INTERVIEW WITH PATRICK IMBARD, 1999

CONSTRUCTION

Patrick Imbard: Nowadays your work is known to many and has been widely acclaimed. But what led you to choose a career in the art world?

Miguel Chevalier: Thanks to my parents, I travelled a lot as a child and was introduced to many of the figures on the contemporary arts scene in Latin America. My childhood was spent between France and Mexico, where my father was preparing a doctoral thesis and lectured in Mexico City. This was also how I came to be named, Miguel. In my formative years, I met some of the great Mexican mural painters, among them David Siqueiros and Rufino Tamayo who were frequent visitors to our home. Luis Buñuel, who was an exile in Mexico at the time, was the first to speak to me of Surrealism. He gave us a showing of Un Chien andalou at the house. The architect, Luis Baragan, was another friend of the family. I remember him showing us around his home, which he had intended as a blueprint for his architectural style. His use of forms and brash schemes were a revelation to me. Writers, notably Octavio Paz, André Malraux, Fernand Braudel, Paul Rivet, also came to visit whenever they were in Mexico City, and this was a certainly another spur to my artistic awakening. Being a child however, I was not always aware of what was going on around me. It was only later that I realised how much this environment had stimulated me intellectually.

During this time in Mexico, were you exposed to French and Spanish culture?

After Mexico City, my parents left Mexico for Madrid. So after having been bathed in the avant-garde as a child, as an adolescent, I discovered the treasures of Churrigueresque architecture and the Renaissance schools of painting. My spare time was spent visiting museums and churches. During these years, Goya was the painter that interested me most. His paintings, but most of all, his etchings, challenged many of my preconceptions. The reproduction techniques he used for his great series like Los caprichos, Los disparates (Proverbs) or Los desastres de la guerra, were a marvel to me. Goya's etchings, like Warhol's silk-screens, have had a lifelong fascination for me. Many people have remarked on these artists' influence on my work.

Was Paris a revelation for you?

Certainly. After being admitted to the Ecole des Beaux Arts, I revelled in the city's cultural treasures and unique pace of life. Everything was new to me. Wherever I looked, there was something to excite my curiosity I liked to stray off city's main thoroughfares to discover its lesser-known attractions: guided tours around Père Lachaise, Chareau's glass house, the great department stores of the Belle Époque, or the Musée Gustave Moreau The Pompidou Centre provided fantastic insights into modernism and the work of certain artists with which I became closely acquainted. It soon became a second home for me. Exhibitions like the Marcel Duchamp retrospective in 1977, or the legendary series: Paris-New York, Paris-Moscow and Paris-Berlin, really opened my eyes. At the same time, though I was happy enough with the

teaching I received at art school, much of it was out of step with where technology was leading. And although I was already drawn towards digital technology, there were no computer laboratories in French art schools at the time.

Did you feel Parisian? Though Paris was quite a school of life for me, I have never defined myself as uniquely Parisian or French, but rather in terms of my era. I guess this comes from my upbringing It's something that I feel has profoundly marked me.

We first met in New York in the early 1980s, when you were a student at the Pratt Institute. I remember your studio was quite unlike that of any other artist. There was none of the usual clutter that one finds in such places - no easel, no canvases, brushes or half-empty paint tubes - just a few chairs and a couple of computer monitors. While the machinery whirred quietly around you, almost by magic, you would make the most fascinating shapes and colours appear on screen. In a twinkling of an eye, you could conjure up more images with a computer than a fine art student in an entire academic year! What had brought you to New York?

I arrived in New York in 1983 - just after graduating from art school in Paris. I came in search of what I couldn't find in Paris: the latest machines and an insight into where the technology was heading. Although computer science was beginning to take root in France, it was largely the preserve of a privileged few. Unless, of course, you were a programmer at a TV station or a computer engineer at a research institute.

At the same time in France, art critics and academics were largely disdainful of new technologies: they had no idea of their potential.

Their reticence was so marked that I felt quite out on a limb in France. In such an uninspiring milieu, it was only natural to want to leave for the United States which offered the kind of resources I aspired to as a creative artist. I thus arrived in New York in spring 1983. New York had a very lively arts scene at the time, however painting - and not newer forms of artistic expression - was still the focus of attention. Around this time, I began to realise that each of the artistic disciplines - painting, photography, video and the rest - were about to be revolutionised by digital technologies. This spurred me to pursue my experiments further since I was convinced that computer science would lead the way to a completely new artistic approach. As such, I had to master its basic principles. The Pratt Institute had just set up a department of computer-generated imagery (CGI) and, at its School of Visual Art, I was able to get to grips with the first ever computer-aided drawing program which had just been released on the market.

What was your position as regards painting and the avant-garde?

My feeling was that the avant-gardists had explored all of the possible avenues in graphic representation. And for a young artist in his early twenties, creating a new pictorial approach with oils was almost an impossible task! Certainly, there was a touch of impertinence in my outlook at this time This viewpoint was also in stark contradiction with the zeitgeist of the early 80s which sought to restore painting to the place it had lost in the previous decade - the heyday of the conceptual artists.

Despite this, art history has always been a source of inspiration for you. Precisely. Studying the history of art has helped me to appreciate the importance and vision of artists like Eugène Delacroix, Gustave Moreau, Claude Monet or Georges Seurat. In terms of pictorial representation, their experiments with brush techniques prefigured a similar process in the

world of electronic art, which seeks to achieve an optical synthesis between colour and lines. The relationship between the theories of Chevreul and Seurat is identical to that between the theoreticians of CGI and artists like myself. The pixel (picture element) is the modern-day equivalent of the brushstroke insofar as its juxtaposition with other pixels creates colour and form.

Are computers useful as a tool to reflect on, revisit and recreate a new world that more realistically portrays contemporary society?

Yes. I would say so. Digital technologies offer an almost limitless library of shapes and colours that can be used to deconstruct, rework and refashion images. Their potential is endless. By using techniques like sequencing, computer loops and visual permutations, I can exploit these possibilities to the full. Electronic art has its roots in painting, photography and video. Despite this, it is an artistic discipline in its own right since no other medium offers the same range or scope.

Like for example?

