the Thirty-Third lecture

Living with 'Robots'

JOA

The central market, in the French political economy, and the Beaux Arts city-planning that enfleshed it, was more than just a 'retail outlet'. It was designed to bring the farmers and artisanal producers, who lived around the city, into social contact with those who lived inside its walls. The city and the country traded while at the same time, becoming known to each other as real human beings, rather than mere economic and political cyphers. So successful is this in Thessaloniki that we found, in 1999, only one supermarket in the centre of a city of 1,000,000. Such is the density of occupation within the centre of this city that its central market still supplies a population of 30,000 - all of whom walk to it.

The centralising of the great market, or Bazaar, provides an Arendtian "Theatre of Appearances" where the lowest of the Estates, the agriculturalist, trader and hand-worker, meet, openly and physically, with the middle and upper classes, in the very centre of the 'political vertebra' of the city. In the busy cacophony of the market, the makers can exchange opinions and banter with the users – those who live by speaking, writing and calculating. This is a political, and even an intellectual, theatre that is essential to any rationally-designed polity. Without it the ethos emerges of 'us and them'. The hand-workers feel unregarded and become surly and misbehaved. The writers, speakers and calculators become apprehensive and unambitous. A society that does not know itself can not rule itself.

Neo-Mediaevalising 19C, Victorian Britain, with her reinforced preference for processes that excluded the role of public institutions and enhanced the secretive operations of capital, ceased the construction of municipal markets. In this, as in much else, Britain departed from the Continent. Post-Napoleonic France built generous, and occasionally magnificent, public markets in all of her cities and towns. The 19C policy, in Britain, had the desired effect. Veneered over by a Victorian sentimentality concerning the delights of rusticity, the food-producers and village craft-workers were progressively excluded from any opportunity to participate physically within the Arendtian space of the city. The myth of 'cold comfort farm' was promoted. The culturally-challenged Rustic was proposed to be happiest when he was most like his cows, silently going about his mundane motions amongst the eternal spring sunshine, flowers, and gentle breezes of a heavenly world that was far away from the smoke and noise of the barbarically unplanned English 'coketown'.
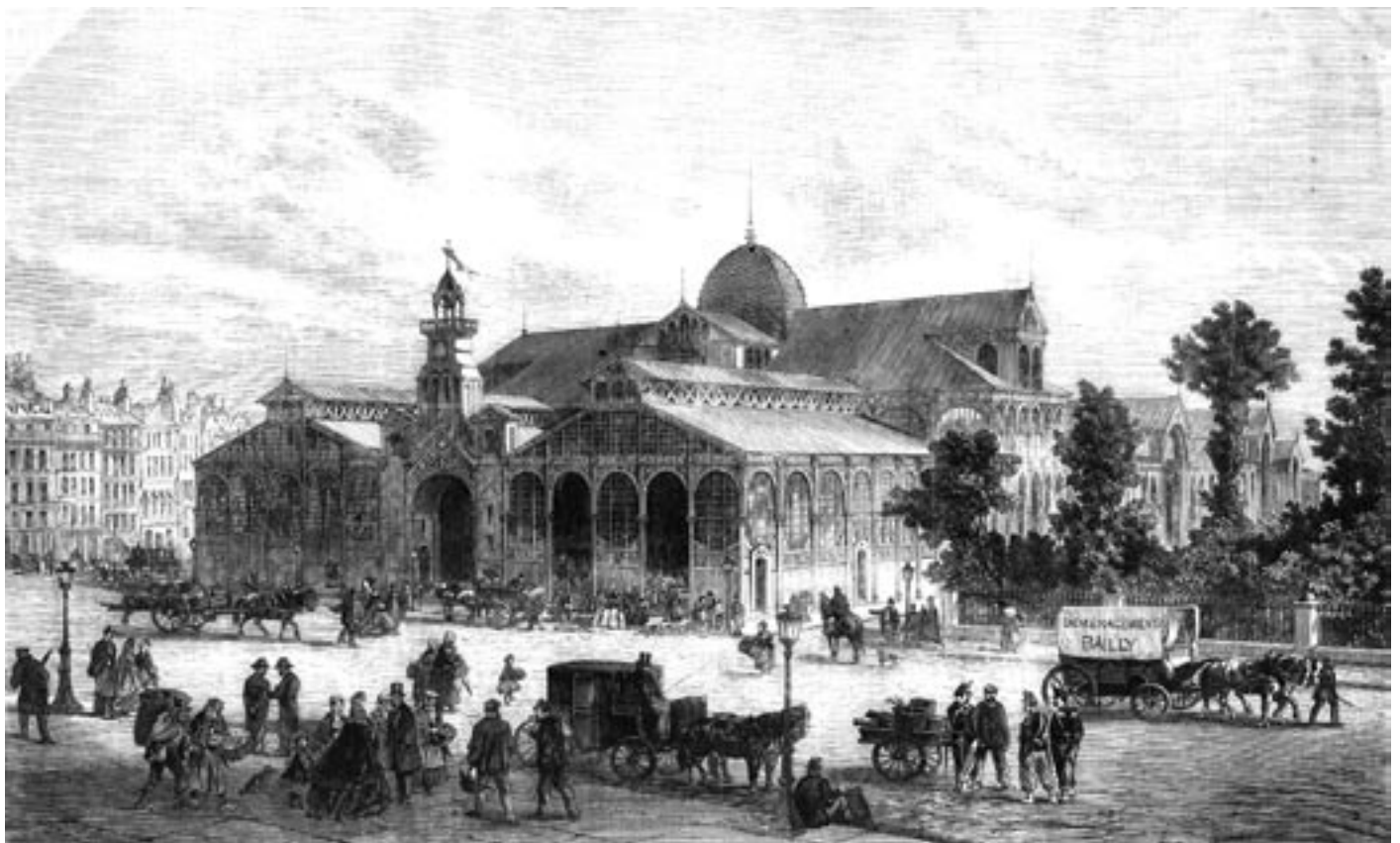

France in the mid 19C not only constructed central food markets. This was the Marché du Temple for 2000 small traders in clothing, couture, upholsteries etc. It allowed small business to group into easily-accessible masses from which an economy of scale in marketing was achieved that allowed the craftsman to do what he does best - create and produce. France aimed to retain its reputation as a leader of cultivated taste - something with which the mass-production industries of Britain were not concerned. The British tendency to bowdlerise and trash the taste of the consumer (even today - with 'Punk') descends from the British policy not to pursue the high ground in art and design.

The directly productive small farmers and artisans vanished from the city. Their products were distributed by gamblers, financiers and merchants. Yet even these, who might support, or even become the leaders of any city, found themselves reduced in political status from 'magnates' and 'hereditary leaders', to the merely abject servants and powerless manipulators of an impersonal 'Market' which had been deliberately disembodied and denied every aspect of that 'real being' which it is the capability of Architecture and Urbanity to create. By banishing the Workers' from the City, the Magnates found they had lost that direct contact with them which is the necessary price of exercising leadership. The Army must see its generals, and the generals must live with their soldiers. Any coherent politics, which means government, was thwarted and that chaos which suits the dismal privacies of commerce continued with its 'business as usual'.

It is an imperative, in any 'greener' economic system than the present one, for the physics of manufacture and trade to become more localised. There would be a positive impetus, in any such policy, to include as much making and trading within the horizon of the 'walker's world' of the urbane city, along with the mechanical extensions which enlarge the size of this envelope. Instead of the 'factory estate' or the 'business park', the future should introduce the 'industrial boulevard'.

The first two projects of my design bureau showed how this could be done. Poyle put an urbane face, and an urbane topology, on that most suburban of all land uses: the distributive warehouse-workshop served only by trucks. Kensal Road followed this up on a site lying within the pre-automotive, 19C envelope of London. It showed how similarly 'industrialised' users could obtain both an iconically sophisticated face and an urbanistically theatrical topology. The projects were widely published, in the 1980's, and even imitated. Yet their ambition, which were clearly to bring industry into the ambit of an urbane culture, was denied. What was lacking, within the Anglo-Nordic city-planning culture, was the ambition for such an urbane civility itself! Nothing had changed over the 40 years since the "Redelopment of Central Areas". The ambition to eject industry, as well as the housing of the workers, from the ruins of the 19C lifespace, remained as firm as it had always been - in Neo-Feudal, Neo-Rustic, late-20C Britain.
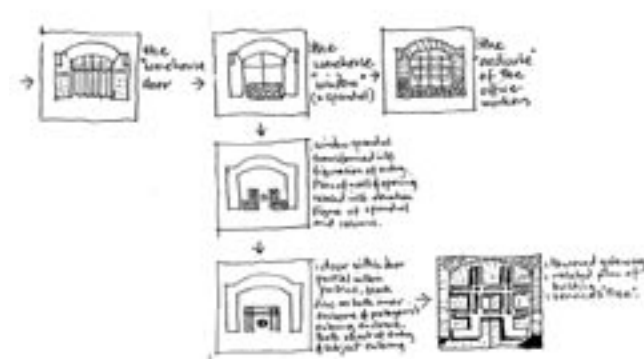
An 'Industrial Boulevard'. The articulated trucks at Poyle are 'staged' by a columnar facade built over the fronts of the anonymous bags of rentable space.

An 'Industrial Boulevard'. Kensal Road makes a theatre out of the everyday functions of a factory/warehouse. The forklift trucks are visible from the street.
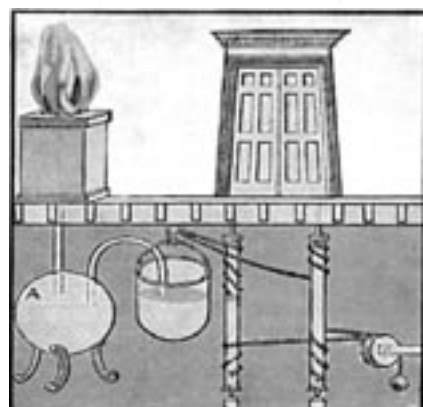

Fig. I. Hero's machine for opening temple doors by heated air (first century B.C.).

2000 years ago Hero of Alexandria was opening temple doors without human help. The sacrificial fire heated air which tripped a water siphon and so on.

