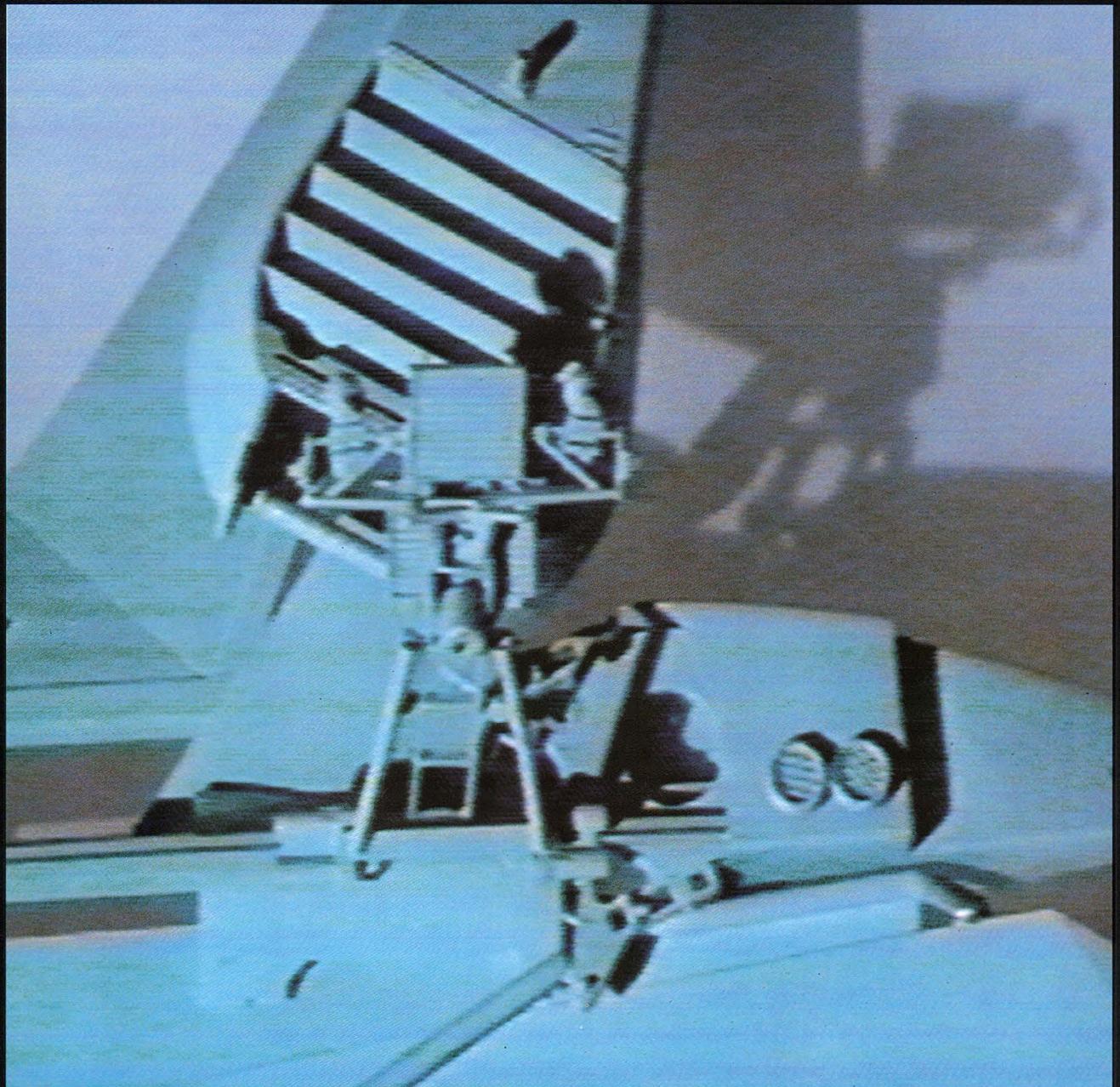


Arguments for Paralogical Geometries

Neil M. Denari

1.0 NO GROUND

The systematic dismantling of palpable form by the electronic emissions of the wired domain known as **THE (FIRST) WORLD** has placed Architecture in a new referential field of geometrical relations where observation is not controlled or delineated by direct experience. Such a removal of the fleshy centrism of human relations from a particular place has resurrected, perhaps unwantingly, the need to reevaluate the heretofore eclipsed Kantian view of *geometry as independent of experience*. **Without the consideration of the placefulness of experience, geometry is set free to describe conditions which are bound less by the GROUND and more by the frequencies of global trajectories.** While this could be seen as a deprivation of traditional Architectural referencing systems, it is the narcotic of the NOW however, the mysterious substance generated by technological production, that exists in order to reorient ourselves against the collapsing, multi-scaled world of everyday experiences. This is the territory of events and Space-objects which float in the continuous ether of experience. They are organized ostensibly by the metrical components of building (Architectural Programs, streets, automobile interiors), on the one hand, and on the other, by all other *paraoptic or para-psychological* constructs manifested through the filters of electronic production. The reasonable concerns of sense-data (conventionally understood as knowing one's location or interacting with the sensual qualities of sunlight on a surface, etc.)



can be considered to have been warped by this loss of precise contextual and formal relation thus necessitating the introduction of a new value system for what constitutes experience.

The language of technical space is indeed Architectural (and therefore Physical) in that it is rendered distinct by the envelopes of mechano-electric systems, and further, that it sits in a gravitational field. Architecture, however, in the context of infographical systems, is not merely a gravitational object superimposed on an "inertial system" and its coordinative definition; it is now, rather, an artifact residing in a regional field where it is not precisely located by such a beginning point of reference. **Substantially related to frequencies vibrating far beyond a ground/site, the skins and spaces of buildings must be inscribed with the (technical) ability to project or receive dislocated experiences.**

To invoke Kant here and to reopen what non-Euclidean geometry (Relativity) closed down may be somewhat absurd. Nonetheless, the transposing of the *a priori* of space to the context of the contemporary phenomena of dislocated experiences (television, etc.) may explain the characteristics and the apprehension of events and spaces which occur in the technological landscape. According to Kant, "space is not an empirical concept which has been derived from external experience. Therefore, the representation of space cannot be borrowed through experience