The ability to display live images, or to present images in real time rather than as snapshots of past events. Similarly, networking is another of electronic art's unique possibilities. The network is a central concept in my work, as demonstrated by pieces such as Méta-cité, or Transit and Interconnexions. No other medium is as effective at encompassing the fleeting intangibilities of the network or of flux. This intangibility, or immateriality, was also something that attracted me to greenhouses as a theme I could explore.

Can you explain this attraction?

Greenhouses interest me insofar as their construction is a unique admixture of architecture and nature. It wasn't by chance that the landscape gardener, Sir Joseph Paxton was an engineer as well as an architect. In the early part of the 19th century, his design for a building using prefabricated elements of sheet glass and iron enabled the legendary Crystal Place to be built in record time - under six months - for the Great Exhibition of 1851. While the industrial age was still in its infancy, a gardener, Paxton, gave modern architecture one of its principal functional theories. Of the many different symbolic forms to have emerged in modern times, the greenhouse - a consummately metaphorical construction - forced itself upon me as a subject to be explored. It is the perfect artificial world: a protective shell that is both hermetic and transparent.

To what extent does the greenhouse mirror the relationship between "baroque" and "classical" approaches to art?

Though the architects of the industrial revolution privileged strictly functional designs, they used wrought-iron curves and inverse curves as counterpoints to the rigour of their constructions - like creeping, undulating outgrowths of vegetation that curled around the perpendicular metal beams. To me, this plant-like ornamentation was "baroque" while the architectural structures it adorned were "classical". The resulting tension is quite striking. Mies Van der Rohe, the 20th century inventor of the "curtain wall", was one of the first architects to master the tension between functional rigour and plant-like flexibility. His buildings were pared down to their basic geometric forms and featured reflective glass-walls. Each of these influences very naturally led me towards the greenhouse. Incidentally, I would add that Jean-Pierre Raynaud, an artist whose work has featured greenhouses, began his career as a gardener. The greenhouse which I included in my series Baroque & Classique,

alludes to the relationship between the city and the natural landscape it envelops. What nature there exists inside the city is an icon-like object of veneration, almost completely disconnected from its natural setting. This, in turn, gives me the impression of exploring the landscape I'm creating as required by the artwork's needs. By so doing, I move from figurative reality into a virtual world of imagination and fantasy. All of the works in this series return to the juxtaposition of baroque and classical - i.e. the tree and its leafy branches set against a stark glass structure. These twin conceptions have alternately marked design since the earliest times and their influence has been a constant inspiration for my art.

In other words, classicism is the X-axis of the grid whereas baroque is the Y-axis?

The analogy is particularly appropriate since any line can be defined by a mathematical equation. The same is also true in computer graphics, since pixels - illuminated dots that are projected onto a display to form an image - are mathematically encoded in a computer's memory as a bitmap. Paul Virilio once wrote: "The pixel is an extension of the bolt or rivet in which the viewer's eye gazes into an infinite electronic perspective. This luminescent architecture is the memory of a grid, or sequence, that has been encoded in modular or matrix form" This phrase appeals to me in that it perfectly sums up the objectives of my first series, Baroque & Classique.

Tell me a little about how you design your artworks around such conceptual notions?

In my earliest experimentations, the images I projected on screen had been photographed and manually retouched afterwards. My approach was identical to the first photographers who painted their film negatives to give an impression of colour that the technology could not otherwise offer. By using a slide projector, I could obtain the format I wanted to suit any exhibition space. Silkscreen printing also allowed me to create static images with a tangible physical presence. One such work, In vitro, appears as a silkscreen image on cast wire glass. This evokes the transparency of the greenhouse as well as that of the computer screen. At the same time, I've used plywood panels to suggest the technique I use to retouch images. Plywood suits my purposes admirably; it prevents the image from appearing glossy or flawless by adding depth to the picture surface. It is also better at absorbing light reflections, and this lends a touch of sensuality. For subsequent works I've used back-lit display cases to overcome the problem of external light reflecting onto a work's surface.

Over time, you took these experiments further...

Yes. I soon abandoned the technique of painting on plywood in order to try my hand at larger formats. Another idea I had was to use an ink-jet device as a "painting robot" which was piloted by computer and could produce works in small formats. By removing the need for manual intervention by the artist, I was embracing the possibilities offered by electronic reproduction. This represented a new phase in my development. I used canvases that were stapled directly to the wall. By grouping several canvasses together, I could create any size painting I wanted. One of my works, Effet de serre, is made up of video monitors inside a greenhouse. The monitors display a looped video sequence which takes viewers on a journey into the organic world. Artificial plants and metal structures are juxtaposed inside the same televisual space in a final evocation of the baroque and classical.

Was Effet de serre, like your other large-format works which can be resized to suit their exhibition space, a new form of art installation?

In a sense, yes. However, I prefer the term "in-situ artwork" to that of "installation" since it more closely reflects the notion of fashioning a piece that reinterprets the space in which it is presented.

In a word, the gap between exhibition space and artwork becomes blurred; the virtual prefigures reality to the extent that we become lost in an illusion of the world in which we live.

AUTRES NATURES

Patrick Imbard: Is Autres Natures a logical succession to Baroque & Classique? To what extent was Japanese culture an influence?

Miguel Chevalier: Autres Natures was inspired by my stay in Kyoto. Kyoto is the city of temples as well as of gardens which are, for me, quintessentially artificial worlds. The incredible perfection of the Japanese garden has left an almost certain imprint on my work. Indeed, the universe I created with the greenhouses in the Baroque & Classique series is an echo of this perfection. The Japanese garden is a man-made environment in which every parameter - from how space is used to the way in which the trees grow - is controlled. The Buddhist ethic of seeking balance between the untamed and the domesticated, or between order and chaos, is an omnipresent concern. In the same way, by using fractal algorithms (what mathematicians sometimes refer to as "strange attractors"), I attempted to measure the extent of the relationship one finds in the search for what the Japanese call ma, a threshold between fantasy and reality, past and present, memory and the imagination. From this standpoint, Japan was an extraordinary experience for me.

