

# Archigram's Analogical Approach to Digitality

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The Archigram Group produced a number of design projects on the subject of computers, either imagining how computers might affect the life of city dwellers, or investigating what changes such machines would bring to architecture. Working with analogical tools and thinking about an abstract digital future, the Archigram architects deployed concepts that would have come to be crucial in recent discussions in architecture based on digital reality. Their research into things digital - without the aid of computers - led them into inquiring about individuality, expendability, interactivity, customisation and even virtualisation. Rendered in some of their design projects we find a number of architectural proposals which offer a new approach towards the relationship between time, space and architecture - an approach which is currently central for contemporary architecture conceived in cyberspace.

## I. INTRODUCTION

Today computers are a commonplace design tool and we turn to them routinely as indispensable, irreplaceable and permanent equipment for creating and representing architecture. The binary code is invisible to us, and its logic is abstract - almost a metaphor. For the designers who manipulate the digital environment with such ease, there is very little artificial about it, except for an electronic mediation that they prefer to ignore.

There was a time though when computers were seen quite physically as large boxes containing several entangled meanings, as objects of fascination, the embryo of an era when technology was deployed to revolutionary effect. About that time, computers were already a constituent part of some architects' projects - never as the invisible devices of today, but as conspicuous objects in the landscape they portrayed; never mediating electrically, but creating a distinct reality. Today computers are used to aid the design process; then they were yet another, visible element in the architectural background and did not actually participate behind the scenes in the production process, as they do now.

There was a time when we saw digital reality with analogical eyes.

In the 1960's technology was an amalgam of possibilities where the digital dimension was more directly bound up with electrical and mechanical technologies than it is today. To the Archigram Group - English architects prominent among those who, from the outset, realised digital technologies' vast potential for change - computers would make it possible to dematerialise onto electronic highways (as seen in the "Computer City" [1]), to foresee communication networks (as proved the "City Interchange"), provide connections between buildings all over the "Plug-in City", personalise and customise spaces in projects that provided full "Control and Choice" and transform any environment in the constantly mutable, individualised and technologically enhanced settings of the "Tuned Suburbs".

The fact that this group of architects never used information technology as a tool nor experienced electronic markets or telecommunications-related social change was no impediment to their imagining cities criss-crossed by virtual information and packed with computers, all of them drawn by hand.

## 2. SOFT CITY

Not only did the presence of computers indicate these architects' fascination with such machines, but a different spatial logic was already evident in some of their design projects, anticipating a design concern that is only now being developed in architecture.

In "The Living City" exhibition (1963) consumer pop culture laid hold of architecture and urban planning, re-visualising both and abruptly shattering the analytical view traditional in these disciplines [1]. Instead of portraying

an inert, built reality, the exhibition showed scattered pieces of a fragmented way of living, and registered elements as diverse as dustbins, posters on a wall and passers-by as of equal importance. The hitherto paramount hierarchy of architectural composition (reflected in architectural representation) was here solemnly denied.

There was no innocence in those drawings and they cannot be seen simply as different renderings. There were intentions beyond the colourful, vivid and chaotic images. The urban space was a comprehensive amalgam of rhythms of people and presences of expendable objects. To think the urban image was to consider its instant and ephemeral situations, and this consequently displaced the focus away from the solid, built environment. The city was no longer the static space given by inert architecture, streets, walkways, buildings and gardens, but was whatever happened, dynamically, inside and around this space. For the architects of Archigram, people's actions - or better yet, the continuous succession of actions - were a better way to perceive a space than sketches, drawings, perspectives or photographs depicting static, immutable highways and galleries.

The essential elements that characterised the city did not lay in what was permanently standing: the built walls that defined interior by separating it from exterior. This reasonably stable configuration was no more than a background where activities or 'moments' took place - and these were the true expressions of the urban environment.