These anachronistic policies were secured by the continuing determination, even after decades of so-called 'Modernism', to avoid an architecture that used urbane iconographies and topologies to house the novel advent of an industry that mechanised the working process by substituting machines and mechanical power for the craftsperson. Was this evasion caused by the recognition of this novelty for what it was, a direct assault upon the ancient relation between slave and owner? Was its assimilation to 'civility' avoided because the machine upset the hierarchy of serf and lord , and servant and master, on which human societies of any sophistication had rested for thousands of years? The Ancient Hellenes had a sophisticated undersanding of machines 2000 years ago. Their mechanical limbs seldom usurped those of the Roman slave. Even in 18C, pre-revolutionary France, a machine was a beautifully-crafted automata that could play a flute, or a duck that could peck-up grain, 'digest' it and eject it as excreta. They were not yet 'Robot-Workers'.

Perhaps it is unsurprising that after such a long history of rejection, even the West, the culture that broke the taboo on mechanical production, should still regard this new Estate, that of the genuinely rude mechanical Robot, as impossible of admission to social space.

A 19C city-dweller, newly conscious of air polluted by buring coal, longed for the pure air of the 'natural world that appears in the picture on the wall.
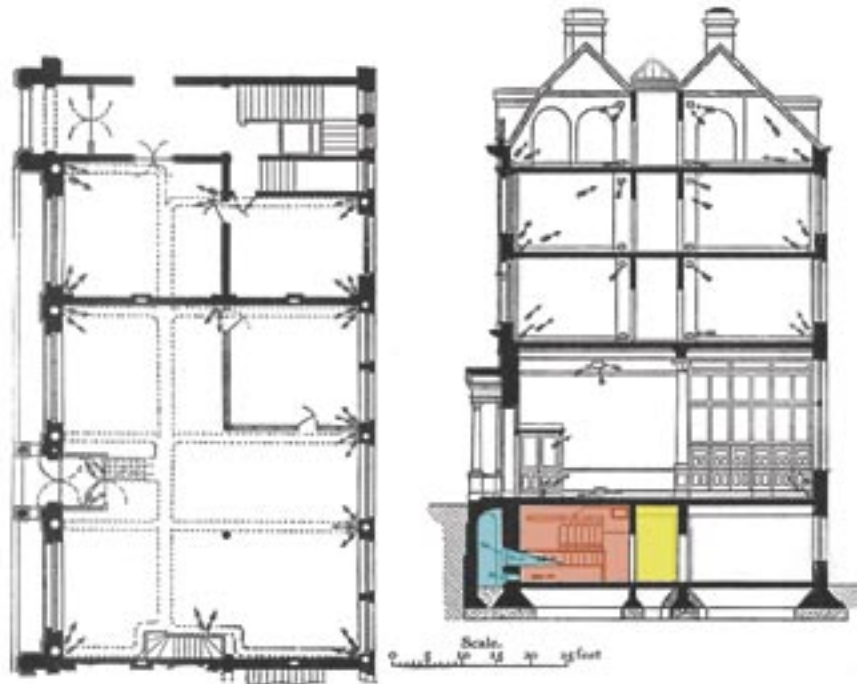

A plan of a building with piped inlet and extract air. The vertical ducts, for the warmed inlet air, are shown, like chimneys, as built into the thickness of the walls.

Fresh air (BLUE) enters the heating battery room (RED) via the front area. A corridor (YELLOW) is the main duct. 'Vitiated' air is extracted from each room near the ceiling.
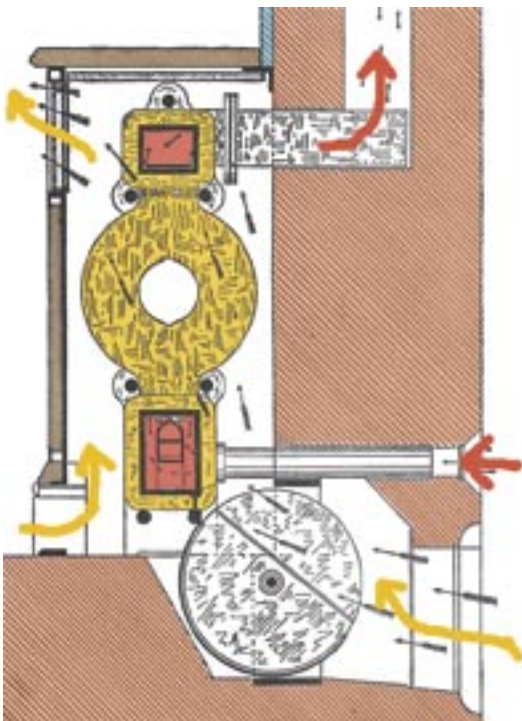
The, 19C, 'BURNS' air-conditioner. Air to burn the coal-gas is shown (in RED) coming in from the exterior, on the right. It goes up a flue in the wall. Air for the room is shown (in YELLOW) coming in and mixing with some air coming in from room floor level.
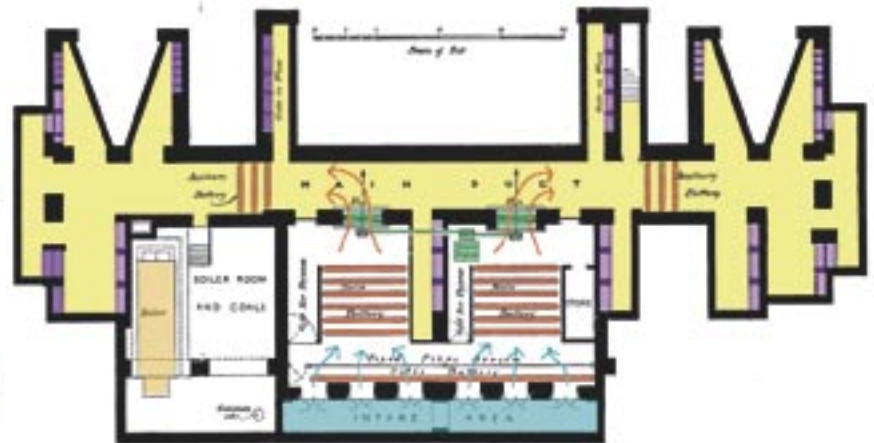
The basement of a building with ducted ventilation. Fresh air enters via the front area (in BLUE) through six doors into a room with a filter screen and preliminary heating battery (in RED) two main 'batteries' (in RED) and two propellor fans powered by belts off a steam engine (in GREEN). A corridor (in YELLOW), containing two further 'auxiliary heater batteries', is the main horizontal duct to the up-risers (in PURPLE).The Boiler (in BEIGE) is in the coal-hole.

How else does one explain the contrast, by the mid-19C, between the advent of machines into every department of life - with especial emphasis on that of the wealthy - and the banishment of the mechanics who made them into a rustic limbo, lit with fire, shattered by mechanical noise and choked with fumes and smoke. These territories, void of civic culture and government, had, in the 18C, to be situated next to the mountain streams that could power the looms and weaving machines. Later, in the 19C, coal made the workplace slightly more footloose. But coal was heavy, and the first concentrations of factories were built near collieries. Unregulated workshops reflected their red furnaces on low winter clouds that brought forward a night of soot. Houses were built around them and great cities, like 19C Manchester and Birmingham, sprouted quite free of either a conceptualised social structure or the governance to effect it. Britain's robotic Midlands were the Wild West of 19C Europe. It was an heroic age. But the industrial combatant, the 'Worker', was not given the status of warrior. He was a mercenary, fighting only for money. He was not much better than a slave - and one who could be supplanted by his robotised simulacra.

The man with robotic ears, can, like a bat, see in the dark. But, dressed like this, he will never get served at the bar - even with the lights off.

The gentleman's hands -free robotic umbrella-stetson

The cook has gone from 'below stairs' to regions where robotic augmentation will come to know no bounds. Eating-in from out of a tin.

Hands-free speech with McDermott's Telephone in 1880.

The next best thing to walking on water must be swimming without taking off one's waistcoat. For how else can one recognise a gentleman?

Machines were seen, at the height of their 19C proliferation, as entirely compatible with a 'normal' identity. Only a few miserable, useless, alienated 'Aesthetes' felt that they challenged 'humainty'.

You've broken my heart.
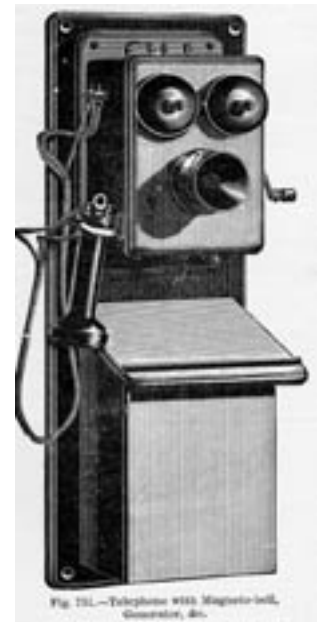
Mirror mirror on the wall! Who is the master of them all?

Siegfried Giedion in Mechanisation Takes Command, OUP 1948, describes the explosion of robotics that occurred in the mid-19C. The period saw the final breaking of the taboos against the depersonalisation of the social bond. An increasingly globalised trade had already distanced the producer from the consumer. Ethically, it was a giant step from the automata that amused the courtly salons of the 18C, to symbiotic slave-machines that took us, 'nakedly' bonded with machines, under the sea and into the air.

The industrial economy which powered this new confidence was, however, never made manifest, in the sense of being given a novel, but still civil, iconography that reflected its revolution in the ordering of society.