At various points in history, from Aristotle to the Romantics, mankind has sought refuge in a "return to nature" As we enter a new millennium, ecology, the new dogma of our age, forces us to reinvent our relationship with the environment. This has paved the way for a more mutually-beneficial "pact with nature". In contrast, however, you tend to depict nature in a purely abstract way, as for example in your video installation, Pixels de neige.

Pixels de neige ("Snow pixels") refers to the relationship between digital technology, as indicated by the word "pixel", and analogue technologies like video. "Snow" is a term used to describe the random flashing of pixels that speckles the TV screen with black and white dots. I was also attracted by the poetry of the word neige. The installation comprises five short video sequences, which each allude to Rioanji garden in Kyoto, the pointillists and minimalist art. The flecks of snow lend texture and sound to the video monitor. As a form of picture interference, TV snow inspired me to imagine a series of variations, such as points and lines, mosaics and barcodes, randomly flashing specks through to more formal structures.

Can one draw a parallel between Pixels de neige and installations such as Le Grand Verre/Nature liquide or Turbulence numérique which were exhibited at Stuttgart's Stadt Gallery.

Le Grand Verre/Nature liquide and Turbulence numérique were my first fully digital and interactive artworks. However the difference with Pixels de neige is that the sequences are no longer displayed in linear fashion as with video, but are stored on a computer's hard drive and projected in two or three dimensions. At the same time, viewers can interact with the display in real time by using a mouse to make it move. Obviously, the title Le Grand Verre is a reference to Marcel Duchamp's work of the same name from which I borrowed the idea of transparency.

Were these works particularly challenging from a technical standpoint?

Éric Wenger, a computer programmer, helped me to develop the software driver which controls and operates these works. Working with Eric had a major impact on my work and helped me develop more elaborate pieces. Each of the works in this series was a departure into uncharted territory The algorithms that power them are capable of creating endless visual permutations and variations. In place of a static, still picture, one obtains a constantly evolving work that is both immaterial and virtual.

What form did they take?

Each was either designed as a magical landscape or in the form of flowers, which I called Pensées numériques ("digital thoughts"), a term that plays on the two senses of the French word pensée as "thought" and "pansy". The fractals create a geometry of anamorphosis and metamorphosis, a sort of tension between form and formlessness, figurative art and "defigurative art". This is what enables electronic art to represent emptiness and infinity.

Do you think that Yves Klein or Lucio Fontana had already preceded you in experimenting with such extreme forms of pictorial representation?

Klein and Fontana helped pioneer a metaphysical approach to art, however my work in digital or interactive art is quite different. My digital works are invariably metaphorical or referential, and incorporate mechanisms such as dissolution or fragmentation. They are based around a 1x1, 2x2, 4x4 or 8x8 grid in which each image "dissolves" according to a constant principle offering endless permutations. Using digital technology in this way allows me to alternately create images that are self-replicating, synchronised or networked. I can also vary each image's scale or present it from a myriad of possible vantage points. This process is evolutionary; like a biologist creating and replicating cell cultures, each new generation of cells throws up a new set of characteristics.

How does a project like Arcadie differ from your interactive installations like Pensée numérique or Nature liquide?

Arcadie is an outdoor piece while the other works are meant to be viewed indoors. Arcadie is both a digital water garden and a folly in the style of the 18th century, Retz desert, the Bomarzo gardens near Rome, or the monster by Niki de Saint-Phalle and Jean Tinguely in Milly-la-Forêt. The idea for Arcadie was given to me by Adrien Sina, the philosopher and architect.

How would you describe this work?

As I outlined in articles published by the magazines, Opus and Art et architecture, Arcadie is an environmental space with an amphitheatre and three mazes. The amphitheatre's circular construction is punctuated with water features, pictures and sounds. Its centre contains a water feature - a basin, which spills water into vessels, surrounded by eight steel stands bearing representations of figures from Greek mythology. Plant life is symbolised by a copse of computer-generated trees. A suspended walkway leads visitors to the mazes each of which represents an initiatory journey towards light, fire or air.

Is your folly a reference to Villa Hadriana in Rome, the Ledoux salt marshes or the fountains at the Château de Versailles?

If you like, it's a reference to any folly with a circular construction. I wanted to show that mazes are like ideograms in much the same way as Japanese dry gardens allow people to trace out a landscape that only exists in the imagination. This project is also remarkable in that it was the first to offer visitors an elevated view over the installation - a sort of "cartographic" perspective. Like Icarus of old, the viewer flies over a multi-dimensional maze of matter, light and colour.

ORO NEGRO

The cycle of exhibitions, Oro Negro, hosted by the national museums of Caracas, Maracaibo, Bogot‡ and Mexico City, was widely remarked. But the objects you featured - oil barrels, concentric pipes and crude oil tanks - were very different from those to which we had grown accustomed in earlier works. Spectators' reactions to the works contrasted greatly. How were they different from the Construction and Autres Natures series?

Firstly, Oro Negro is a set of works that were created as a consecutive series. The exhibition was specifically created for display as an installation at five modern art museums in Venezuela, Colombia and Mexico. The title Oro Negro refers to the immense wealth represented by Latin America's oil resources. Commercialising them necessitates considerable technological prowess along with sophisticated pipeline networks. These networks fascinated me. Their construction resembles the labyrinthine, dendriform course followed by my art. All of the objects presented relate to the tasks of drilling for or refining oil. The environments created by these objects reinforce the works' allegorical power. Ultimately, however, they have many similarities with Construction and Autres Natures, the only difference being that Oro Negro blended solid with dissolving images, an idea I further developed in an interactive piece, Nature liquide.

Was your decision to use materials that are derived from oil a deliberate one?

Precisely. Both vinyl and plexiglass are derived from oil and thus refer back to the "black gold" which was my theme Nonetheless, these materials are not primordial to the work's interpretation. What interested me most were techniques like seismographs or seismic shocks, which create charts that engineers use to analyse an oilfield's geological structure before drilling a test well. To my eyes, these mappings were similar to computer-generated landscapes. I included them in my installation, Paysages artificiels, which features landscapes generated by fractal algorithms. The installations were designed so that visitors could walk among the objects, pipeline sections, oil barrels and so forth. Additional vantage points, such as a mezzanine, afforded an elevated view over each work.