In short, the city was no longer seen as solid architecture (which promptly acquired the cybernetic denomination of 'hardware'), but as people and the situations they create (the immaterial 'software') [2,3]. The metropolitan scenery involved movement, sounds, individuals, automobiles, light intensities, communication, publicity, urban furniture, and whatever temporary events took place within the reach of the senses and were able to change our perception of space. Time was added to space in a completely new manner, discussed no further until very recent times, as in Spuybroek's description: "from meteorology, morphogenesis in biological systems, catastrophe theory in events, fractal geometry in natural forms, we have learned that we should not stare at forms in space, but understand how they develop in time, how they obtain their cohesion through time." [4]

The Archigram approach to architecture in this visionary exhibition has striking similarities with the concept of 'liquid architecture' recently coined by Ignasi de Sola-Morales [5]. According to Sola-Morales, Western classical definitions of architecture are based strongly on three concepts - *Utilitas*, *Venustas* and *Firmitas* - coined long ago by Vitruvius, the last of which, 'firmness', has never changed significantly, because it expresses stability and permanence, which are essential issues in construction. As a matter of fact, architecture has always been characterised as solid, firm and stable, attributes without which it could not be considered architecture. Definition of form depends largely on those attributes, as forms cannot be imagined

without the solid materiality of a support.

Sola-Morales proposes a fluid architecture of change and movement, standing in contrast to permanence and solidity. While architecture has always been the art of space, 'liquid architecture' sets out to produce an art of time. By seeking change this architecture rejects static form and analytical space and makes it possible to visualise the passing of time. As an example of 'liquid art', Sola-Morales offers the 1960's artistic group Fluxus whose performances are intended to be understood in their limited time, in valorisation of the instantaneous, the fortuitous. Fluxus's experiences are based on immediate, everyday sensations, making the production and consumption of goods something to be thought about [5]. According to Sola-Morales the major change that Fluxus brings to art is its relationship with time: "A collective, anonymous and enveloping time in which art sublimates itself into a pure, inclusive state of becoming and in which space is constantly produced by the moment and devoured by action." [5]

Likewise, 'liquid architecture' should aim to visualise change, the physical mutation that makes the passing of time evident through transitory events - which is precisely what Archigram does in "The Living City" exhibition. Even though their later projects would not necessarily maintain this strong focus on abstract, immaterial events, the "The Living City" was extremely important to maturing and gaining acceptance for the transient quality as a valid concept in architecture. Many other later Archigram projects can nonetheless be read as 'liquid' because they comprise buildings that incorporate action, allow themselves to be transformed by performance and deny the static nature of building as they dissolve the definite form. This new concern with time, this shift of emphasis from space to time, is of great importance for it characterises much of present day architectural theory.

The metaphor of hardware and software used by Archigram pointed to a new way of perceiving and thinking about space. When architecture is understood as 'event', there is a sudden change of view, as if space is no longer a constant element in relation to the variable, time. 'Events' suggest change, instability, ephemeral situations, in such a way that space is also undergoing change, so itself becoming a variable. This notion is currently adopted by large numbers of architects and theorists engaged in investigating the digital dimension. Roy Ascott argues that the disciplines of architecture and urbanism should set out to explore the new conditions of virtual, digitally-created space and of cyber connections to usher in a new kind of space that frees itself of fixed parameters and static images. These disciplines should regard virtual space not as behaving in the same way as real space, but as process, as in a continuous state of becoming.

"Cyberspace is the space of Apparition, in which the virtual and real not only co-exist, but co-evolve in a cultural complexity. Apparition implies action just as Appearance implies inertia, Apparition is about the coming-into-being of a new identity, which is often at first unexpected, surprising, disturbing." [6]

The very concepts of the “Living City” have clear similarities with the concerns of architects that design using digital technologies and explore innovative design concepts based on digital tools and environments. To incorporate transitoriness into architecture is to prevent shapes from being easily perceived and clearly understood. A formal, spatial architecture needs to be static and permanent so that its shapes can be distinguished by the eye during a certain period of time. But manipulable, flexible architecture (what Archigram sees as ‘soft’) suggests something quite different.

“When working in virtual reality we discover yet another interesting relation to form: for the most part the architecture is really the result of ephemeral components such as movement, sound, interactivity, luminosity and narrative.” [7]

Contemporary architects immersed in digital logic have come to direct their efforts towards what Archigram called ‘software’ and - even though, in technical jargon, the term now means something different - working with all that is mutable and contingent in urbanism and architecture seems to bring to mind the Archigram approach. Already, in those days, Archigram was presenting a proposal that would later influence digital architecture, particularly as created in virtual reality.