The machine was mis-used to inscribe a profusely decorative iconography which reinforced a culture whose social relations were still founded on an artisanal economy. A neo-feudal veneer cloaked the 'workings'.
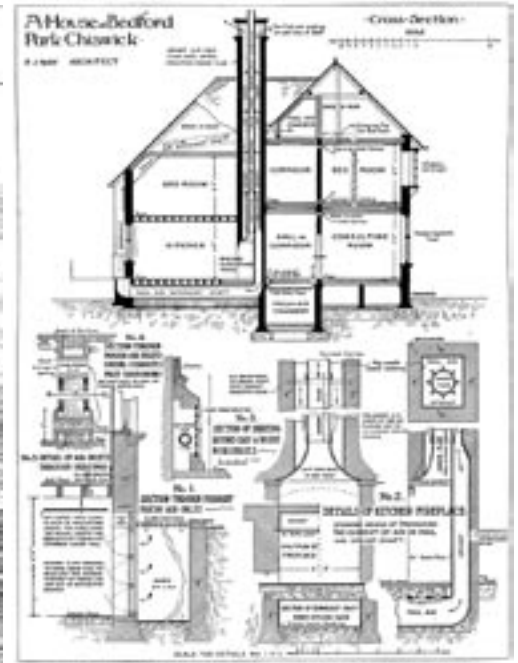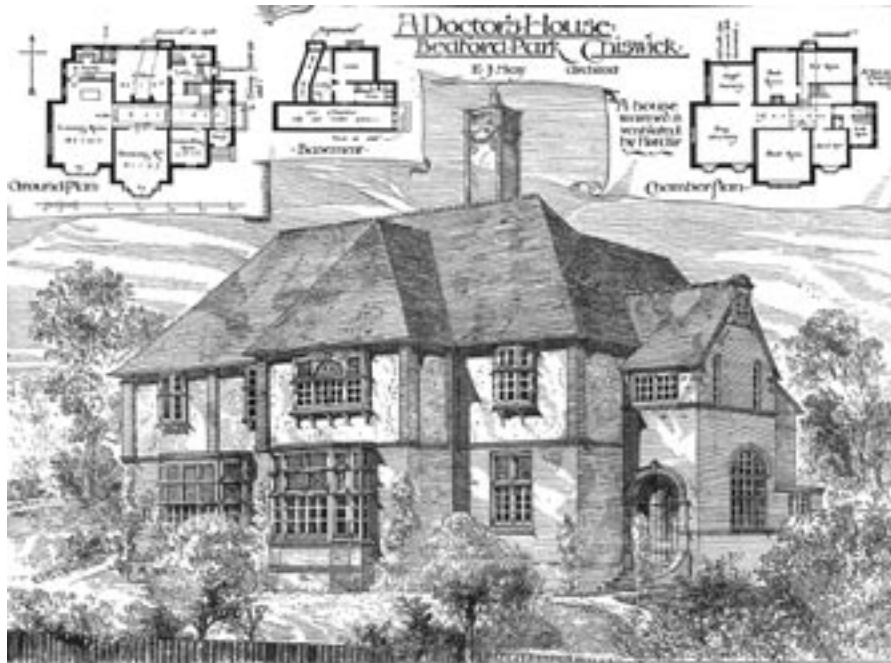
PLANS AND VIEW OF HOUSE AT CHISWICK HEATED AND VENTILATED BY MEANS OF WARM AIR.

London's first thorough-going suburb was out at Bedford Park. Here, as the Cypriot immigrants say "Even the dogs don't bark". These 3-storey, 10+room, rustic hovels, bristling with patent machines, were much bigger inside than out, an illusion encouraged to this day.

These were the 19C technicities of the 19C version of the 'Invisible Hand' (worker) that continued, unaltered, through Mies, Schindler, Neutra and all the Bungaloid.

The principal agents of this Neo-Feudal miasma were the new class of white-collarites - the Professionals who mediated between the 'Quality' and the workers in the distant mines and factories. Unable to truly command the loyalty of the rank and file, and never the equal of the Owners, the Professionals squirrelled themselves away in the New Suburbs that Walter Bezant, chronicler of 18C and 19C London, described as regions of eternal "dullness". But this quietude is just what 19C middle-management wanted. They wanted to play at 'getting away from it all' to a fairy land (fitted with jumping ouidja tables and faked photography) where the new social reality could be hidden behind the lush vegetation around the forest-glade huts that they favoured. An elaborate culture of suburban pseudo-rusticity grew up around social sports, social parlour games and gardening that became, 100 years down the garden path, the foundation of mainstream British, 'green wellie', consumer culture.

Agatha Christie is its truest chronicler.
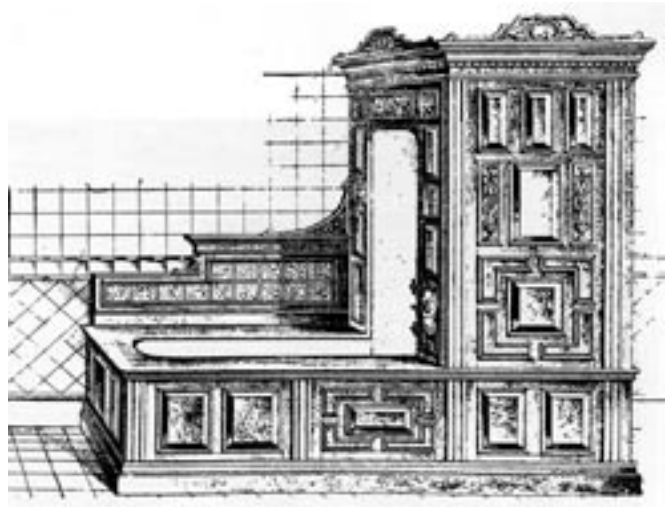
By 1853 the untutored Silesian peasant Vincenz Praessnitz had 1500 'patients' and a fortune of £50,000 derived from treating his French speaking international clientele to a regime of 'natural' rigours such as cold showers taken naked in the open air.

A £60 'hooded bath' of 1881 by which the public frolicking of the 'Alpinists' could be translated into the 'robotised' privacy of the English suburbs. The technology was fine: the architectural 'exedra' even better. The failure was in the blank 'quadraturae' left by the iconic illiteracy of a design culture which wanted to live 'naturally' but could not conceptualise 'Nature'.

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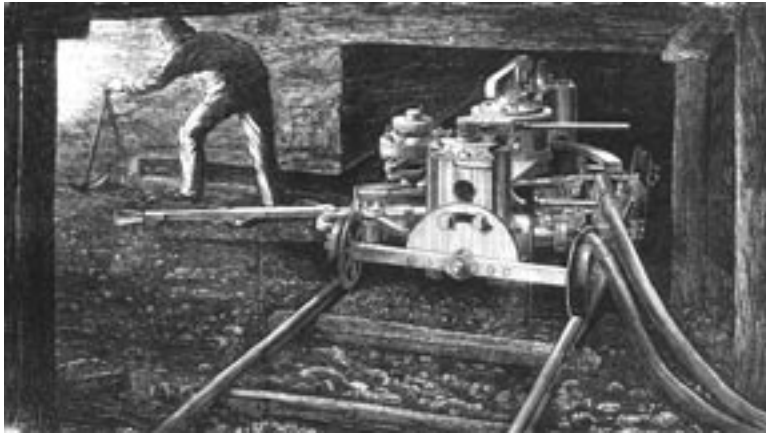
Below, even, the level of the boiler in the basement, with its heater-battery, its steam-powerd propellor-fans and conditioned-air flues, lay the coal-mine. Robotism had come here as well, displacing the pick-axe. Hydralically-powered and running on rails, it cut coal like butter.
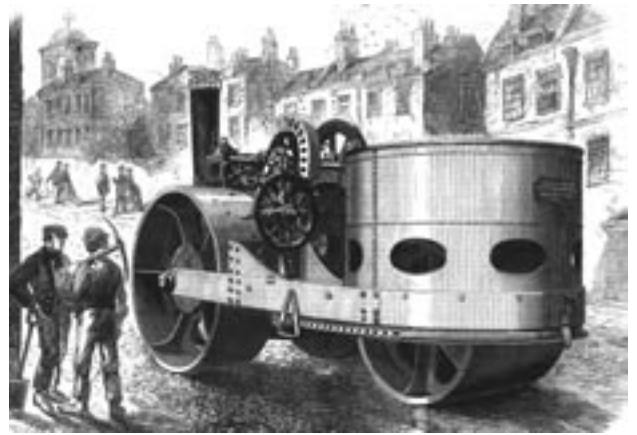
A mid-19C 'boulevard maker', ready to cut reason into the 'shambles'. But the driver of this civic 'tank' never arrived. Being a gentleman, he carried on riding a horse until it was shot from under him in WWI. After which he retired 'to the country'.

It was, in the mid-20C, hard to imagine that anything coherently urbane could be built on the 'historic footprints' of either the shambolic towns of 19C industrialisation, or the even more shambolic suburban 'escapes' from them. So, after WWII, and the dismemberment of Britain's commercial empire, The Anglo Establishment decided not to be troubled by any such 'Continental' ambitions. They had, during the preceding centuries, never treated urbanity as anything more than a retreat up to London, during the dark, wet, winter months, for a round of unserious diversions, before returning to their real religion - the rustic cults of the Island Albion. Why should not the masses follow their example? The 19C Middle Classes had already done so by moving out of their beautiful, urbane, but narrow-fronted Classical row-houses into suburban villas which disguised their broad amplitudes under steep roofs and half-timbered walls. The Alpinism of the 19C industrialists, financiers, and their clerks, projected a dream of clean-living and hydrotherapy in German forests, far from the muck and brass of imperial commerce. It was not exactly the county cavalry hunting to hounds, but neither did it whiff of Gallic urban boulevards. Anything congruent to the realities of 19C industry remained unexercised by this civic pusillanimity. The nearest the robotised machine ever approached suburbia was, in a truly 'Alice-in-Wonderland' inversion, through the Garden City Socialism of Morris and his department-store 'craft guilds'.