Many of the works in the Oro Negro series evoke helixes or spirals. What does this theme signify for you?

As far as I know, oil comes from the decay of spiral-like, marine life forms. I used this as the inspiration for a series of works depicting a "binary whirlwind" of 0s and 1s. The spiral created by these elements is suggestive of the process by which oil is produced.

MÉTA-CITÉS

Patrick Imbard: Oro Negro was the starting point for a series of pieces on the theme of cartography which reaches its conclusion with the compelling Vision urbaine series. What drew you to the city as a central theme for your works in 1991?

Miguel Chevalier: In the 19th century, rural areas began losing their inhabitants to the cities, which became the great megalopolises of today. The great town planners, such as Cerda, Haussmann or Otto Wagner, each advanced models for structuring urban districts and transport facilities. Nowadays, however, the need for instantaneous exchange, and the concomitant problems of transport provision and urban gridlock, force town planners to rethink the city's relationship with its environs. Trains, cars, and airports have successively accelerated this rural exodus, thus further fuelling the process of urban densification. Urban living has ushered in immense changes to our lives; for this reason, cities constantly fascinate me. To follow on from Autres Natures' purely artificial vision of nature, I decided to broaden my enquiry to the city, which I wanted to depict as a virtual world. This led me to experiment with maps, as a means of reinterpreting the way in which the city is represented. I took as my inspiration onboard GPS systems that guide drivers through a city's streets using a host of parameters that are constantly refreshed throughout the driver's journey. This gives a map that can be perpetually redefined according to one's location and destination. At the same time, it portrays the city as a living, moving space. Thus, by using digital media, I had a unique opportunity to present a new "urban vision" or a novel twist on contemporary urban reality.

Can you describe the works in the Vision urbaine series...

Four city maps are generally presented, like panes in a window, and are enclosed in a back-lit display. My aim was to show how modern cities change and evolve. The works combine satellite views with heat-sensitive, infra-red, ultra-violet and X-ray photos which chart the urban landscape in relation to variables such pollution masses or street lighting as well as a host of other moving objects.

Ville nouvelle and Cité radieuse are titles that evoke the post-war housing developments of the architects, Labourdette and Le Corbusier. At the same time, they conceal a dual meaning, as per Pixels de neige or Pensées numériques, which provide a clue to the work's intent. Is this also true of the title Aller/Retour Tokyo-Kyoto?

Quite clearly. Titles have a particular importance for me and should encompass a poetic dimension that is in keeping with the work. For instance, an aller-retour is both a round-trip ticket as well as the title of one of my artworks. The piece consists of an extended tracking shot taken from the window of a bullet train travelling between Tokyo and Kyoto. Images of what seems to be a never-ending city rush past and are juxtaposed against those of a return journey. These sequences are punctuated with intervals of countryside or nature which disappear in a flash, only to give way to another expanse of urban sprawl. I'd like to develop Aller/Retour as a series by filming other cities such as Los Angeles, Mexico City, S‹o Paolo or New York. The realities of these metropolises are very similar. This installation uses a semi-circular projection room with three wide-angle video projectors. Each display is timed one second ahead of the last, so as to offer a panoramic view...

In a world of endless urban sprawl, countries, cultures and identities become standardised to the point of being indistinguishable. This very preoccupation was the inspiration for Mémoires & Mutations, which was shown in Beirut as well as at the Habiter les réseaux exhibition held in Paris's Palais des Congrès. How did you come to create Mémoires & Mutations? This work was made possible by the Lebanese Academy for the Fine Arts. Beirut fascinated me. I fell in love with its Ottoman-era architecture, which is so characteristic of Beirut's position at the crossroads between East and West. However, as the old city centre fell into ruin and decay, its outskirts thrived, to the extent that the coast between Beirut and Tripoli has become an immense, almost uninterrupted, conurbation. I filmed Beirut with a camcorder, taking the main highways that travel the city from end to end, and filming the modern buildings, which have sprouted up since the city's renaissance, amidst the ruins left by the war. Once edited, the

sequences were projected in layers, alternating real footage with virtual or historic representations of old Beirut, thus offering a nostalgic glimpse of the city's past. The installation was projected on a giant, translucent screen in an abandoned warehouse near Martyrs' Square

PÉRIPHÉRIE

In October 1998, you exhibited your most ambitious work yet at Paris's Espace Cardin. With the richly evocative title of Périphérie, this in-situ piece, probably the greatest and most exhaustive of your artistic career, represents both a culmination as well as a starting point for the series of interactive works in 3D which followed. How would you describe Périphérie?

Périphérie is indeed quite a spectacular piece. It is designed to be retro-projected onto three curved screens measuring six by three metres thus giving an almost complete, 360¡ view of the work within an installation space of 450 sq.m. One-half of the work is comprised of footage of traffic travelling along Paris's ring road, or Périphérique, and this occupies the lower 40% of the screen. I filmed the ring road, by day and night, covering the entire loop in both directions. The footage was edited on an Avid machine so as to create a sort of "double helix" that reflects the ring road's temporal and spatial dimensions. The high-speed "telescope effect" thus produced quite admirably reflects the somewhat troubling atmosphere of this particular urban landscape and is reinforced by the soundtrack which was composed by Gérard Hourbette.

Was Aller/Retour an inspiration for this piece?

To a degree. However, the other 60% of the screen is made up of computer-generated structures which are rendered as 3-D vectors. Three "sensor pads" allow viewers to interact with the piece. By moving to the left or to the right, the viewer can rotate the graphic display accordingly. Similarly, by stepping forward, he can zoom in on the display and move through its concentric layers of virtual space. The architectural transparency and immateriality of these cybernetic structures creates a spatial environment that vacillates between reality and simulation.

Périphérie features an infinitely replicating computer graphics sequence, designed using Emmanuel Berriet's AAASeed software, with a looped video sequence. For me, the work's semi-circular construction reminded me of 19th century "panoramas", that were exhibited in rotundas on the Champs Elysées, or of Claude Monet's Nymphéas series, was exhibited on curved picture rails. Notwithstanding this, your design for Périphérie seems to have been very deliberately intended as a means of exploring the complete range of symbolic associations evoked by your subject.