Later on, Archigram projects were not quite as abstract as the “Living City”, but instead worked with ephemeral components to create visible, physical transformation. Where previously they were able to separate the contingent situations of urban living from the rigid walls that enclosed it, the next step was to diminish, as much as possible, the durability and hardness of the building components. Hard and soft became ever more intermingled as the hardware gradually lost its rigid permanence.

Another of Archigram’s points of departure was Pop Art ideals, such as expendability of objects or buildings. The group felt that existing architecture of whatever sort could be made to mutate by applying ‘architectural accessories’. They proposed “Popular Paks” that could be bought off the shelf and adapted to buildings to “fine-tune them” [1,8]. The Paks consisted of easily assembled structures, with light, loose membranes to cover them, telecommunication devices, public electronic screens, and an assortment of machines ranging from air-conditioners to photocopiers and, particularly, computers. The Paks ultimately conveyed the now crucial concept of decentralisation in architecture, as if the existing, built hardware could be easily adapted by means of single ready-made pieces imbued with contemporariness. Once again, hierarchy was broken down, since the ultimate goal of this project was to update the existing environment to the point where it would blend completely with the short-lived equipment, in constant metamorphosis, as shown in a 1968 drawing by Peter Cook. [9]

The entire project, called “Tuned Suburbs” (1968), assumed that any established environment, no matter how old, no matter how featureless, could be tuned up or activated [1]. One way of tuning places would be using the Popular Paks, almost a consumer version of the architect’s role in

society. In the words of Ron Herron, one author of the project, the Paks “brought in elements to improve the environment - accretions of modern technology that showed how existing places could be tuned up, lifted to another dimension.” [8]

The Popular Pak-ed city would be - in a very post-modern spirit - a perfect meld of hardware and software. Equally post-modern is “Soft City”, a concept used by Jonathan Raban to portray a lively London of the early 1970’s where personalities adjusted to the city just as the city adjusted itself to house the inhabitants’ way of life [10]. To Raban, ‘soft’ was also the lack of discipline in a metropolis full of options and possibilities where consumption was a way to satisfy city dwellers’ innermost needs. Raban’s use of the term ‘soft’ was intended to draw a contrast with the ‘hard’ - material and organised, rigid and specifically determined - quality of modern architecture and urban planning. But while Raban was demonstrating that there could be a vivacious and somewhat anarchical component to city life, where people could develop their own identities inside static walls and inanimate pavements, Archigram was already preparing an architecture that would not stand in contrast to free behaviour. Quite the opposite, it would alter itself accordingly.

### 3. INTERACTIVITY - CONTROL AND CHOICE

Hardware architecture was not completely diluted into flexibility until 1967 in the set of projects called “Control and Choice”, which posed a number of questions whose impact is even greater and more present today, such as nomadic living, the decentralisation of architecture into portable equipment and the customisation of spaces [1]. Customisation is presently associated with the experience of cyberspace, where man-computer communication is two-way, very different from the mass broadcast information characteristic of earlier media like radio and television. In cyberspace, information is assimilated dynamically, because the receptor is required not just to observe passively, but to choose a virtual trajectory. Selection of these virtual paths (the choices) eventually induces interactivity, which subdivides into two tendencies: personalisation or individualism; and collectivity. [11, 12]

De Keckhove argues that the new media - particularly computers - have transformed so-called ‘couch potatoes’ or television addicts into politically-active sedentary people, or ‘couch guerrillas’. He points to interactivity as the main psychological difference between the two kinds of media. The opportunity for participating - choice is offered and often required - guarantees individual autonomy to users who, unlike television viewers, are no longer mere observers. ‘Navigating’ the World Wide Web itself depends on decisions. The new medium is hardly conducive to the old, one-way communication of broadcast vehicles. To be on the Internet means to take decisions, it entails search and movement. It calls on users to shift from page to page, from link to link, resulting in a two-way relationship with machine and content.