The Metropolitan at Baker Street was one of the many rat-holes that brought the suburban Alpinists into the city so that they could collect their nuts and squirrel them away for the little nuclear families living quietly in their pointy-roofed nests. The polite, classical, city was abandoned by the middle classes and left to become lodging houses'. Climbing stairs went out of fashion and 'Urbanity' (in 'London'), was, from this moment, never recovered.
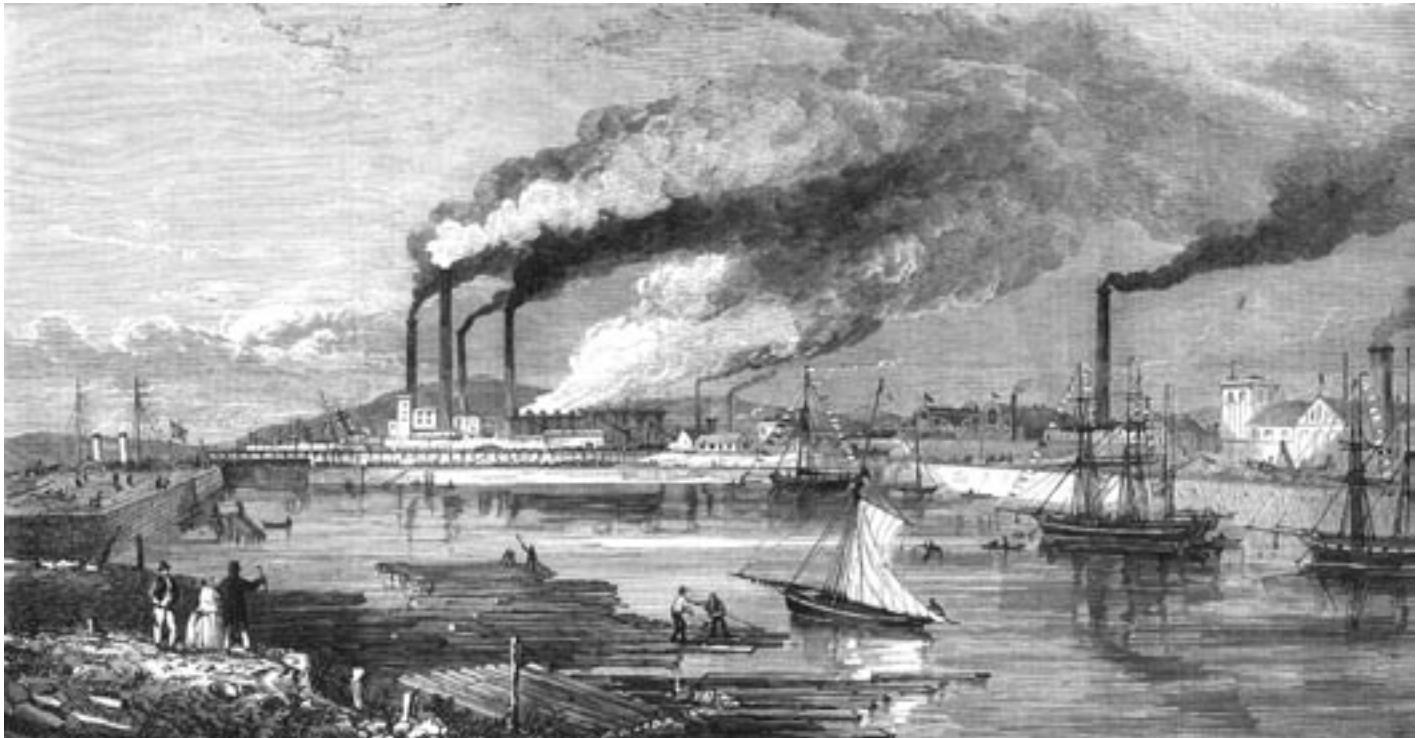
The new hematite iron-ore smelter in Barrow-in-Furness was situated on water so that the coal and ore that it used, as well as the iron it made, could access global markets. The housing of its workers followed close behind, away from the old towns. Why, then, were the new industrial cities, so 'cosmic' in their genesis, so dismally squalid and cramped in their civic ambition?

When the world got 'wired'. In 1863 the Great Eastern sailed over the Atlantic to America, paying out (part-lit by the new arc-lighting) the first transatlantic telegraph cable. The pressure of capital pouring into London's banks from all over the world had to be invested according to a developing global strategy that needed the best, and most immediate, information..

Capital, invented to promote the exchange of goods, was used to accelerate this traffic by the manufacture of cheaper substitutes, invented in the North, to be exchanged for the 'authentic', 'natural', exotics grown in the South. A 'Luxury', whose characteristics remained, like a desert mirage, permanently unattainable, became the normal ambition of the deracinated urbanite. A grotesquely ornamented lifespace was created, stuffed with iconic structures whose meanings were as unquestioned as they were unanswerable. The only reality that appeared indubitable, that is to say authentically 'real', was that of the manual worker – the lowliest cog of the New Robotism.

Gustave Doré's 'Lambeth Gasworks'. Steam piped physical power away from burning coal. Town gas, made by 'cooking', or coking, coal, could be piped around to make light. The new gas-lights burned all day and night, exhausting ambient oxygen to dispel the dark and foggy winter skies overcast by the very dust and ashes resulting from this combustion of old suns.

The age of coal spawned no small machines. The technology in Gustave Doré's dockyard reportage is that of Piranesi's Imperial Rome. The 'robots' are all human - teeming refugees from the new agribusiness.

Nor is there any micro-robotism in these street-machines. An engine, confined to rails, lumbers across a Ludgate Hill choked with metropolitan 'travail'. London's charm is that her public spaces have never been 'designed'.
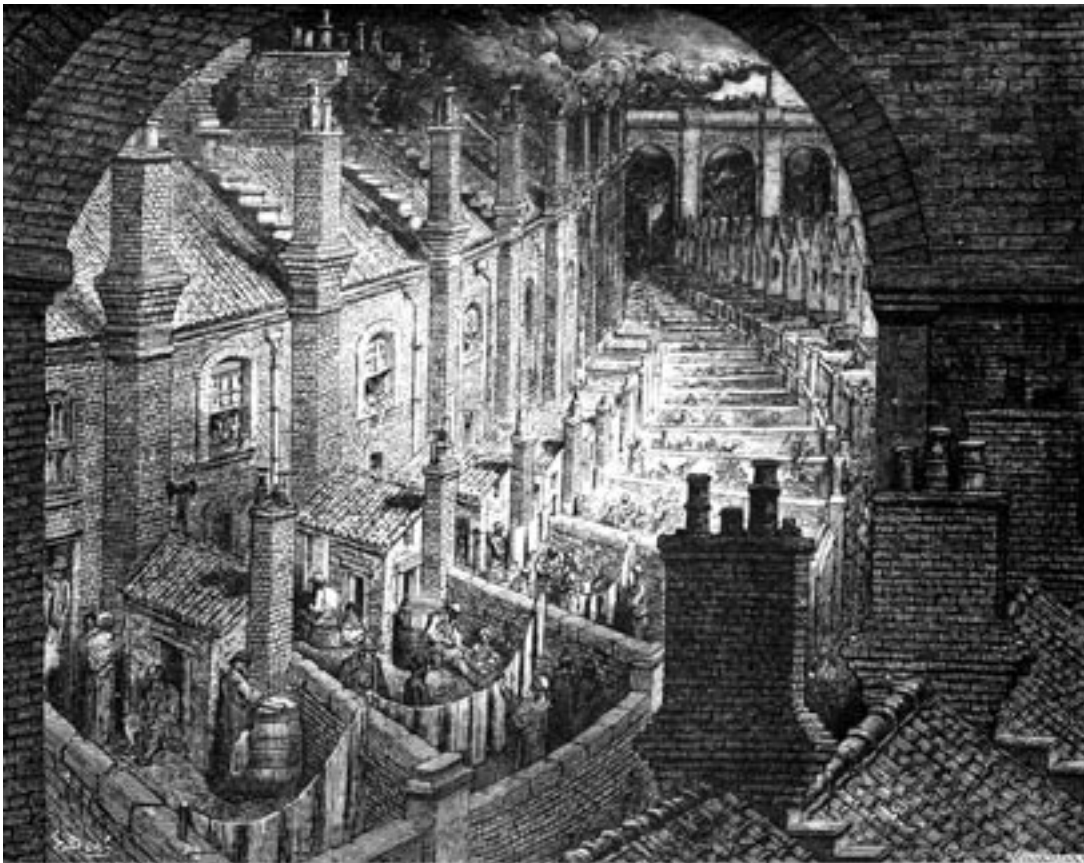
Gustave Doré's apocryphal vision of South London, where the land is too low to harbour railways in tunnels, illustrates the small houses of the manual workers overshadowed by the Piranesian scale of the mechanisms of coal. This was the civic primitivism which powered the regressive flight into the arms of Mother Suburbia.

Little had changed, in the last thousands of years, in the **workaday technology of the manual worker.** It was still mostly his **own muscle.** But instead of being an **agriculturalist, subjected** to the **will of Nature and God,** he was now a **city-denizen** whose life was in the hands of **man-made 'trade and manufacture'. God wore a stove-pipe** hat and carried **fivers in his wallet.** Victorian **'engineering'** had reduced **God** to a mere Capitalist.