In earlier times, Paris's city walls were the dividing line between town and country. Gates afforded its inhabitants a passageway from one side to the other, while fortifications protected them against attack. Little by little, however, these ramparts were replaced by a boulevard and, more recently, by the ring road. The only remaining vestiges of this former bulwark are the city gates, the so-called portes de Paris. Nowadays, commuters wishing to enter the city's centre must first negotiate its ring road, which separates downtown Paris from its suburbs. This "periphery" is home to an architectural cacophony of industrial premises, shopping centres and high-rise residential buildings. The great metropolises are expanding according to a process that is exponential, deeply chaotic and all-encompassing. New urban areas proliferate around the city's historic centre like carcinogenic cells or labyrinthine matrixes of data. In Paris, the ring road is a showcase for global corporations' spectacular outdoor displays and

neon signs. Traffic flows uninterrupted along the périphérique 24-hours a day - in much the same way as data packets on the Internet. Depending on the time of day, its expressways are also a stage for myriad snarl-ups, bottlenecks, accidents and tailbacks.

Is the périphérique's looping itinerary like the medieval palindrome: in girum imus nocte/consuminmur igni? The situationists' celebrated palindrome - which roughly translates as "While gyrating at night, we are consumed by fire" - is an apt enough description a rotating double helix. One can also extend the comparison further insofar as the ring road's two-way traffic flow mimics the electron's perpetual orbit around the nucleus as it creates energy for the atom.

So, to sum up, in electronic art, substance becomes virtual and the virtual becomes substantive.

TRANSIT

Patrick Imbard: Méta-cité looks at urban rail infrastructure and transport networks, and Périphérie, at car traffic and the city. Another series of "in-situ" works, Transit, focuses on air travel, or the airport as a hub for exchange. The first of these, Tableau de bord 1, was exhibited in Montreal airport in 1989. What led to the choice of this venue and how does the work relate to it?

Miguel Chevalier: For Tableau de bord 1, I wanted to use video to explore the theme of "traffic" in the broad sense - i.e. how traffic flows and the patterns it creates. Air travel, insofar as it's an everyday part of modern life, struck me as a topical subject. Jér™me Sans, the curator of the exhibition Fictions, asked me to create an installation that would distract passengers as they were waiting to board. The installation used video out-takes from the airport's security cameras which was remixed digitally and rebroadcast in real time to TV consoles that were mounted on the armrests of seats in the airport's boarding lounges. This exhibition space's almost abstract banality provided a perfect backdrop for this piece. Montreal airport had six channels in passenger boarding area and my work was broadcast on channel 6 throughout the exhibition's duration.

What did the programme consist of?

Tableau de bord 1 was controlled by a computer program which recycled and remixed video feed from the security cameras. Footage was broadcast randomly according to the frequency of passenger arrivals at the airport's immigration desks. In this way, the airport became an exhibition space in which the spectators are also unwitting actors in the artwork. This idea spawned other pieces, among them an installation shown at Paris's Palais des Congrès which consisted of 24 thousand LED lights that switched on or off in sequence with the flow of visitors entering the conference centre.

You also designed a prototype for a project at Paris's Charles-de-Gaulle airport. This was a second project was entitled Tableau de bord 2. Paul Andreu and I created an architectural piece, a replica of a section of an airliner's fuselage in which the windows were replaced by TV monitors. It was previewed in 1990 at the Intersection 11/20 gallery in Paris.

The Transit series also includes works on maritime transport.

Ports, like airports are yet another place of transit. So, the world of maritime transport and shipping was yet another source of inspiration. Examples include works such as Profilés or

Fenêtre mémoire héxadécimale, both of which evoke sonar navigation screens which sound out the ocean depths. Visual artists are forced to constantly reinterpret the nature of art and its relationship with reality. Modern society has an almost insatiable appetite for images. By recycling images, you give them a new lease of life. Experience has shown me that even the most banal image conceals several possible readings and can be "recovered" in different ways. By abandoning the traditional context of museum or gallery, artworks acquire a far greater signification and resonance than previously imagined. This also allows them to be appreciated by a far wider audience to whom they become part of everyday life. I hope this vision is not excessively utopian!

INTERCONNEXIONS

You have federated the series of pieces that follow under the title "Interconnections" insofar as each takes the process of technological convergence, as witnessed over the past decade, as its theme. Exchange and flux are two, very central, preoccupations for your work. Between 1988 and 1999, you constantly return to the "interface" - or interconnexion - which you see as a portent of the so-called "digital age" in which electronic devices become an omnipresent part of everyday life. Is this an accurate summary your preoccupations during this period?

Interconnexions is a miscellany of temporary and permanent installations, digital images and object icons. Each piece was created for a different exhibition space: galleries, art centres, museums, fortresses... Even a palace! Working with different spaces is immensely challenging. Particularly when you're exhibiting in out-of-the-ordinary locations like a tax office or a police station! As a result, the pieces have an almost infinite exhibition potential.

Insofar as each work establishes a specific relationship with its exhibition space, does the space provide a particular clue for their understanding?

Certainly, this relationship is particularly explicit in pieces such as Etat binaire (1990) or Fenêtre mémoire infinie (1992)

Other works, for example Vecteurs 1 et 2, depict satellite rocket launchers or the dishes and radar equipment that receive their transmissions...

Satellite dishes and radar systems are attractive as symbols for communication. I chose them as icons of our era, in the same way that, in Mécaniciens, Fernand Léger provides insights into the industrial society of the early 1920s, or that 1960s pop artists and new realists celebrated the consumer age.

In 1988, you presented Téléscopages as an installation at Hérouville's "Saint-Clair" modern art centre. You treat the theme of communication with the same symbolic force - this time using a totem pole - as a footnote to your previous experiments. Was this your intention?