According to de Kerckhove, television man was a mass man, homogenised and depersonalised. In the digital era we have the speed man who is capable of reaction and of emphasising differences. In general, television society received stimuli and reacted passively, whereas cyber society must produce its own stimulus, receive a reaction from the medium and react back. "The computer is not a mass medium, but a personal one, as in personal computer." [13]. Once empowered by freedom of choice, consumers began to ask for a new market trend, for consumption and production to be interdependent. The term 'prosumer' coined by Alvin Toffler expresses this tendency to give power and control to consumers so that they can choose what to consume at the same time as the product is being conceived or created, in a continuous movement of information feedback [14]. The customisation deployed by cyberliving is transported to contemporary design when it offers, for instance, the possibility of customising industrial objects, when individuals are enabled to mould the configuration of a given object. The automatic reflex consumerism of television timeslots is replaced by the demanding desires of the couch guerrilla.

Archigram flourished amidst mass media man, but could see further. Their proposals were one step ahead. Because they were trying to understand what the information society was, they were able to predict individualised, interactive man. Interactivity, stemming from the immediate needs of a consumer society to exert control and choice, was already incubating in the assumptions of the "Control and Choice" projects, which offered an environment that could be freely assembled at the owner's will [1]. The projects consisted of 'systems of objects', single loose parts, bits of buildings that formed one or more rooms, where space could be divided or merged according to any instantaneous to suit the inhabitants' spur-of-the-moment.

Not only was customisation contemplated, it was also actually used to create a malleable, mobile architecture. More than housing computer machines, what the Archigram Group envisaged was indeed rethinking architecture as it became part of a society immersed in information. Permanence and hardness were dismantled by interactivity and choice, and the notion of *firmitas* was suddenly faltered.

In these projects each part could be considered an open-ended condition, where alteration was enabled by its great flexibility [15]. Walls, pieces of roofs, claddings, coverings, gadgets and electronic domestic appliances that behaved almost like robots, and sometimes even real robots, were 'conditions' that could be added or subtracted to suit the dweller's momentary wishes. Here a home could be read, almost literally, like the 'machine for living' pursued by Le Corbusier in early Modernist years. With such a broadly manipulable environment Archigram managed to actually make available inhabitable machines enclosed in temporary installations containing subparts whose connections were detachable, extendible and

even recycled.

Beyond the use of the social concept of individualism, and beyond the intention of freedom of choice apparent in these projects, Archigram introduced a spatial proposition. The ephemeral nature of the inhabitable installations transformed the experience of being in those spaces, making it ever more autonomous, increasingly freed from imposing architectural solidity, from predetermined trajectories, from immutably configured rooms, the inescapable presence of concrete walls, and all the stable, rigidly defined spatiality generated by traditional building. These projects entailed a decentralised architecture of mutable parts, and solid, built hardware dematerialised through constant change.

Over and beyond meeting a consumer trend, though, Archigram stresses the idea of interactivity inherent to these freely manipulable spaces. In a way, their projects approach architecture as process, in that they predict continuous alteration and see space as a frame for ephemeral events. Such architecture works with the space of flux - admitting the notion of flux which, according to Couture and Rashid, is born out of digital media:

“New-media art, whether it utilises digital technology for interactive installations, video or multimedia works, has moved the artist’s mode of production and representation into entirely new arenas and assemblies. (...) At the very core of the new media is the notion of flux, where narrative, image, and plasticity are elastic and ever-changing.” [16]

The interactivity foreseen by Ascott as soon as architecture adopted cyberception also results in transformation, control and choice: “In place of their dense and intractable materiality, we can expect the environmental fluidity of faster-than-light pathways, intelligent surfaces and structures, and transformable habitations.” [17]

#### **4. CONNECTIONS, CIRCULATION, TRANSFORMATION AND PROCESS**

Urban representations such as those rendered in “City Interchange” (1964) express urban thinking referenced not by static, perennial physical parameters, but by circulation and exchange taking place in the far corners of a city and also between cities. Already in those days Archigram was able to bring the principles of network communications to urban connections: information transit defining form and structure. This space appears to be related to Castells’ description of space of flux: expanding interactivity shatters spatial patterns of behaviour into a fluid network of interchanges that are the bases for the emergence of a new kind of space, which is the space of flux. [17]

Archigram postulated a city that was not structured by fixed points, such as urban landmarks or buildings capable of centralising activities and urban control structures. Quite the opposite, this city was disintegrated: the

planning focus was on the links through which its circulation flowed, transforming the city into an active process.