from relations of external phenomena; but, on the contrary, this external experience becomes possible only by means of the representation of space." What exists before experience is a geometry of unseen co-ordination, an assembly of the latent conditions of the possibility of phenomena (from communications to earthquakes). If the intuition of space, Kant explains, were a proposition derived from empirical data, then the basic precepts of mathematical definitions would be merely a set of accidental perceptions. The representation of Architectural Space, then, is inevitably constructed in this framework: that the space itself, not its relation to the particular place (topos) it exists in (site), carries the geometry of direct experience (building envelopes) through the linking of technologically determined space-time machines (computers, fiber optic networks, environmental control systems, etc.). Since geometry and its intuition must be *a priori*, Kant determines that it must be within us before any perception of the object. So the new geometrical field must be sensed and perhaps understood as the intense contemporary condition of future building activity.

2.0 SPACE TYPES

If architecture is the **INELUCTABLE OBJECT** par excellence, then its existence hinges on the proof that geometry is capable of describing and locating the self evident aspects of experience as motivated by a culture which desires this object of building. But, as culture is now a

wandering network of global connections contaminated through but guided by science, the **PHYSICAL SPACE** of Architecture is related now, and inextricably so, to the idea of **MATHEMATICAL SPACE**. What has developed by this technological exegesis of the advanced world, where Architecture (as object) resides at the periphery of progress, is a two-fold nature of space whereby geometry must press beyond the axioms of measuring physical space to a system which might be capable of reifying what Hans Reichenbach has called **POSSIBLE SPACES**. They are the regions of non-Euclidean geometry which mathematics reveals and physics correlates to physical space. Mathematics essentially intervenes as a language and formal identifier. **Apart from the context of actual (physical) forces, Reichenbach explains that the "geometrical form of a body is no absolute datum of experience, but depends on a preceding coordinative definition."** (This could either be an intuition of electronic geometry as *a priori*, a Kantian definition, or a particular metrical measuring system for example). So, while the space-time coordinate systems of Euclidean geometry (x,y and z directives) may originate from some cruciform of zeroness, it is not conceptually possible to locate any object in relation to nothing (zero). This does not, however, preclude the use of some form of Euclidean geometry, as it will be stated later, so long as it is deployed against a measuring system which speaks more of infinities than origins.