Téléscopages is a totem pole of banked TV screens flanked on both sides by two smaller, effigy-like columns whose monitors display video sequences in 2-D and 3-D. Other works, such as the oversized computer diskettes of Les grandes disquettes, symbolise formats for storing videos images and are glib references to the work of Raymond Hains or Claes Oldenbourg. On the other hand, Téléscopages treats the revolution in communications brought about by space exploration and technological convergence. More specifically, the series explores our relationship with devices, such as phones, faxes or computers. Wherever we are, on earth, sea or in the air, we can be almost instantaneously connected with any point on the globe. This spatio-temporal acceleration is made possible by the printed circuit board which

is, in itself, the cartography of a world whose parameters are translated mosaic-like onto the computer screen.

A similar thread runs through the series of pieces, Transferts, which includes Stock Exchange 1, 2, 3, 4, Transaction and Etat binaire? What do these works consist of?

Etat binaire is a video piece which is entirely composed of 0s and 1s - the "on/off" logic gates that define the digital computer's functional horizons. Binary digits can be used to encode infinite amounts of data. They describe the very fabric of our existence, from our everyday life through to stock market indices, not to mention the telecommunications and networking protocols that serve to transmit audio and video extracts. In a way, they go together to create the nebulous binary state that we call "information".

How does Etat binaire function as an installation?

The piece is a video sequence of a vortex-like whirlwind made up of thousands of 0s and 1s which are projected onto the walls and ceiling of an enclosed installation space. On the floor, this whirlpool of information - or binary state - is transcribed in alphanumerical formulae. Fred Wallich's soundtrack, with its heartbeat-like rhythm track, offers a perfect accompaniment to the collage of vector graphics that coalesce and collide on screen. As a continuation to this installation, I created a series of fixed pieces, entitled Ecranisation and Ordre d'achat, which include vector graphics that have been printed onto the carpet of an exchange's trading-floor. The piece is stretched across an aluminium chassis which covers the walls and floor. The zigzag-like Stock exchange 1, 2, 3, 4 evokes the ticker-tape reels used to print out stock prices. The last piece, Transaction, which was exhibited in the Galerie des beaux-arts in Metz, allows spectators to interact with the images being projected onto a giant screen using a floor-level keyboard.

Does Transaction share similarities with the giant-screen installation, La Rencontre des deux mondes, you presented at Madrid's Casa Velazquez?

La Rencontre des deux mondes was the first of a series of outdoor works. At the time, some critics referred to it as "landscape art"; it was an immense piece requiring 300 sq.m of floor space. After nightfall, a light show illuminated the building's surrounding walls with Aztec motifs. One of the motifs, a bridge connecting the building's wings, was a symbol of the historic links between Spain and Latin America. The piece was commissioned as part of the celebrations for the 500th anniversary of Columbus's discovery of America. Rédecouverte, which was exhibited in Brittany, in the fortress of Vauban near Port-Louis, is a matching piece to "La Rencontre des deux mondes".

TERRITOIRES

Patrick Imbard: "Le Grand Écran", your spectacular outdoor work created for the city of Fukuoka in Japan, immediately followed the exhibitions of "La Rencontre des deux mondes" in Madrid and Rédecouverte in Brittany. How did you come to present this project?

Miguel Chevalier: Fukuoka is one of south east Asia's foremost commercial ports and regularly plays host to a biennial of sculpture. I was invited to take part in the festival by Tenjin's municipal art museum. Out of a wish to reflect the city's unique maritime heritage, I chose to locate the installation, not in the city itself, but on water. This struck me as a completely untried venue for an art exhibition, and yet one that increasingly attracted urban planners since space is so scarce in Japan that reclaiming land from the sea is often the only way of

realising certain projects. This busy seaport is a gateway towards the southern Pacific, a haven for maritime traffic, and a major hub for exchange. The biggest challenge was to conceive a project that had sufficient visual impact to compete with Fukuoka's already overcrowded cityscape, its many billboards, neon lights and highway spaghetti junctions as well as its plethora of architectural styles. With the assistance of Charles Bové, I designed a floating installation, a sort of giant satellite receiver which was supposed to pick and respond to changes in the port's environment. The work was intended as a kind of imaginary computer which retransmitted data and readings from its immediate environs. Over the installation's three-month lifetime, we used the installation as a screen to project an incredible range of perpetually mutating colours and shapes.

How did the installation work? The piece was made up of 2,500 inflatable cylinders - or pixels - which together formed a gigantic, floating computer monitor measuring some 10,000 sq.m. The display could be viewed from the port nearby, or from afar via a tower located above the highway that crosses the port complex. It was also visible to passengers taking off or landing at the city's airport. I intended the work to be located at a sort of strategic hub for communications so I studied the city's geography closely before choosing the final site. On the inauguration day, we had the screen display the Japanese ideogram kigo.

What does kigo signify?

In Japanese, kigo means "sign".

Was this a reference to Roland Barthes' work, The Empire of Signs?

Quite naturally: Barthes provided fantastic insights into Japanese society... However, as an artwork, Le Grand Ecran, effectively functions as its "big screen" title suggests. The inflatable cylinders housed electronic sensors which picked up on the slightest variations - the tide, wind and sea currents as well as the passing ships - in the port environment and reacted in response to these changes. At night, the piece was lit up by submerged projectors, and appeared like an immense luminescent platform. It was a beacon shining out over the shadowy port and the dark ocean depths.

PERFORMANCES

Patrick Imbard: As a series, "Performances", centres on physical and sporting exploits. However, it also refers to the "performance pieces" favoured by the artists of the early 70s which were as much an assault on painting as creative expressions. Does your approach to pictorial representation seek to reconcile art with the image?

Miguel Chevalier: When I was a student at art school in Paris, there was something of a movement away from the image in contemporary art. Performance art, or action painting, were held in much higher esteem. If you like, the emphasis in terms of meaning was not the image, but the action that created it. I have always been attracted to the notion that an image's power of attraction is greater than the sum of the elements that go to produce it. Seen from this angle, is sport not the greatest metaphor for the way in which we relate to the world through artificial constructs? The Olympic Games have provided the backdrop for many of the greatest metaphors in sporting lore. Politics, the economy and social considerations appear to come together for the tournament's duration. To me, however, what is most striking in this sorry state of affairs is the way in which the media exploits sporting events, since I generally choose to recycle images that have been created by the media. In this respect, Performances shares similar concerns to those of Autres Natures, which, itself, has nothing to do with nature.