“I shall argue that, because of the nature of the new society based upon knowledge, organised around nets and partially made of flux, the informational city is not a form, but a process, a process characterised by the structural prevalence of the flux.”[18]

The most overt, definitive reference to digitality was expressed in the “Computer City”, laid down in 1964 [1]. Here, the townscape is just a complex of plugs interconnected by wires where denser or lighter concentrations of links indicate the different urban zones. In place of a project description, this city plan is accompanied by command lines in programming language reposting the process by which it is formed and transformed, commodities exchanged, people, goods and enterprises moved around, and new edifices erected. This city, which exists and operates inside electric circuitry, throws into sharp relief the idea latent in the many other projects described here, that the emphasis on flux leads to a dematerialisation of concrete things into information. In 1968, Archigram’s David Green proposed an ‘architecture of absence’ to summarise theories about the ‘cybernetic forest’, the “Computer City” and the “Plug-in City” - the latter project taking the customisation initiated in “Control and Choice” to the urban level. [1,3]

When circulation and processes are analysed alongside the flexibility and transformation present in other projects such as the “Living City” and “Control and Choice”, it can be seen that in those days the Archigram Group drew no clear lines between architecture, industrial design and mechanical and electrical engineering. Housing (or any other programme) was invariably fused with furniture, transportation, and devices that kept the house tuned with the city and with other inhabitants, with the surroundings and ultimately, with the world. If all things were equally pervaded by information, so they ought to be understood. Scales varied, but the design process was similar in all of the projects. The Archigram architects stated this idea more than once. Their comprehension of the concept of software resulted in declarations that placed more significance in a bank’s credit card system than in the skyscraper that housed its head offices. Peter Cook asserted that his “Plug-in City” was dependent on Dennis Crompton’s “Computer City”, because the solid, mechanised complex needed an organised brain to run it [3]. Furthermore, under the influence of the consumer society and anti-hierarchical post-modern thought, they could say that the home, the city and the package of frozen peas are the very same thing.

Hardware cannot function without software, and the latter is not subordinate to the former. Rather, they have a similar value. This is a crucial issue that Archigram had to bring to architecture, since architects had always been firmly - and often exclusively - tied to the notion of hardware, as if only what is built could be the essential object of architecture.

Architecture as seen by Archigram is not about buildings only, but it should encompass the momentary situations that happen in, outside and around them.

There is much in common between this vision and a recent definition of architecture given by architect and theoretician Rem Koolhaas, who described a contemporary urban phenomenon that he called "Junkspace" [19]. Born out of excess over need and the chaotic experience of the metropolis, Junkspace is often used to refer to digital living and is situated at an indefinite point between hardware and software.

Junkspace is fragmentary space that expands in search of continuity and, more specifically, buildings whose image reflects the consumerism and high-speed information that are the most iconic features of post-capitalism and post-modernism. According to Koolhaas, this is characteristic of architectural production of very recent times. Such production involves perishable fragments, ephemeral publicity and every transient activity taking place in the urban realm. One main feature of it is that Junkspace takes components that have so far been considered external accessories made to work invisibly - such as infrastructure equipment, air-conditioning, electrical conduits, automatic systems, and so on - and incorporates them as architecture. Because Junkspace pursues seamless appearance, it merges elements regarded as worthy of show with those made to be hidden. Ephemeral and technical apparatuses are now part of designed architecture as much as the projected material that stands as its art component - as a result, hierarchy is lost and the entire built work is relieved of permanence.

In Junkspace, buildings are blended with their immediate surroundings, with urban furniture, with visual signs, with people and vehicle transit and with all urban activities and energy sources, much resembling the description of the "Living City" [1]. More than ever this architecture is subjective and fluctuating, and an image can reveal itself differently according to diverse points of view or contexts. It is the same perception that appears in Toyo Ito's definition of 'blurring architecture' that he uses to describe his own project philosophy [20]. 'Blurring architecture' is connected with denying fixed spaces projected for strict functions. Ito asserts that designed environments should not be rigidly configured; instead, they should be planned in a way that leaves it to users to develop wide-ranging activities that grow out of spontaneous actions, either individual or collective. An architecture that does not define specific functions is boundless and its limits are indistinct. It is made up of territories temporarily fixed according to the momentary activities performed by its users.