And money seemed to be all that was needed to escape from the 'authentic realism' of the Working Class into the 'new reality' of industrialised goods.
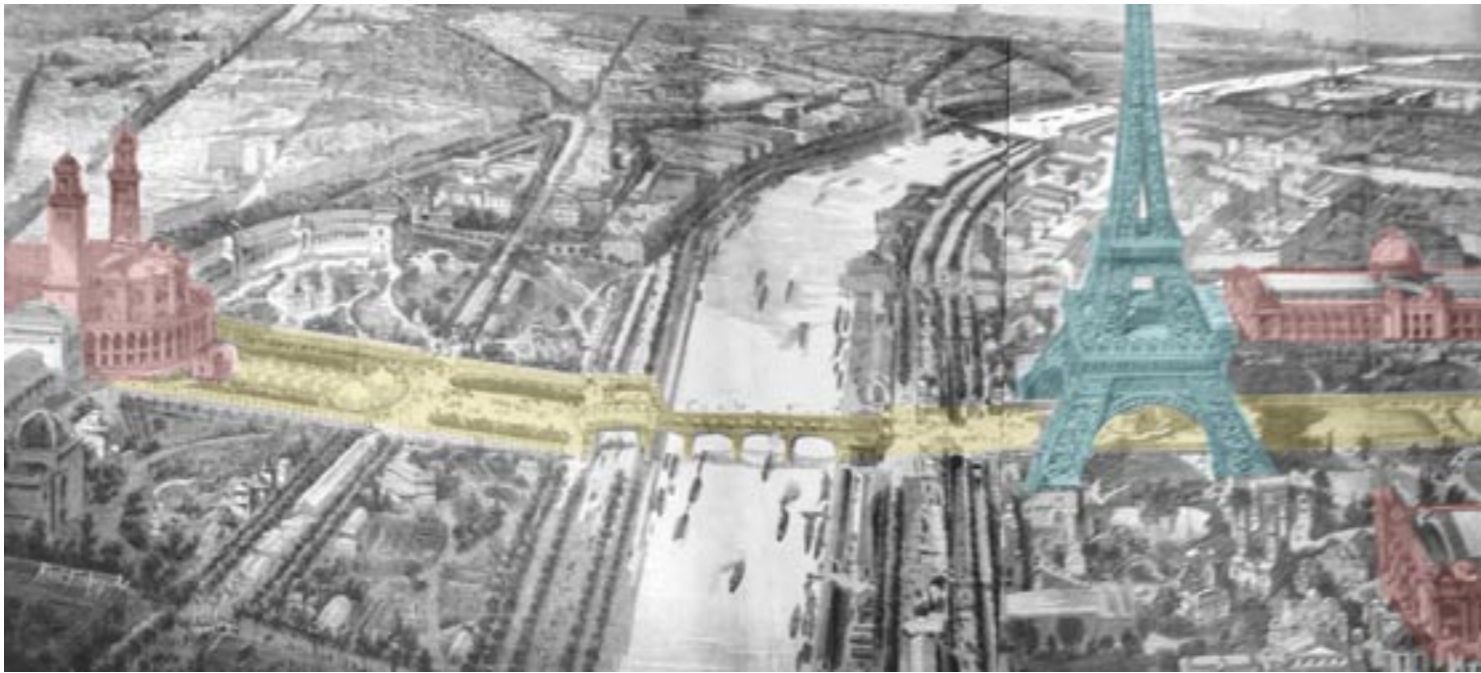
The Crystal Palace was set into Hyde Park, like the plantsman's greenhouse from which it descended - quite void of any architectural or urbane ambitions. The Universal Exposition of 1889 was set into a city which pursued a culture that London could neither conceive nor birth. All the event-horizons of the fluvial narrative (in YELLOW) are enfleshed. The Galerie des machines (in PURPLE), of Cottancin and Dutert, with its smokestacked "widest span in the world", is located at the orifice of origin. The 'spring' of the fluvial narrative is become Vulcanic, as befits an industrialising culture. London's glasshouses are merely conveniently daylit roofings for an age before electricity. They are facaded (in PINK) with an urbanising architecture whose only fault is that the critics, writers, historians and, yes, architects of the West, failed to authenticate an iconography to suit the New Age of Machines. The Seine itself provides the occasion for a 'Bridge'. As with all such narratives, the direction of 'telling' is allowed to reverse. The Delta-figure, with its Field of Reeds, faces back to the Seine from the towered and balconied gateway of the previous Palais de Chaillot (in PINK) at the far left. In this case its tridentine hypostylar orchard- forest has been designed, by some architectural illiterate, as a 'romantic' muddle. It is an index of the failure of the Beaux-Arts to understand the iconics of its perennial site-planning strategies, that, when given the easiest of all designs, a mere inscribing of 'specimen' planting beds into the earth, their plans collapse into idiocy.

The Thames was London's only 'boulevard'. Open and wide, it published all of London's hierarchies, from the suicides to the 'silks'. This is Gustave Doré's 'Greenwich on a summer evening'.

Between the coal-fired foundations of the 19C, and the dull pseudo-rusticity of the suburbs, the Belle Epoque of Beaux-Arts 'urbanité' appeared with epiphanic brilliance.

Garnier's Opera has been denoted its monument. But, as we may see from the reality of the '89 Expo, it could be Le Tour Eiffel. What is more Beaux Arts than a tower, ususally hard, fortified and exclusive, which opens its legs, in a gesture combining both masculine and feminine, to be penetrated the fluvial axis of 'public space'?

Lepere's painting of the Western end of the Galerie des Machines gives its glass and iron body a skin of Bergsonian febrility. There is a desire for 'l'elan vital' that is sadly unfulfilled by the iconic triviality of the decorative additions. With the Franks, Gothic is never far away.
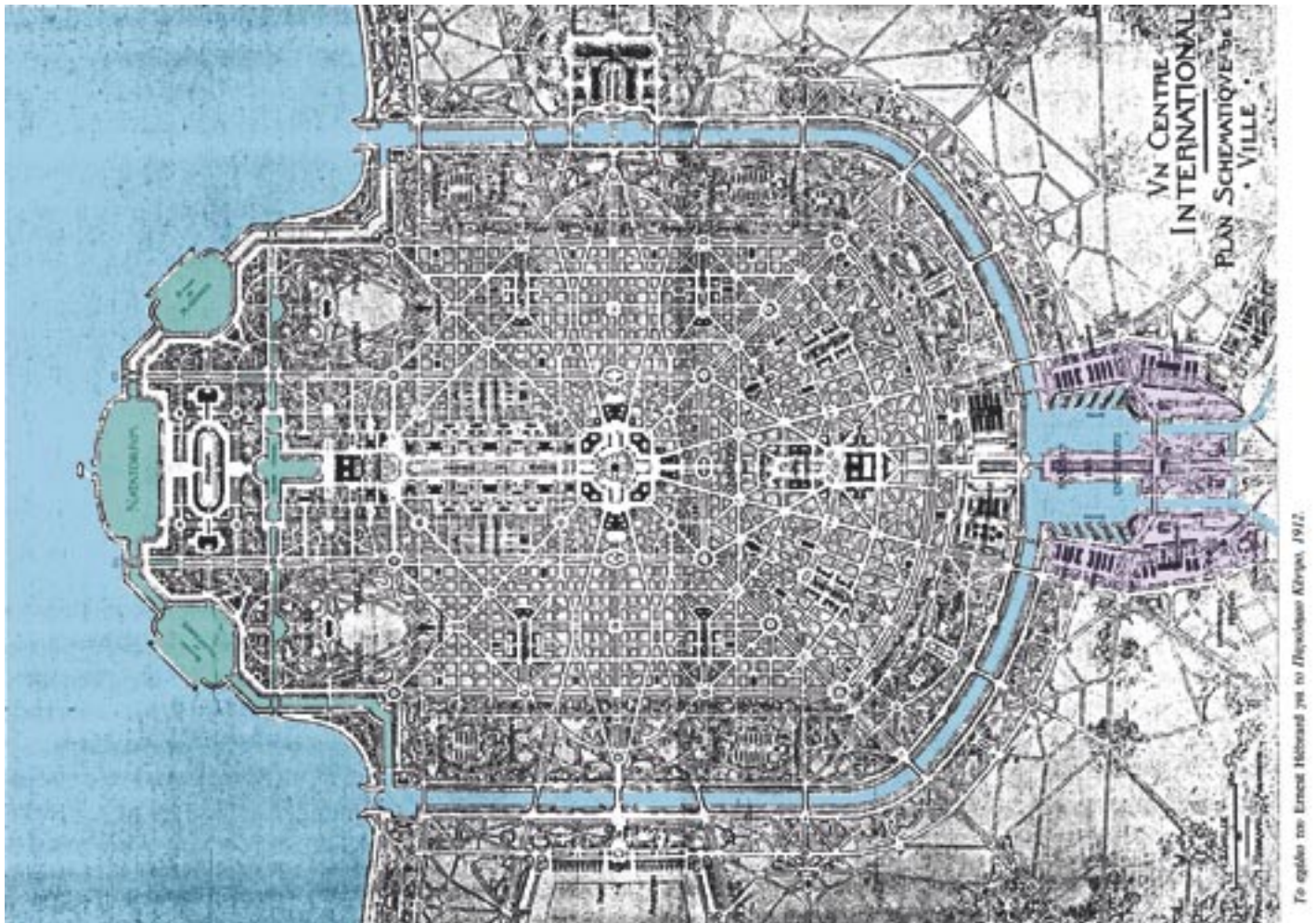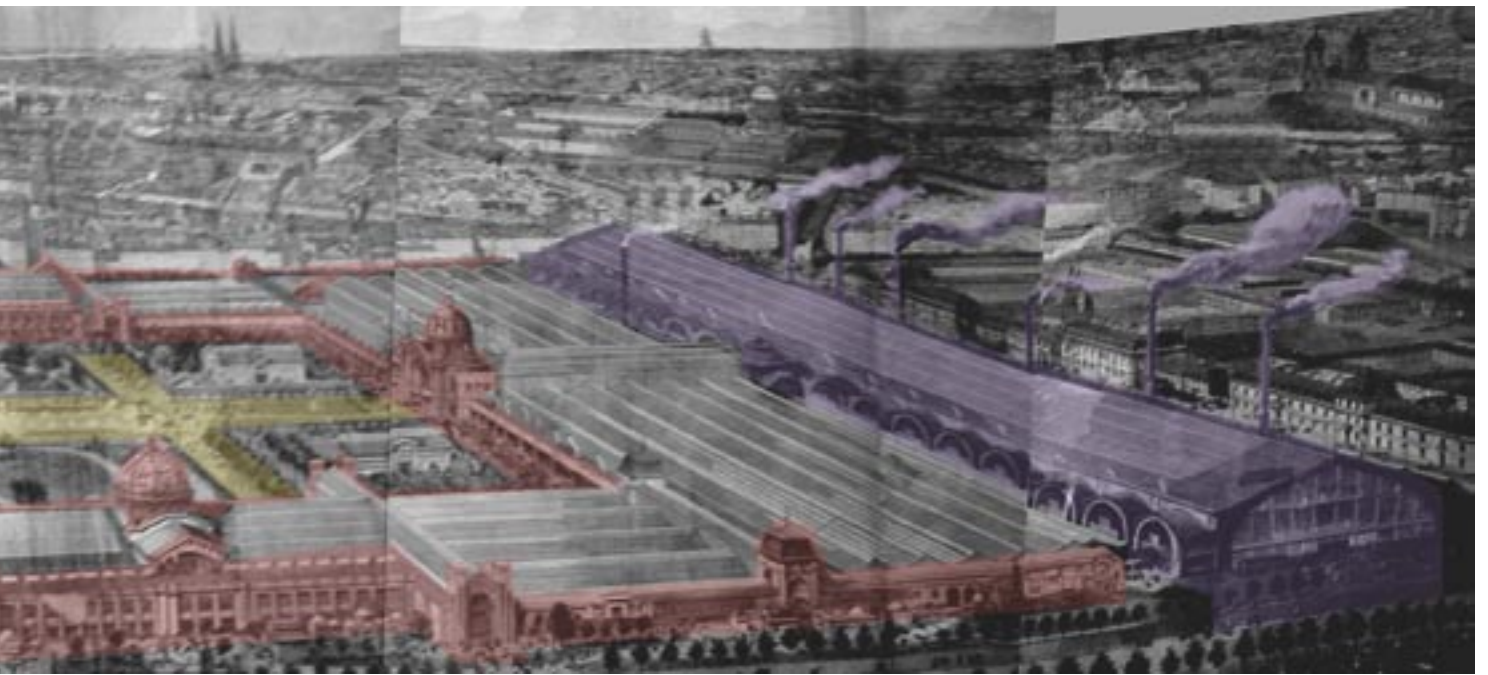
Both the 1889 Exhibition and Ernest Hebrard's 'Plan for an International Centre' (above) prove that the Beaux Arts had assimilated Industry, even in its heaviest guise. Industry, in both cases shown in PURPLE, is located at the 'fluvial source' - powering, like some engine, the social vehicle of the 'republic of the valley'. The Beaux Arts never abandoned urbanity when faced with either industrialisation or globalisation. The huge formalities of Hebrard''s 'city of International discourse' easily aborbed all novel circumstances. The Oceanic Delta used to be the place of the 'portus' or harbour that received ships. Port-cities attracted artisanal manufacturing and then heavy industry. But Hebrard, in the radical Modernising mode of the Beaux Arts, rejects this laissez-faire 'Naturalism'. He relocates industry, feeding it with peripheral canals, so that it becomes the cthonic Source, powering his 'pancosmic' social vehicle with 'work'. Hebrard's Delta becomes three (tridentine) pools. The central is for (ritual) bathing. The two laterals are for 'plaisance'. Is that yachting, or something more symboliferated? Hebrard's is a bug-eyed interstellar vehicle pumped along by Worker's Purple. It is even more 'High' than 'Tech'.