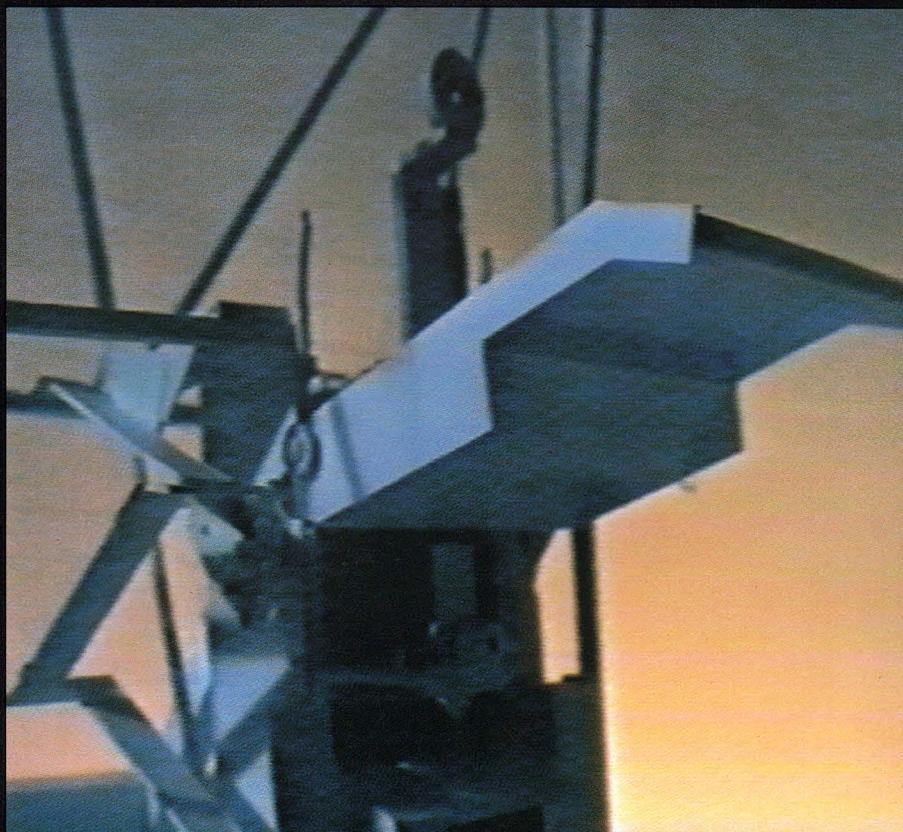
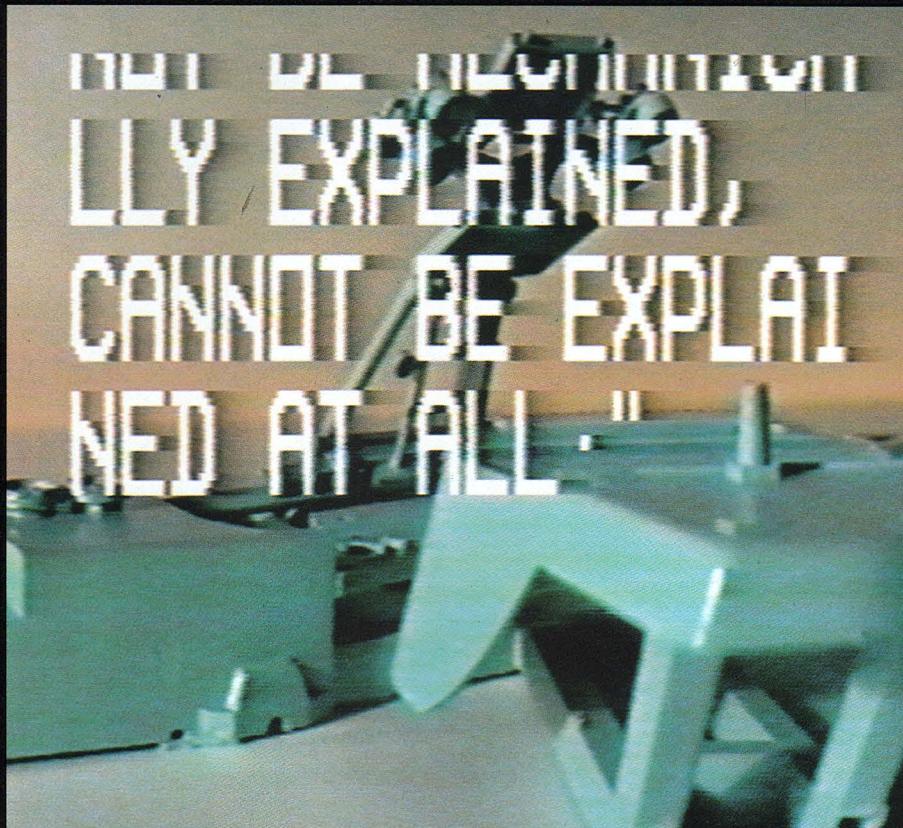
2.1 BOUNDARY AND DURATION