Such flexibility and blurriness had been thoroughly explored by the Archigram Group in the "Control and Choice" projects and in the "Tuned Suburbs" projects, where hardware gained the ability to transform itself according to the users' way of life or immediate needs [1]. Temporary territories were also determined by adding, subtracting or substituting technological components that created updated architecture, connected

environments and communicatively enhanced places. This way, environments could be constantly assembled and dismantled, creating a state of instability of place and imprecision of image and location.

Both Junkspace and 'blurring architecture' might be said to have a psychological basis in the open-ended process of cyberculture and hypertext, which are both characteristically open to constant participation by countless explorer-artists or interactors and interpenetrated by other works undergoing interferences that constantly change their format. This permanently incomplete work, in a permanent state of becoming, is transported to architecture and results in an unstable reality that comprises new hard/software that is no longer really buildings, but buildings juxtaposed with machines, electronic gadgets and energy. Dwellers also play an important architectural role if they have to make structural decisions concerning the inhabitable space.

Archigram was already under information overload in the 1960's, although it was definitely assimilated differently then. However, the developments now referred to as Junkspace were predicted decades ago by these architects.

## 5. CONCLUSION: DEMATERIALISATION

"Conventional architectures tend to be based on permanence and geometric certainty whereas virtual architecture utilises digital technologies to augment real events, time, and space. In the history of architecture, representation - whether manifest through modelling or other forms of simulation - has always been part of the architect's repertoire of conceptualising and conceiving space." [21]

In the 1960's the Archigram Group fought off permanence and geometric certainty and proposed to investigate ways of amplifying events, time and space, even if the digital was presented to them as not much more than an abstract idea.

Archigram addressed digitality almost mythologically, on Barthes's definition of myth [22]. Without actually using computers, they were able to explore the concepts inherent to machines with a view to predicting the near future, as a strategy for surpassing their analogical reality and, consequently, the soon-to-be-discredited Modern Movement. Digital logic was adopted without the use of its technological resources, but this implementation allowed the group to develop a kind of architectural thinking that has come to be updated in recent times, in current studies of digital reality, virtual nature and cyberspace.

What Archigram was able to infer analogically about digitality is exactly what we conclude today in our intensely, inescapably digital lives: that infusing architecture with computer logic entails, to varying degrees, some sort of dematerialisation. Their work was not dematerialised in electronic files, but could be sometimes considered as 'mutant events', sometimes

conceived as 'conditions open to absorb individualisation', sometimes visualised only as representations of cybernetic pathways leading to the spaces of flux. All these proposals were dematerialised in that they no longer took account of what was built, but rather what was intangible. From a certain point on, Archigram projects were founded not on buildings, but on activities, movement, transmission, flow, transformation, flux, and all that is ephemeral and immaterial. When architecture is transformed into information, it is dematerialised and becomes software. If it still needs the support of a concrete basis to exist, it merges hardware and software, connecting them as closely as possible.

Archigram's low resolution renderings envisaged a high technology future. Today, needless to say, we see their reality as very low-tech - and their representation of that reality could not help but be low-tech. If for present day computer users the binary code is almost a metaphor, for Archigram it was in fact a metaphor understood more as an idea than as a practical tool. However, there can be no denying their contribution to the built environment.

Traditionally machines, ephemeral shelters, provisional installations and gadgets were differentiated from architecture precisely because of their transitory quality, their ability to be quickly erected, modified or destroyed. The avant-garde architecture expressed in the notions of Junkspace and 'blurring Architecture' is not design for long-living or permanence and yet is regarded as architecture. Clip-on furniture, mobile equipment and visual communication devices are now architecture as much as walls, roofs, staircases and canopies. One much-underrated aspect of Archigram's visionary designs is the concept behind the drawings, which demanded a new definition of both architecture and its objects.

The theories of several contemporary scholars see *firmitas* losing its crucial role in recent architecture, particularly due to the advent of digital reality accompanied by interactivity and customisation - and this is a rethinking of architectural definitions. Even though the Archigram architects' experience of computers was analogical, they managed to foresee a very important part of what is current architectural behaviour today.

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