5 A number of cultural hybrids accross Latin America are an example of this phenomenon. For example, the term "criollo" in South America is used to refer to natives born of European and Indian parents. Likewise, the word "meztizo" is used to name individuals born of European and Black lineages. It is relevant to note that these hybrid people are often responsible for creating the most interesting cultural phenomena.

6 John Dewey, *Democracy & Education* (New York: The Macmillan Co. 1916, 1966 reprint), and also *Experience and Education* (New York: The Macmillan Co. 1938).

7 A. Cremin, *The Transformation of the School, Progressivism in American Education (1876-1957)* (New York: Alfred A. Knopf Inc, 1961). V.C. Morris & Y. Pa, *Philosophy and the American School* (Boston, MA: Houghton Mifflin Company, 1976).

8 R.J. Henle, *Theory of Knowledge* (Chicago: Loyola University Press, 1983). Richard Glaser, "Education and Thinking. The Role of Knowledge," *American Psychologist* (1984)vol.39, No.2, pp.93-104. G.E.Hinton, "How Neural Networks Learn from Experience," *Scientific American* (Sept 1992) vol.267, No.3, pp.145-151. D.H. Jonassen, "Objectivism Versus Constructivism: Do We Need a New Philosophical Paradigm?" *Educational Technology Research & Development* (1992) Vol.39, No.3, pp.5-14. K. Kaplan & S. Kaplan, *Cognition and Environment* (New York: Praegger Publishers, 1982.

9 On this, refer to Thomas Kuhn as most learning theories refering to this issue are developments of his seminal work: *The Structure Of Scientific Revolutions* (Chicago, IL: The University of Chicago Press, 1970)

10 Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," in *Illuminations*, New York (1969): pp.217-251. For Benjamin "the presence of the original is the prerequisite to the concept of authenticity." He proceeds to inform us that art was originally about serving as a cultic thing that acquired through its own uniqueness a certain "aura." With the emergence of reproduction, emancipated from that "parasitical dependence on ritual" , "it (art) begins to be based on another practice -politics."

11 The Editors, "Postscript," in *Via: Re-presentation* (1988).

12 Kenneth Frampton, *Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture* (edited by John Cava) (Cambridge, MA: MIT Press, 1995).

13 See for example the pionnering works of John Dewey, *Experience and Education* (New York: Macmillan, 1938); and Johan Huizinga, *Homo Ludens; A Study of the Play-element in Culture*. (New York: Roy, 1950).

14 David Michelsen, "Types of Spatial Structure in Narrative," in J. Smitten and Ann Daghistany, eds., *Spatial Structure in Narrative* (Ithaca: Cornell, 1981). In his essay Michelsen describes the suspension of traditional space/time references in narrative literature in favor of what the writer Robbe-Grillet saw in (the film director) " Resnais' work as an attempt to construct a purely mental space and time — those of dreams, perhaps, or

of memory, those of any affective life — without worrying too much about the traditional relations of cause and effect, or about an absolute time sequence in the narrative."

15 "Literally, 'cinema truth': originally used to describe a particular kind of cinema... now used to refer more casually to any documentary technique," in David A. Cook, *A History of Narrative Film* (New York: W.W. Norton, 1981).

16 For arguments demonstrating the impossibility and imprudence of abandoning the body in even the most virtual circumstances, refer to Julio Bermudez and Robert Hermanson, "Virtuality After Tectonics, Returning to the Body" in *Proceedings of the 1996 ACSA International Conference: Constructions of Tectonics for the Postindustrial World* (Washington: ACSA Press, 1997), pp.66-71.

17 Michael Hays discusses this at length in his essay "Critical Architecture: Between Culture and Form," *Perspecta*, No. 21 (1984): pp 14-29.

18 This obviously challenges the claim made by Marshall McLuhan, *Understanding Media* (Cambridge, Mass: MIT Press, 1964).

19 For further discussion regarding the media migration criteria, refer to Julio Bermudez, "Inquiring Between Digital & Analog Media: Towards an Interfacial Praxis of Architecture" in *Proceedings of the 85th Annual Meeting of the ACSA; Architecture, Material & Imagined* (Washington: ACSA Press, 1997), pp.520-523.

20 Filmic images, for example, were initially borrowed from vaudeville theatre. The camera remained stationary as the actors and actresses moved to and fro in front of the camera. Only later did the medium discover, through D.W. Griffith, Sergei Eisenstein, Orson Welles and others the true nature and power of the medium. Radio was initially a form of narrative literature through its weekly fiction story series. (Woody Allen nostalgically suggested this in his film "Radio Days.") Television retained, for a time, the narrativity of radio. Today the computer still utilizes images and structures borrowed from the analog world (e.g., CAD systems mimicking manual drafting).

21 Kracauer places emphasis on the recording nature of photography and film. If there is art it is the artful rendering of physical reality. See Siegfried Kracauer, "A Realist Theory of Film" in *The Philosophy of the Visual Arts* (New York, Oxford Press, 1992), pp. 306-318.

22 Paul Ricouer, "Universalization and National Cultures," in *History and Truth* (Evanston, IL: Northwestern University Press, 1961), pp. 276-283.

23 Donald Schön, *The Reflective Practitioner* (New York: Basic Books, 1983) and also *Educating the Reflective Practitioner* (San Francisco, CA: Jossey-Bass Publishers, 1987).

24 Donald Schön, ibid.

25 Christian Norberg-Schulz, "Heidegger's Thinking on Architecture" in *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory: 1965-1995* (New York: Princeton Architectural Press, 1996), pp. 430-439.