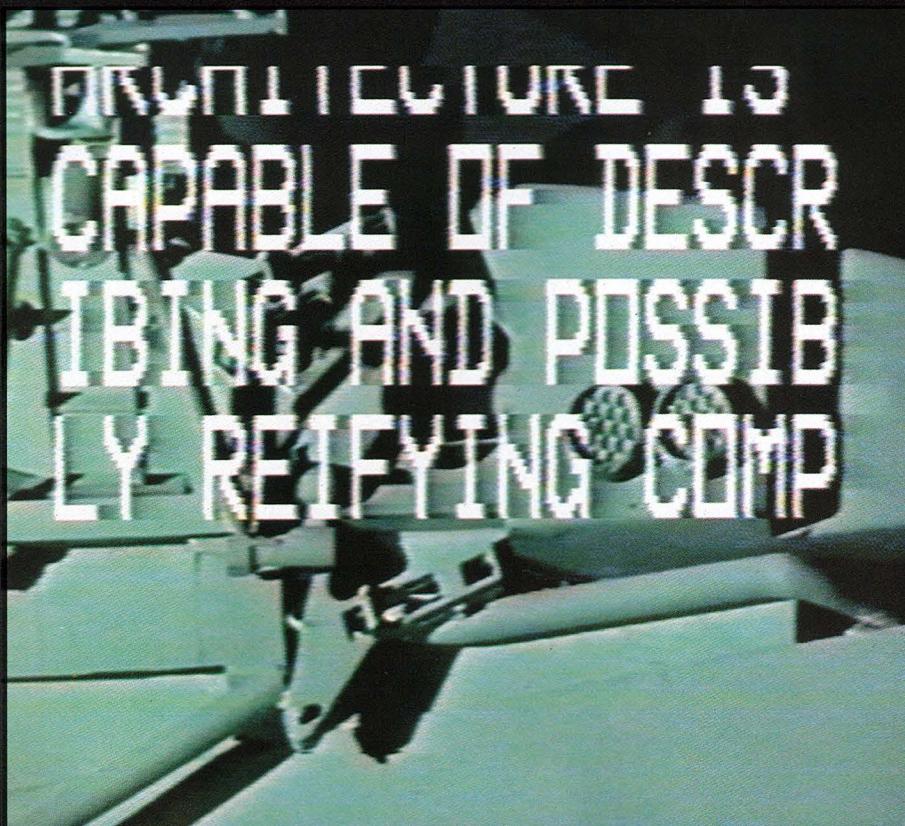
The proposition of "intuition as method" offered by Bergson, presumes a degree of duration as *psychological experience*. What contemporary French philosophy tells us about the zones of physico-mathematical technologies was described earlier by Bergson as the space of duration consisting of the dual entities of continuity and heterogeneity or duration as a precondition of experience. How close this concept converges toward the Kantian *a priori* regarding intuition and geometry depends on one's understanding of the constant flux of materials and energies in the late twentieth century. Moreover, through Riemann, Bergson reasoned that duration existed in two types of multiples of rhythm: "discrete and continuous multiplicities." Amongst a plurality of changing tensions, distortions and inconsistencies in the world, psychological duration is but one process of the elapsing of time as event. To exist in the world, Bergson might say, is to live and think intuitively in a stream of parallel and non-parallel discourses which impact our personal trajectories. **The criss-crossing, or interfacing (CON-FRONTATION), of these varying-velocity world streaks by Architecture causes duration to intersect at some point(s) with the concept of BOUNDARY, or spatial limit: this is the three-dimensional Riemannian manifold of space.** Though Heisenberg developed the *concept of potentiality* in relation to the ultimately unpredictable nature of matter, it is a similar, though different, version of this **POTENTIA** which drives our techno-scientific culture.