The Eiffel Tower was the tallest building in the world, for nearly half a century, until overtopped by the Chrysler building in New York. It was the first real skyscraper, and remains, to this day, the best. Nor has it ever been properly understood by Giedion, Pevsner or any of the lesser theorists and historians who have pretended that its aesthetic of 'pure structure', 'metallic transparency', etc. etc, foreshadows the shallow aestheticism which they recommended. Liberally ornamented in the febrile additions that finally, like a tropical jungle, overwhelmed everything orthogonal during the ghastly Art Nouveau, the tower's total commitment to a purely iconological project was incontrovertibly established by its original paint scheme of canary yellow.

I propose a more plausible claim that the Eiffel Tower is the biggest Walk-in(g) Column of the 6th Order (cf L2-P15).

The Eiffel Tower was canonised as 'modern' by Giedion and Reyner Banham with a farrago of suggestions as to how it was used by Impressionist and Fauve painters, like Delaunay, to represent a new high-speed aesthetic of machines rattling through streets. Yet nothing was further than the truth. The Eiffel was a purely Beaux-Arts gesture - axial, decorated and symbolic, focussed on, and focussing (if perhaps a little over-emphatically!) the Fluvial Narrative of the Republic of the Valley.

The Valley of the Republic as reified by the 1889 Exposition. The 'Oceanic' Seine is faced by the 'arched bridge' of the base of the tower. The 'balcony of appearances' is extended, improbably, to a level in the clouds. But the tower remains a balcony over a door into the higher part of the 'valley' that culminates in the 'originary cave' of the Galerie des Machines. The logic of a coherent narrative reveals, as with 'Alice', both the truths and the madness.

The first building erected after Chicago was razed by the great fire of 1880 was a realtor's office the size of a street kiosk marked only with a big, bold, plot-number. What has changed? Chicago had a Beaux Arts plan by Daniel Burnham. It was the ontological mauvais foi of 'functionalist'- aesthetics which allowed the CBD to fall into the hands of illiterate realtors.

Swiss Re is a skycraper in which all physiognomy, as with a stocking-mask, has been erased. All that is left is the banality of maximum floorspace for mininum skin.

During '14-'18 war the inventions of the 19C, which included Metternich's re-invention of the Monarchies, were tested to destruction.

After 1918, some brave attempts were made, in France, and then the USA, to invent a culture that could genuinely be described as 'modern'. This attempt, which I prefer to call the Moderne, saw one of its aims as the assimilation of the machine to a lifespace which remained urbane. Sadly, its lifespan was too brief, for it concluded with the '39-'45 war, a theatre in which the machines that had begun to invade the ancient landscapes of human combat finally took over every medium. Yet this chapter, too, was surprisingly brief.

General plan of the town of Tirgan, planned in 1930 by a team under E. May.
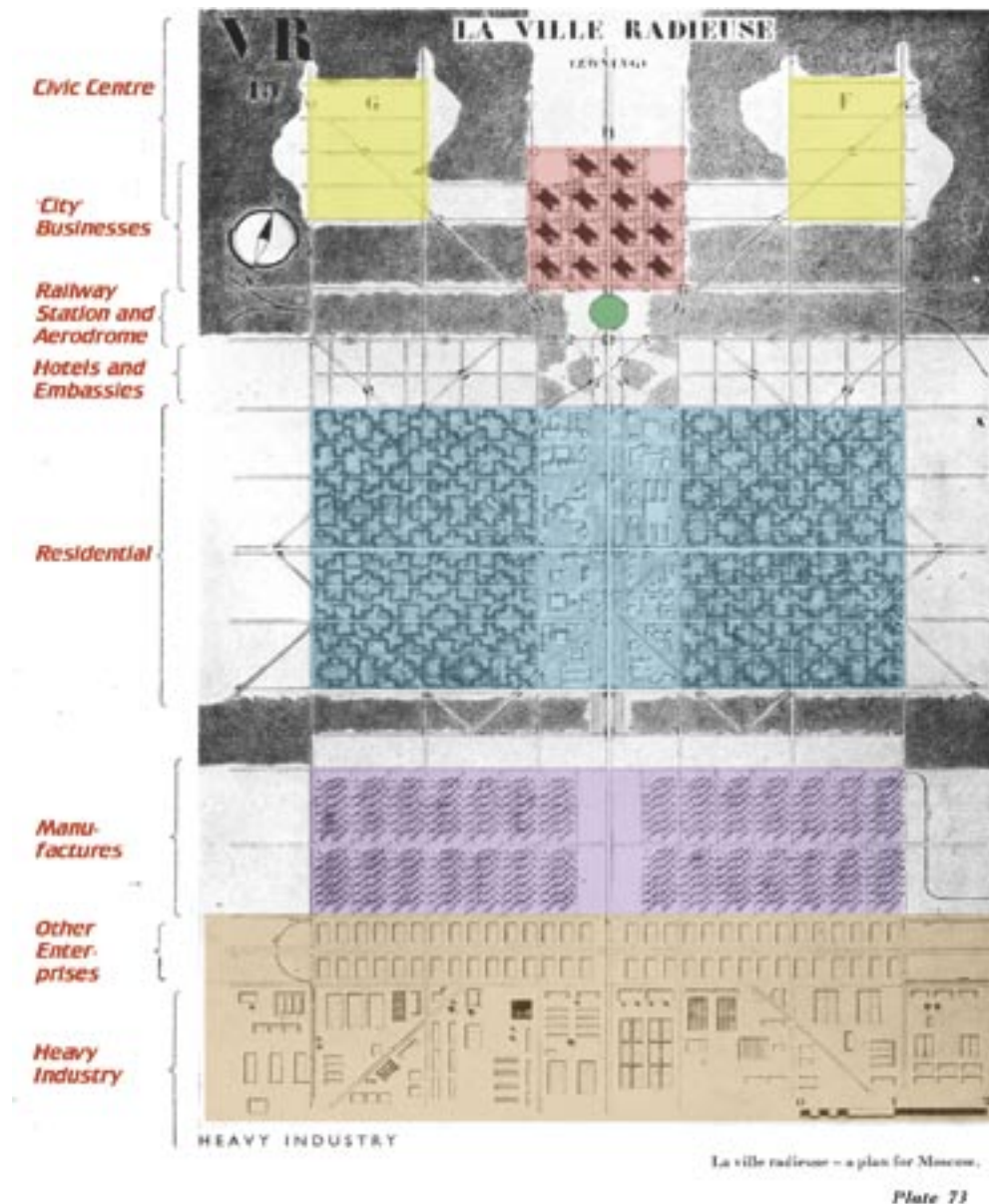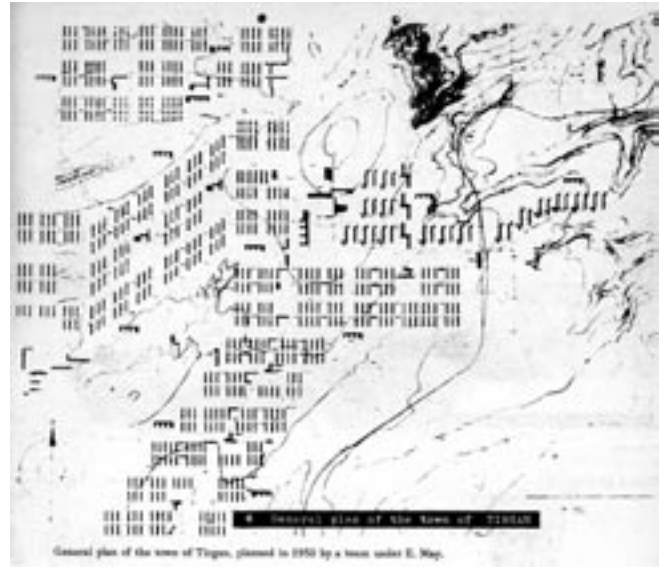
The 1930 plan for the USSR city of Tirgan, by Ernst May: is a complex of barracks void of the social spaces, such as the most simple 'street', that provide the 'theatres of appearance' needed to reify the existence of a community as a thing in itself - besides and in spite of any utilitarin function that such a 'community' might have.

For it ended with the invention of the ultimate machine. The Atomic Bomb, a machine against which no force could avail, It ended that physical dimension of Bismarckian 'diplomacy' at which the Nordic West (with all of its ingenious military contrivances), so excelled. The spectre of the destruction wreaked by machines which had been (in the phrase of Heidegger) "put to work" brought forward a lesser, seemingly more radical, version of modernity which has now, in all the offical histories, appropriated the canonic title of 'Modern'.