Rather than creating an ode to physical endurance or a song for the body-beautiful, Performances goes about revealing the derisory mechanics of sport and how it is portrayed by the media.

The writer, Monique Sicard, makes a similar remark in La Fabrique du regard*:
"An image that is reminiscent of a mountain doesn't need the mountain to exist".

Indeed. The plethora of technologies that serve to record and measure sporting events have become more important than the sportsmen and women who compete in them. This realisation led me to conceive the "Jumbotron" panel as a spectacular world presented by the media.

In 1992, you were commissioned to design, Performances, as a series of monumental works to be shown on giant screens at the Summer and Winter Olympics. How did this come about?
When I was asked to produce a work for the Olympic Games at Albertville and in Barcelona, it struck me that this was an opportunity to re-appropriate the image of sport that had been usurped by television and present it in a new way. Rather than organising an exhibition in the traditional sense with static pieces, I chose to create an artwork would contribute to and reflect the Olympic experience as it was taking place. In each stadium, nine giant screens were installed by the side of the track. These served to relay footage of the athletes' performance during the various events. Each evening, I put together a minute-long video compilation of the day's events. A different sequence was projected each day, before and after each heat, with music by Fred Wallich.

Was this how you conceived Chronos?

Chronos was conceived as a pretext to focus on two essential parameters common to all the Olympic disciplines - speed and time. It was also an opportunity to present a contemporary artwork to a far greater audience than the ordinary exhibition-going public.

Was your installation, Combat des images, a precursor for Chronos?

Yes, Combat des images was the forerunner of all of the works I created for the 92 Olympics. It was inspired by Paul Virilio's book, "Esthétique de la disparition".

What form did this installation take?

Le Combat des images is a five-minute compendium of an entire afternoon's sports coverage. A cacophony of images flash across the screen at 70 frames per second. The picture quickly saturates and disappears The infinite "screen within a screen" image is intended to show that competition within the media for picture exclusivity finishes by destroying the picture itself. As such, the installation was structured as a pyramid of screens, a symbol of the podiums on which the medallists receive their awards. In contrast to the futurists who used still pictures to describe movement, I started with a moving video image which I captured in freeze-frame and transformed using a multiplicity of digital variations.

In a way, this series of works lie at the crossroads between analogue and digital technology. Nam June Paik was the first to use video as a means for artistic expression. However, your work goes a step further, insofar as you have enriched an analogue medium with the possibilities offered by electronics, something few other artists have dared attempt.

Even more remarkable is that this technology does not limit me to the relationship between video and electronic art. I'm able to extend my areas of research to other fields, such as digital art and painting, photography and digital art, or traditional etchings and digital etchings.
* (published by Odile Jacob, 1998)

ANTHROPOMÉTRIE

Patrick Imbard: From Marcel Duchamp to Matthew Barney, via the Vienna school of action painters, successive generations of artists have chosen their anatomy as a means of expression. Yves Klein and Bruce Nauman have also proposed their own visions of the human body. Others, among them Gina Pane or Orlan, have taken this inquiry to its logical conclusions. If anything, prior to Anthropométrie, there was a feeling that everything there was to say about or do to the human body has been said and done... Whereas Performances shows the way in which sporting exploits are portrayed by the world's media, Anthropométrie explores the human body as revealed by science. In your work, the body is an instrument at the service of knowledge as well as ideology. Was this vision borrowed from the world of medical imagery?

Modern medical science is a formidable creator and consumer of images. X-ray scans, ultrasounds, thermography and proton magnetic resonance scans each provide unique representations of the human body's workings In the past, we viewed our bodies from the outside in. We now have the possibility to turn this viewpoint around insofar as medicine has made human beings transparent. This raises a challenge for artists who must keep pace with this new vision of the body.

How did you incorporate this imagery into your installation for a hospital near Paris?

Anthropométrie was purpose-built for a hospital in the Paris suburb of Kremlin-Bicêtre. I chose this site because of its appropriateness as an exhibition venue for a work on the human body. The installation was constructed inside a 17th century water well, which measured 10 metres in diameter and 60 metres deep. It comprised a mirror tilted to 45 degrees with two 1,000 watt projectors which projected scanner images of my own body onto a giant screen at the well's base. Spectators could discover the digital images of my body from behind a pair of stereoscopic binoculars. Another basin contained still pictures as well as a video sequence showing cutaway sections of a pair of lungs and a brain.

Other works on this same theme were exhibited at Florence's Vivita gallery. In association with La Specola museum, you presented "écorché" models, from the museum's collection of 18th century anatomical figures. What led you to stage this quite extraordinary exhibition?

Florence is a mythical city for me. In Renaissance times, artists flocked to its medical schools to study the human body. Da Vinci wrote his famous Treatise on Anatomy there, and this was fresh in my mind as I approached this piece. In creating it, I overlaid scanner images of the human body on top of anatomical figures from the museum's collection. These images were then digitised and fused together. The installation that resulted was something of a Dickensian curiosity shop.

Performance examines the way in which the sports world uses the human body as an ideological tool, in the service of athletic excellence. Anthropométrie takes this inquiry into the realm of medical imagery, and shows the body as a tool for medical research. Conversely, Înologie, seeks to explore the body's role as an adjunct to gustatory pleasure. How did you succeed in achieving this?

Once again, I was commissioned to design a series of works for a particularly unique exhibition space, the wine cellars of Château Pichon Longueville. The rich heritage of this location and its history of prestigious vintage wines, led me to conceive a series of tableaux from Greek legend and mythology which depict a bacchanalian revelry of the senses. This in-situ artwork is designed as a discovery tour, in a similar way to my digital water garden, Arcadie For this exhibition, the works were displayed in one of the vineyard's computer-regulated, stainless steel fermentation vats. A sequence of works, chronicling the wine-making process, were displayed in the mezzanine overlooking the cellar floor Some of the pieces in this sequence are conserved at the Château. On the wall of the largest of the vineyard's storehouses, I projected digital sequences retracting scenes from Dionysian mythology and the sacred world. Since its very origins, wine has served social, economic and religious purposes. A pagan symbol in Greek times, wine was thought to induce supernatural inspirations and trance-like states. Each harvest was the occasion for a celebration to the god of wine. Over time, Christianity subsequently assumed the Dionysian myth into its own liturgy.