3.0 LIGHT GEOMETRY

At present, the idea of possible space and its connection, in a manifold sense, to the realm of physical space, occurs in the form of what Reichenbach refers to as **LIGHT GEOMETRY**. Without the use of rigid bodies (buildings), light-signals, or wave/particle transmissions, alone describe the metrical envelope of any 4-D, space-time continuum. But, when dimensionally made tangible by the introduction of Architecture, the collaboration of this two-fold nature of space succeeds only if the *buildingform* itself is constructed as much as possible by the material and structure of light geometry. As light signals occur completely within the context of time, matter and transmission must be brought to an apparent level of recognition through an Architectural Strategy: **speedoptics**.

Speedoptics may be considered as a form of intuition which binds the intellectual and optical of seeing ("intueri," the latin derivative of intuition, means "to look at"). However, even in a building which can trap and process light signals in physical space, how is it possible to see what is essentially not visible? (The masterful play of light and shadow must now include the control of spectral emissions of light from technological sources.) In this context, the speculation here is that the **boundary** of space is attached to seeing and the **duration** (speed) of light geometry is attached to the intellectual understanding of a concept which is not wholly realizable at the level of construction. This difficult and somewhat schismatic reasoning is projected at the zone of difference defined by the empirical world of how things really are and the phenomenal world of how things seem to be. In traditional scientific terms, this dilemma demands a solution, but now, the cult of Architectural Space makes its way in the uncertain world precisely because this dilemma is (at present) unresolvable. The idea of progress-through-technology is the conduit of least resistance in the path leading towards dwelling in the perverse pleasure of this persistent problem.





3.1 PRACTICAL MEASUREMENTS IN SPACE

Unobservable entities of such as the curvature of space and electromagnetic waves are impossibly described by AXIOM OR LAW; therefore, the possibility of visualizing such entities is completely theoretical and, moreover, symbolic. Housed in the conflict of boundary and duration, technology changes from certainty of form (structure in relation to gravity, for instance) to the THEORY OF ITS MEANING, not intrinsically, but extrinsically related to the representation of such phenomena: this is technology as a language of appropriated knowledge brought to bear on the object of speculative desires.

4.0 EUCLIDEAN & NON-EUCLIDEAN GEOMETRY

When concerning the problem of geometry, the harsh light of the everyday world illuminates the idea of the visual *a priori*: that Euclidean geometry best idealizes the concept of space as an independent entity, as physical space apart from experience. This is a mathematical/cultural notion which physics has deployed to gain the simplest, most elegant visualization of the world around us. It is because deviations from Euclidean geometry can only be depicted in astronomical dimensions that such a geometrical system persists. As this evokes an apparent and therefore obvious limit to the visualization, there is built into Architectural Objects an inherent imitative property, an unreality of language: a building can do no more than clone the forms of abstract scientific concepts; but in so doing, it might elucidate, in a finite bounded object, the desire to transgress Architectural knowledge.