This was a modernity which canonised the figure of a mythic 'Engineer'. His muscular athleticism proclaimed a hard-headed determination to pursue a relentless materialism. His products demonstrated their genesis in the crucible of an impersonal dedication to physis by donning a 'machine-made' garb whose flat, featureless surfaces made no attempt at iconic discourse. This was the 'Modern' as it was in its white and 'heroic' aspect, before and after WWI.

La ville radieuse – a plan for Moscow.

Plate 73

Corbusier's plan for Moscow, of 1931, has, like that of May, the architecture of a prison-camp, or military barracks. His failure to find a built form that could be 'led by its function' led him to deny all form. So each 'land-use' is laid out on its slab of 'space' like a block-diagram in a statisticians report. Corbusier places Industry at one end of his axial narrative, opposite the flabbily-conceptualised 'Civic Centre''. Is industry at the 'source' or the 'delta'. The design is so laconic, spatially, iconically, socially and civically, that it is hard to care.
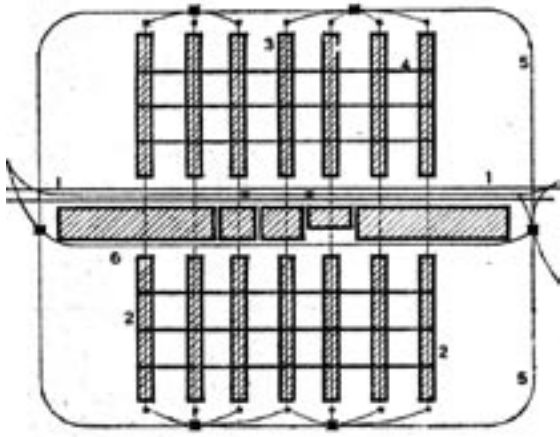
Arthur Korn, my final year tutor in 1960, was clearer. For him a city really was a machine into which work flowed and to which the workers came and went each day and from which the product flowed out.

No trace remained, in the 'heroic-Modern' designs of Hilberseimer, Korn, Ernst May and Corbusier, of that sociality which had been the mark of post-revolutionary French civics and the Napoleonic invention of the Beaux Arts.

The early-20C White Modern birthed cities of slaves. The reality of its vision was revealed after WWII. 'Modernity', faltered and retreated into a bruised, 'Brutalist', primitivism. It perished when, in the 1970's, the middle class 'masses' revolted, transforming, if not yet into Citizens, then at least into automobilised Consumer-Pressure-Groups that took Planning away from the Planners.

How was it that this supposedly hard-headed, technocentric, version of Modernity, with its ambition to universalise a city-region culture that was as urban as it was rustic, reads today as the biggest failure of Western Architecture since its diverse re-inventions in, amongst others; the twelfth and fifteenth centuries?
How can this conclusion be avoided when it is this version of modernity which has been in force during the century which reduced the human lifespace, whether 'Western' or not, to the brutal idocy found everywhere there is new building?

The answer to this question is to be found in the failure of Western architecture to assimilate the machine. Both the Heroic Whitewash and Arte Povera Pinewood versions of 'Modern' treated machines as mere conveniences to be hidden away behind removable panelling in the manner of the film 'Brazil'. The glassy walls of Neutra's desert cottages projected a guileless, return-to-Nature, primitivism supported by basements humming with air-conditioning machines powered by the hugely un-natural, man-made, robotism of the Boulder Dam.

Then, after the shock of a war fought by real machines, and after the inhumanity of Belsen and Hiroshima, the 'Modern' assumed its 'Arte Povera' Brutalist iconics of pinewood and concrete. The 'white' Modern may have called its designs 'cities'. But they were indistinguishable from the serried ranks of concentration camp huts which were their historical contemporaries.

During WWII the Mars Group applied Korn's ideas to London. The Thames is to the bottom. This strip of 600,000 persons is the fourth from the left (west) of the Northern sector above the 'bent' E-W Axis.).

The Application, during WWII, of Korn's linear industrial city concept to the whole of London. There was talk of 'separate' townships. But the formal incompetence of these 'Modernists' would have achieved only a desperate suburb-inanity. reducing London to buildings set in swards of windy, soggy cement footways with grass verges. No more dismal fate for my city could be imagined. It is the mid-20C nadir of 'Functionalism' - a proof of that century's abject iconic illiteracy.

The entrance-gate to Harp Heating was marked by a Robot-Column that had been given the role of 'Apotropaic Guardian-tree'. A over-size letter-slot on the outer side led into its interior. The green door allowed items, delivered when the gate was closed, to be retreived. Floodlights became 'electric fruit'. The 'blue-sky' core was nakedly displayed as 'winged with flames'!

While the Conoisseurocracy of the Judge Institute bemoaned my 26M-high Robot Columns' lack of 'entasis', I knew that the real Hellenic Ictinus, who tinted and waxed his virginal Pentelic rock, would undoubtedly have preferred to animate his stony monoliths with the pulsating intellectuality of real machines than merely cut them to bulge like the muscles of some dumb Ephebe.

The fatal move was the turn away from Art, taken by the Canonic Moderns (Mies, Stam, Adler, Aalto, Corbusier, et al.) in the 1920's.

They refused to recognise that a radically re-invented Art was now available to Architecture so that both media could rescue their conceptual functions, within the primal social spaces of an urbane culture, from the wreckage of the pulpy sludge left-over from the Belle Epoque. Given the refreshment of Art that took place in the first two decades of the 20C, there was never any need for the 20C to have abandoned the given Architectural strategies. The decision to do so was taken, especially after WWII, by cultures who were not ready, or so history must judge, to accept the 'putting to work of the machines', as a phenomenon that had become as fundamental to the modern ethic, and everyday life, as any of the other notions that ordered the 20C state of being.

It was not the decision to invent a 'machine style' that destroyed urbanity, but the pretence that this amiable conceit could compensate for the destruction of Architecture as a medium capable of inscribing a conceptual landscape.

It was the decision to prohibit narrative spatiality and legible surface that destroyed the capability of buildings to inscribe an urbane lifespace. The imperative enforcing this taboo was the refusal to publish the degree to which human culture now rested upon 'work' and beyond this, even, a form of 'working' so enmeshed within a level of technological and scientific culture as to have created 'robotisation'. What could be the origin of this taboo of a "discursive surface"?

It was **this fact** that led me, back in 1973, in the Christofides House, the **first** project of my infant design bureau, to **invent** the 'Robot Order'. My purpose was to **begin to sign** that the cultural superstructure that is **mediated by the entablature** was **supported not** by floriating trees, like the Corinthian Order of the **equally dissimulative, slave-powered, Roman Empire**, but, as **finally became patent in 1984**, with 'Harp', **JOA's first 'full-frontal' capital**, **on flaming tubes** **filled with machines**. We live on the **amiable crust** of a **semi-plastic planet** which, **as it cools**, periodically **splits open to** exude a few centuries of flaming lava and noxious gas. We live, as a **species**, in **unprecendented numbers**, by virtue of an **almost unsupportably complex mechanism** mediated by an **increasingly universal robotism. This is the contemporary truth**. A 'sine qua non' of the **urbane lifespace** are those **techniques which can mediate ideas in public** in such a way as to obtain that **'splendo(u)r' for them** which **transforms** the 'lies' that are Art into the Truths which obtain, for us, the **dignity of an** 'Arendtian appearing' **'sub specie aeternatis'**. Cultural, political, and ultimately personal, **survival** depends on taking wise decisions. These are, increasingly, **public**, committee-bound, ones. They will only be **authentic** when taken on a **'stage'** illuminated by the **light** shed by these, **our proper, truths**.

What can be more sane than to inscribe 'truths' into our everyday lifespace? JOA were able, over the succeeding years, to develop this project to a successful conclusion. Ironically, this final consummation, as my experiences in Europe (including Britain) proved, could only happen in Rice University, Texas! Yet Houston was a monstrous (in the sense of 'monstrare', to show) example of a city that we should all, somehow or other, and as soon as possible, wish to improve. Oaks from acorns may grow but the conjunction of Duncan, indeed the whole Rice Campus, and the 500 square miles of deeply suburban Houston was a permanent reminder to me that JOA's project, even though it had progressed to a plausible architectural 'proof', posed as-yet-unsolved urbanistic questions. How was one to inscribe an 'ethic of truth' at the scale of a wider lifespace?

The **solution**, when it **finally came to me**, was as **obvious** as the idea of showing, at the **small-scale level of building**, that it was **'robotised 'work'** which now **'spaced-out'**, like the **colmnar stance of 'Shu'**, a **'life-space' for humanity between** the Earth's **Fiery Core** and the **equally careless Cosmos. Why not**, **I thought**, approach the **chaos to which the late-20C** had so rapidly reduced the human **lifespace** and apply to it **this 'Modern' truth:** that **'robotised work'** is our **true** State of Being?

Poyle, in 1976, was the first large project of the infant JOA. It was succeeded in 1986, by Aztec West, a variant of the now-demolished Kensal Road and the last of our workplace projects. These were, from beginning to last, already the best that we could invent in order to urbanise the asphalt deserts of the suburbia. They were all distinctly non-toxic. smoke-free, users. So why were these "Industrial Boulevards" banished from the city if not to exclude the class of the 'physical' worker from the dreary temple to mass-market consumption to which the old cities had been relegated?

THIS IS AB ARCHITECTURE THAT HAS NO QUARREL WITH THE MACHINE

Few 'visions' are as iconically 'trivial' as the sight of some **'mechanism'** exercising its sadly simple motions. I took my eldest grandson to the Science Museum, where I explained to him the aircraft that I used to fly. Then he took me to the Natural History Museum and explained what he knew about birds. It became obvious although an aircraft can do things beyond the capability of any bird, a bird is nevertheless a much 'finer' thing. Flying is an everyday thing to my Grandson's generation. What he feels is the threat posed to 'life' by human culture, especially in its guise as the Machines to which the generation before mine gave their admiration.

The 'Owl' capitals for Blackfriars. As 'solar wheels', they made the mechanicals of ventilation subservient to the iconology of 'flying' and 'moving'.