MUTATIONS

Patrick Imbard: In 1998, you presented the most ambitious of your major works in Boulogne-Billancourt near Paris; an interactive installation which was conceived as a summing up of your art. It includes the notion of a giant container as well as a dark room in which 3-D images swirl around inside a well shaft. You had already presented aerial views of landscapes in the series, Méta-cité. Binary spirals crop up in Oro Negro. Self-replicating fractal structures were first featured in Autres Natures, and the well's construction was also reminiscent of Anthropométrie. In what respect was the end of the 20th century the appropriate time for a work as ambitious as this? Was this fin-de-siècle work a précis, a conclusion or the culminating point to your prior artistic experiments?

Miguel Chevalier: Croissances & Mutations was a commission for the municipality of Boulogne-Billancourt which wanted a work to inaugurate its new cultural centre. By virtue of its geographical location on the banks of the Seine, a stone's throw from Paris, the town prospered during the 19th century thanks to its industrial laundries. Engineering and manufacturing industries sprang up in the 20th century with the rise of the automobile and later, the airplane. Within a short space of time, Boulogne-Billancourt became a centre for France's automotive and aeronautical industries, thanks to the presence of the Renault, Farman, Voisin and Salmson factories. The motion picture industry also built great studios in Boulogne. I would even mention that Etienne Jules Marey, whose invention of chronophotography prefigured cinema, was a native of the town and worked there in his laboratory. Croissance & Mutations takes this rich historical heritage as its starting point and shows how the town has become a haven for high-tech companies, be they in information technology, mass communications or the service sector.

How did you create this piece?

The space was quite unlike any other I'd exhibited in before: an immense hall, bathed in natural light. This forced me to create an enclosed space to house the installation. I created a 10-metre high metal parallelepiped, a homage to Etienne Jules Marey's first darkroom. Two walkways led spectators into the space or up to a 2.5-metre high vantage point.

At the same time, Croissances & Mutations is also an interactive work.

Spectators could interact with the work via one of four sensor interfaces located at opposite end of the mezzanines. They had a complete view of the whirlwind of 2 and 3-D images eddying around them, which was mixed with real and imaginary fragments of sounds and images from the town's past. The interface also allowed spectators to display one of 13 different virtual worlds, each of which was sequenced in a different way. They could also modify the installation's soundtrack in real time. The music was scored by the Japanese composer, Atau Tanaka.

What role does music play in your works?

Music plays a major role in enriching many of my works. I have worked with many composers and musicians, among them Fred Wallich, Jean-Luc Bardyn, Raphael Elig or Gérard Hourbette, who made a vital contribution to my installation, Périphérie. His "soundspace" for this work, which alternated soft, flowing interludes with dramatic crescendos, greatly enhances the piece's impact. Working with Atau Tanaka showed me that interactive music can establish a living link with the images being projected on screen. The soundtrack is never static, but is endlessly evolving. It thus achieves a perfect harmony between sound and vision. This form of collaboration has led me towards more ambitious projects, such as that I'm preparing with the writer and inventor of automatic writing machines, Jean-Pierre Balpe, which seeks to blend digital imagery with poetry and fiction

Is interactivity one of the hallmarks of your art?
Is it something you systematically aim for in your works?

Definitely. An example is one of my recent works, La danse des pixels. This installation, which was presented at Paris's St Lazare train station, was a reference to Matisse's work, La Danse Spectators were led into a semicircular space in which they could choose a model from one of 30 figures. Each figure's shape or colours could be individually reconfigured by spectators using a computer mouse. Once they had finished, the figures could be printed out in strings and taken away. The piece was directly inspired by Warhol's Do it yourself series.

Do you find that the traditional exhibition spaces - galleries, art centres and museums - are flexible enough to play host to interactive installations?

I find that working in close collaboration with gallery managers and museum curators pays dividends. It's often quite difficult to modify a space's construction or to obtain the necessary equipment to project my works under ideal conditions but, generally speaking, most of the people I've approached are willing to make an effort.

What projects do you have for the Internet.

Right now, I have two sites: "Massivement parallèle" and "101 dalmatiens", which showcase interactive works that have been specifically designed for the web. Both works belong to me. They have been "deposited" in a virtual space and can be viewed by anyone, anywhere, with a web connection. Visitors to the site can view 13 different pieces. Four of these works can also be downloaded. They form a "limited edition" series of etchings numbered from one to infinity. Those who so wish, may obtain a certificate of authenticity by sending me an e-mail. If you like, this is a sort of proto-experiment into the electronic reproduction of artworks.

Do the possibilities offered by electronic or mechanical reproduction techniques mean that just about anyone can turn out a work by Miguel Chevalier?

In theory, yes. But this does not mean that my work escapes my control. Every reproduction is systematically logged and registered. I have a database of every reproduction made and intend to publish a catalogue sometime soon, either as a DVD-Rom or a standalone website. Forgery of my work is not something I'm afraid of. Digital technology has gone through a multitude of successive waves since I began working in electronic art. To reproduce my works, you'd need access to entire generations of software and hardware that are no longer available on the market today.

What directions do you see your art taking?

I'm certain that I will remain faithful to the concept of the network, which is an omnipresent part of our modern age. Technology will bring new possibilities to create entirely new, original works that harness the potential offered by the Internet, telephony and digital TV. My ultimate aim is to remain constantly in step with the ideas of my epoch, even when these challenge conceived notions. I'd like to see art lovers take a greater interest in images, whether these are appear on canvas or on a liquid crystal plasma display. I also have a vision of the truly interactive works that I'd like to realise one day. These could be remotely programmed by a central server and refreshed according to the collector's preferences. Current affairs, the seasons, or other variables could serve as parameters to update them. The never-ending accumulation of past events is constantly changing our perspective on the world in which we live. I hope to remain an artist who is not only attuned to the concerns of his age, but is capable of interpreting the ideas of his age with the tools of his age.