According to Kant, it is a kind of visual self-evidence which compels us to make parallel lines (Euclidean plane geometry); it seems to be an innate property of the human mind. Reichenbach disproves this proposition as essentially illogical in that the construction of non-Euclidean geometries does not lead to contradictions. **At this moment, the PARALOGICAL emerges, unwittingly, as a culturally and optically distorted system of production which encloses the reality of possible**

spaces. No totalizing logic (or WELTAN-SCHAUUNG perhaps) is possible in the face of global discontinuity and its lack of a precise coordinative definition. Inherently, physics-and further, Architecture, is not ultimately concerned with *which geometry* is simplest or easiest to visualize. These disciplines may tend, rather, to centralize the dilemma of the relativity of geometry or how it can be measured through a simple coordinative definition. Technology has given us, however, a highly complicated reference system which makes the metrical relations in the Riemannian 3-D manifold difficult to understand, thereby producing a need to map upon one another all three kinds of language/geometries discussed herewith:

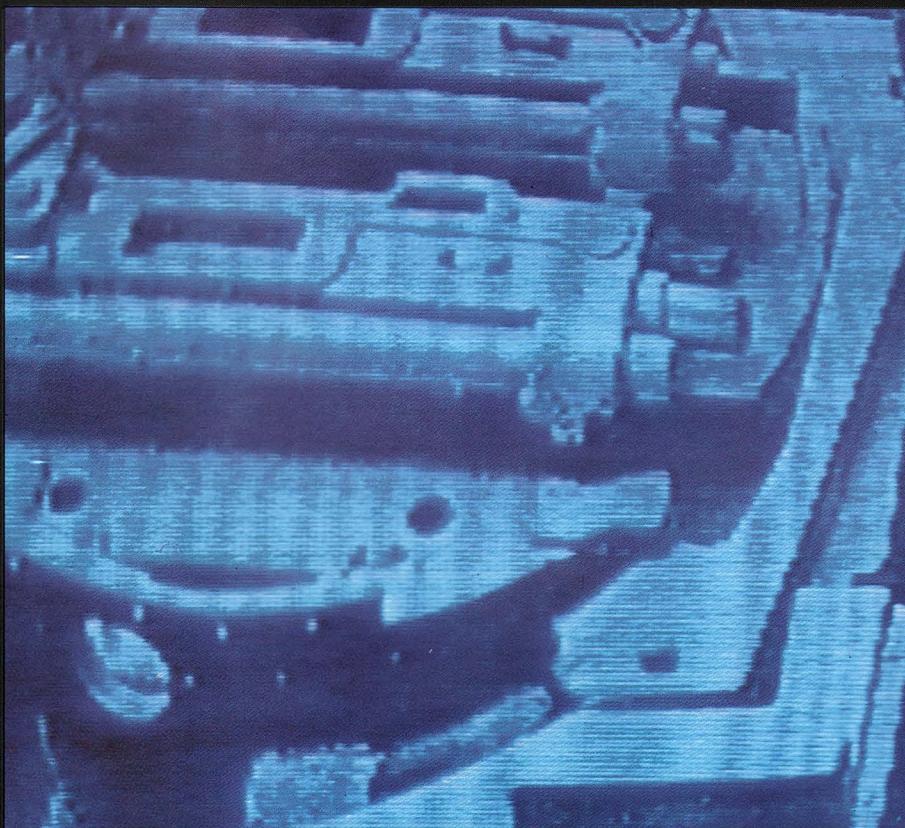
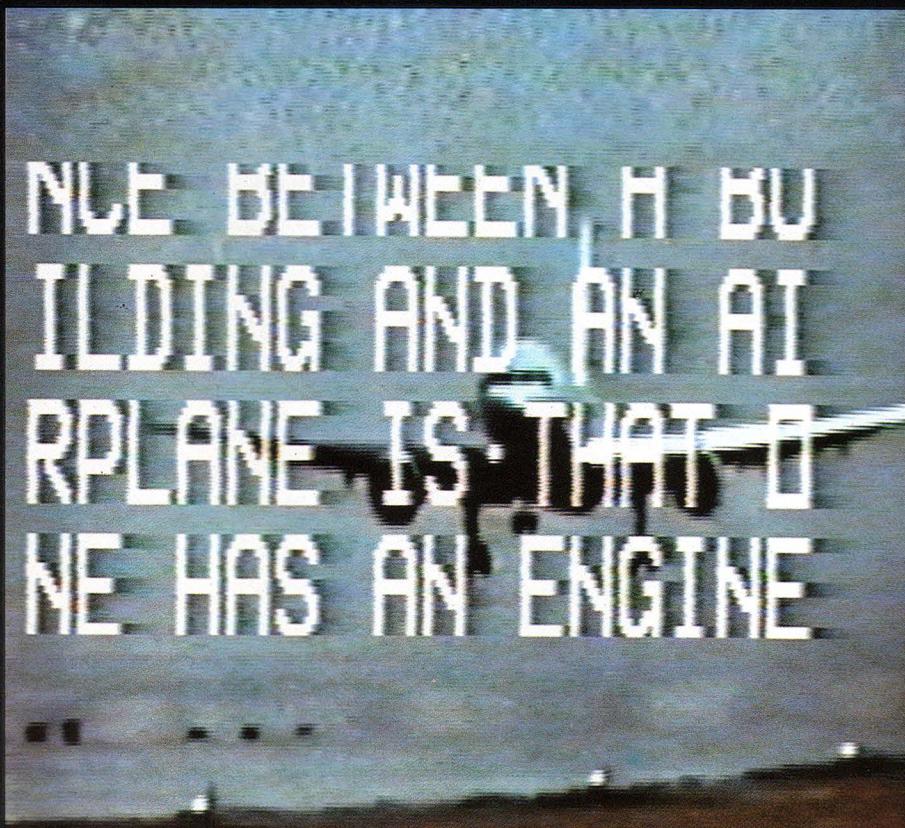
Euclidean