One of the two 3M diam. 'Ventilation Fans' in the Pediment of the Isle of Dogs Pumping Station. It does rotate - although only at a leisurely 16 rpm. What saves it from a merely mechanical triviality is its congruence to both the (Solar) 'Fiery Ember' carried upon the Raft of the Entablature as well as that of the 'Cave between two mountains' from which issues the River of Somatic Time. Needless to say that few will 'read' these latter 'icons'. But that is merely because of the general iconic illiteracy - an 'Architectural' state that these 44 Lectures aims to relieve!


I wanted to put a spotlight into the long-throw air inlet nozzles that recirculated the air down from the 26M-high ceiling. The columns would radiate a diadem of rays of light - proving each one as a 'columna lucis'.

Sundry orifices in the columns along the Ark Roof Garden in the Judge Institute. These seek no 'other' identity than to manifest the 'hidden Robotism'. All are 'ruptures' to the enclosing brick skin which are necesssary to the many machines inside these Serving/Robot Columns. But the holes are disciplined' to the primacy of the Column by being 'trimmed' in black and white frames which are made to bond exactly to the Order's brick skin.

THIS WAS AN ARCHITECTURE THAT MADE MACHINES 'THINK' AS WELL AS 'WORK'.

The (human) living-space is Foregrounded.

The 'Order' always has to be primary so that the iconologies it reifies are those which provide a Space of Appearances capable of 'Urbane Dignity'. The machines serving the 'citizens' of the building are best hidden. They need only display their various vents and orifices to make their veiled presence manifest – without detracting from the narratives discoursed by the Order.
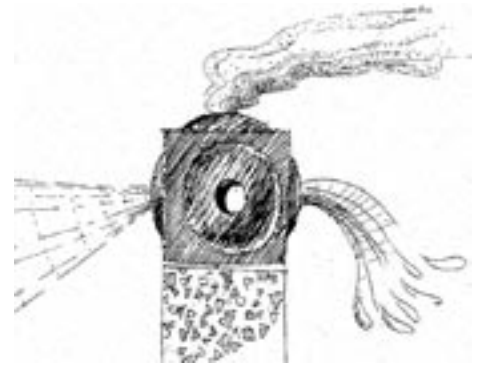
A diagram showing the Wadhurst Capital serving the mechanical functions of Air (exhaust), Water (overflow) and Light (security). The symbolic narrative of Architecture is REINFORCED.

The powerful columns of the 'Order' at Wadhurst have many mechanical 'uses'. One of these is as chimneys which also serve, less visibly, to pull fresh air into airing cupboards!

Another use for the Wadhurst columns is to house security flood-lights. Other, similar, holes in the spherical capitals serve as rain-water overflows from the big gutters.

The Columna Lucis reversed-into its pseudo-mythic origins as a Tree. It is even given a (geodesic) head. Physically vulnerable, the Iroko hardwood corner-posts rotted and after 20 years, were not replaced - an

Some inlets to Ventilation equipment, a Light for the Roof Garden of the Ark Block and a smaller ventilation outlet are all capable of demonstrating the Electromechanical 'backbone' of the Judge' 'Camera Lucida'. To a Neo-Classicist this would deny the 'mythic-because-lithic' authenticity of a masonry column. Today the Sixth Order not only knows better but, more to the point, can DO better!

JOA developed ways of showing that the Sixth Order was not some 'stuffed shirt' filled with dull stone but a lively young Mechanic who was, nevertheless subjected to the superior reality of the metaphysics of a human lifespace 'SUB SPECIE AETERNITATIS'.

It was no distance, conceptually, from the Gas Central Heating Company of 'Harp', proudly exhibiting its Flaming Jets and Balanced Flue Exhausts, to the Ontogenic Narrative rendered Hellenically, on Duncan Hall, to the

An **unforseen reaction** to JOA's gentle intimations that **'Work supported Culture'** was that of our Clients for Duncan Hall, Rice University categorically refused the **appearance of anything 'mechanical' upon the outer surfaces. Not even the** s/steel gutter bolts **representing the 'stars' upon the** dark blue **'kymata'.**

Cutting away half a column 're-vealed' its primitive (wooden) core. More radically still, it 'showed' the even more radically 'original' body of Light-Energy of the sort projected at the 'cataclysmic' Time of Inception.

The Client Body at Rice absolutely prohibited the demonstration of anything at all 'mechanical' upon the surface of Duncan Hall. This surprised us British innocents. Had not Adolph Loos and Le Corbusier 'returned to Europa' with the news that it was the USA whose 'unconscious' engineers had invented (in a mood of absent-minded Positivism) the Machine Style 'Architecture Lite' that they spent their lives trying to persuade us was 'the Future'. But how could we object when Rice went on to encourage JOA to 'conform' to their happy tradition of inscribing ideas onto their tropically-sunlit masonry surfaces! We gladly did our best to 'satisfy'.

I did not expect this in the USA.

Was Rice Campus 'a place apart'? Was the rest of Houston a territory where the **only values allowed were those of the Realtor?** But what were these – in reality – that is to say separated from 'Work' and 'Culture'? Can one bear to live, for ever, in a world created only by the **'physics' of the flows of cash** and **automobiles?** I do not think so – even if one is a hard-boiled 'American'.

Not that I would complain about Rice, Houston, Texas or the USA.

These 44 Lectures could never have been scripted without the achievement of the Shaper Ceiling.

In Duncan Hall: JOA completed our project.

Duncan Hall stands at the centre and crossroads of our built work. Nothing so important either preceded or succeeded it.

Yet it was not the end.

What began at Harp Heating as pustular 'balanced flue' outlets and flaming gas jets in painted concrete, ended at Wadhurst Park's Millenium Pavilion with columns of pure light – the Columna Lucis indeed! 'Work' does support 'Culture'– but within a Marriage – not a Divorce.

The huge, 1.5M diam., internal peristyle of the Judge's Gallery allowed JOA to feed not only all the internally-needed services, but even to provide access ladders up into the 'Robot Entablature' that distributed them horizontally. This was the first perfection of the Service Order of 'Firmitas'.

JOA's most consistent Patron, Marit Rausing, asked us for a monument to the new Millenium. JOA invented for her the ultimate Sixth Order, a genuine 'Columna Lucida', a Column of Light. 'Light' was signed by the Fourth register, between Breath and Thought. It was made of structural Lead Crystal Glass.

Our work in JOA was concerned, at its beginning, with the gift of Prometheus – the Fire of Technicity. But this was not only a response to the newly-technologised lifespace of the 20C. It was also a way of ENTERING technology into a metaphysically-cultured lifespace without either trivialising it in the manner of Neutra, Schindler and the 'Simple Lifers' caricatured by 'Lowry' in the film 'Brazil', or reducing an iconics of the quotidian to the puerility of the 'heroic' toilet pods and elevators of Richard Rogers' Lloyds building. Descartes classed ideas into three, ascending, ontic levels. Ideas in the media which originally manifested them, such as text, ideas entertained in the thought of a living human being, and ideas made into what he callled 'machines'. The latter constituted the highest, and most 'real' ontic level. The reason was that only by becoming a machine, can an idea enter the realm of 'physis', or inscrutable 'Nature'. The Sixth Order is not only such a 'portal' but one that is both domestic to Man as well as his own anthropic, 'standing form'.

The Ultimate 'Work' is that of 'realising' our own, Human Being. This was signed, in the Marit Rausing version of the Sixth Order, by the most explicit version of the Phylogenic and Ontogenic Phenomenology of Humanity as detailed in Lecture 2-16 to -17: 'The Sixth Order and Lecture 17-21 to -23: 'Jaws of Death'. The 'technicity' of the Column of Light, by uniting the Raft of Advent to the Heap of History gives birth, at the Time of Inception, to the Camera Lucida.

AFTERWORD for the THIRTY-THIRD LECTURE: 'LIVING WITH 'ROBOTS".

The Thirty-Third Lecture studies of the relationships invented during in the 19C and early 20C between humans and machines. Machines were, in the 19C, 'domesticated' with Ornament and Decoration. They were considered 'familiar' and understood as prosthetic extensions of human capabilities.

Why then did so many Beaux Arts City plans, of which we may include that of Hebrard's Thessaloniki, fail to both locate Industry/manual work or provide it with an adequate Architecture, or at least an Architectural Iconics'? The French were, as often happens, the exception to this. The World Exposition of 1900 constructed a truly beautiful topology in which the huge Galerie des Machines 'sourced' the 'Space of Appearances' of a 'Republic of the Valley'. The river of Somatic time flowed 'down' between the stupendous legs of the new Tour d'Eiffel to cross the River Seine: "Pulchritudo splendor veritatis est" indeed.

Paris knew how to do it then!

The post-WWI 'Moderne' addressed the question, finding it 'problematic' to use the favourtite term of late 20C 'Critical Theory'. Its 'difficulty' with the relation of machine and human was illustrated in films like Fritz Lang's 'Metropolis' and plays like Karel Capeck's 'Russum's Universal Robots'. But it nevertheless had all the iconic syntax needed to mediate the discourse. It failed, however, to invent, during its short, interwar, life, a persuasive semantic narrative.

The attitude of Corbusier and his CIAM followers, especially after WWII, became increasingly bureaucratic - merely employing pointlessly abstract patterns to denote the area in which all of the ontic profundity that was the ultimate physical wealth of a city would be created. It would seem that at the same time as the Manual Industrial Worker became culturally, economically and politically 'recognised', so his god-like power to 'reify the artificial, synthetic and the 'new' became feared. History shows that as the 20C 'progressed' so the Worker's place in the City, as well as the place where he 'worked', was increasingly denied, banished and iconically downgraded.

The Sixth Order, in its Working, or 'Robotic' aspect, brings machines to the fore once more. But it does so by assimilating them, as the 19C did, to an metaphysically cultured lifespace. The machines inside the 'Working Order' use the semantic, whenever they are induced to 'appear', that was invented by the Moderne during its brief life. This was later refined aesthetically, but never enriched semantically, by the all-too-literal-minded High-Tech.

With the Sixth Order 'Work', especially of the Mechanical, 'Robotised' sort, is made part of the Urbane lifespace at the highest metaphysical level. At what can 'Pop' Art 'protest' when Robots are 'Ordinated' to the 'Ordinary'?