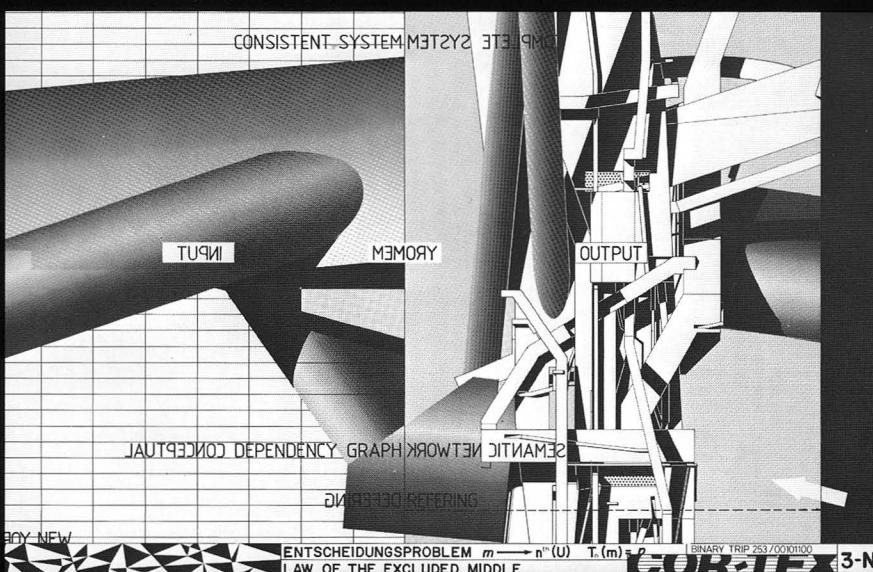
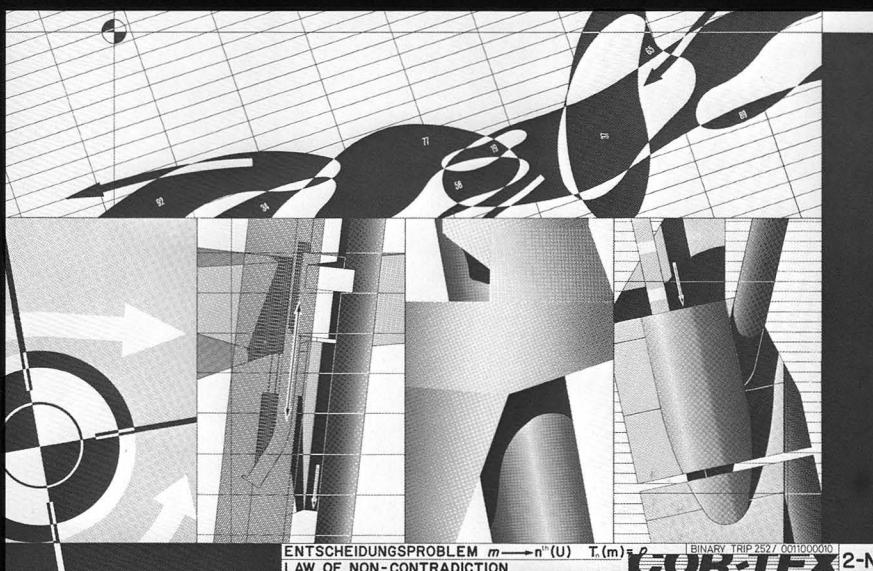
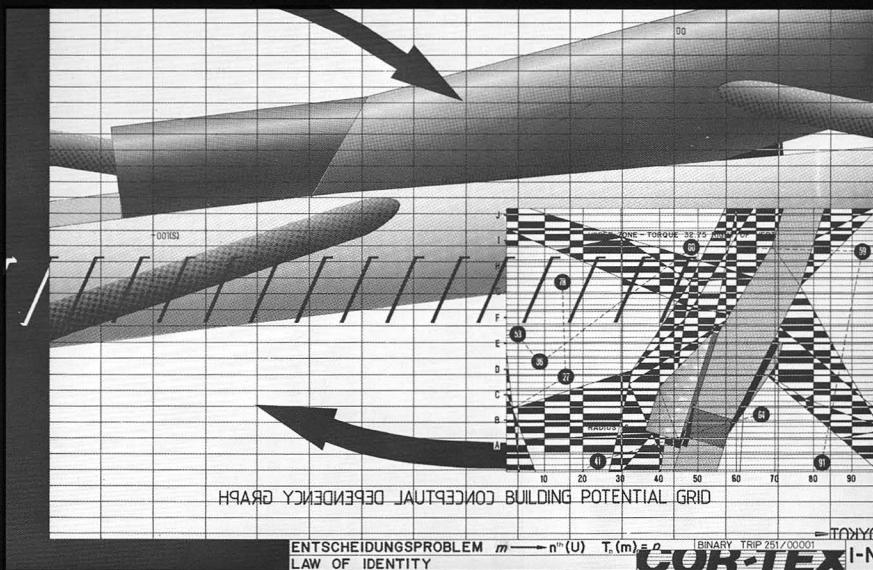
Riemannian

Light

GEOMETRY

A potent mixture of these geometries, inscribed with or built out of the space-altering capabilities of both mechanical and electronic technologies, has the intention of revealing this densified continuum of events in the most palpable of ways.





THE COMPUTER:

Architecture of the non-rigid body

The alpha numerical formal systems of binary codes (0 and 1), which make up the symbolic language of the computer, is the process by which, despite any theory of incompleteness, finite manipulations of artificial thinking are carried out. Since the computer is the everyday object which symbolizes the paradigm shift in technology from the mathematical to the electronic, a second order of the symbolic is created: the iconic display screen as new window and its formal/symbolic (but universal—ASCII) language of operation.

The computer does not carry efficiency or productivity in the Newtonian sense of work, entropy, or state changes of matter. So, the geometry of electronic space can only be symbolized illusionistically as in a print out or in the plasma of all currencies which can only be experienced through teleographies (or teleologies). **As the computer does not allow us to witness "forces at play" in the Architectural, structural, or mechanical sense, we are then asked to imagine how other, perhaps intangible forces (geo-politics, money, psychological warfare, etc.) coalesce into something hard enough to see in the form of a building.**

A building's relation to the structural forces remains intrinsic to the object, but its (structure) abandonment as an organizer of logical thinking (as in the origin of the idea of Architecture) occurs at the hands of nothingness.