Homes of the Internet
(Asli Serbest, Mona Mahall, 2020)

Commissioned by Austrian Pavilion at the Biennale di Venezia 2021, curated by Peter Mörtenböck and Helge Mooshammer.

Homes of the Internet, California nr. 10, c-print. Asli Serbest, Mona Mahall (2015)

A clone of modernish Californian architecture: subdivided into multiple sandy volumes, decorated with large and long white studio windows, a pergola, palm trees, banana plants and the American flag. The building is a suburban home of the Internet: a cable landing point in technical terminology. It houses 'critical infrastructure,' those fibre optic cables of which Google has already quietly purchased 102.362 km to build up and out its very own internet of tomorrow. As one of many dispersed 'fibre huts' this house embodies above ground what actually sits below: 1.126.540 km of submarine cables networked into a contemporary version of the Roman road system (Lovink, 2019). While Google concentrates on South America with the cables, it aims at Africa with its balloons.

Homes of the Internet, California nr. 1, c-print. Asli Serbest, Mona Mahall (2015)

Homes of the Internet, California nr. 2, c-print. Asli Serbest, Mona Mahall (2015)

The expansion of this matrix of infrastructures is not only gaining outer but also inner territory as 'Google is focused. On everything'(Levie, 2012). We all know of its other acquisitions that colonise private backyards, garages, homes, and bodies, such as drones, cars, thermostats, smoke detectors, domestic robots, surveillance cameras, and glasses, standardised and placed 'quasi-everywhere,' designed to allow for and gain overall access to an integrated global data network. While this network's future will be made by artificial intelligence and life extension, its operations and interventions will remain extractive.

Google is now restructured under the name of Alphabet, which refers to both language as the main index with its search engine and maximum profit (alpha-bet). Even though it has been

ever-expanding into all directions it is still being labeled a platform, a typically flat, horizontal surface that is open to all; a 'medium that allows others to connect to it,' (Barnett, 2014) that offers all of us a position, from which to speak, share, and play (Gillespie, 2017), As a level plane, the platform is obviously too flat to express the range of depth and height of Google's spatio-technical system. It is also too flat to include the history of its own origin that blended computing with architectural language.

Since purchasing Youtube in 2006, Google has nevertheless held onto the platform to refer to its indeed super-hierarchical, vertical internet industry. Platform has helped present it as a progressive and egalitarian arrangement, promising openness, neutrality and support. Today, the metaphor of a flat architecture is inevitable to address all of the major data infrastructures –from Facebook to Amazon–, all of them molded by platform's symbolic forces. That this metaphor could smoothly enter language and discourse beyond the obtrusive rhetoric of tech-economy has been made possible by the long-standing linguistic link between architecture and computing (Grosz, 2001).

Homes of the Internet, California nr. 7, c-print. Asli Serbest, Mona Mahall (2015)

Homes of the Internet, California nr. 4, c-print. Asli Serbest, Mona Mahall (2015)

Long before Google's use of the horizontal and endlessly elongating platform as a too-good-to-be-lost metaphor, architectural analogies were introduced to computer technology at IBM when architect Eliot Noyes joint the company in 1957 with a clear intention: 'Computers should not be like a ranch house. They should be like a Mies house. They should have that much integrity and joy'(Halsted, 2018). Such joyful integrity would be achieved through an 'expression of structure' by which the 'machine units have been panelized, decorative belly-

bands and kick-strips (where you don't kick) have been dropped off, rounded end and top covers have been sharpened, and second colours have been introduced to organize irregular masses.' Akin to the way in which modernist buildings had transcended historic forms, computers should also overcome prior office equipment, such as the typewriter, file cabinet, or punch card machine. Thus they could become culturally meaningful artefacts of their time. At IBM, Noyes spent twenty-one years working as consultant design director, responsible for exhibition, interior and product design, while also advising the IBM internal design staff. He had studied architecture at Harvard with Walter Gropius and became the curator of Industrial Design at the Museum of Modern Art in 1939. He was offered the IBM job by Thomas Watson, Jr., the son of IBM's long-time CEO, who Noyes knew from their joint time at the Pentagon during the Second World War. Both were interested in flying gliders.

Homes of the Internet, California nr. 6, c-print. Asli Serbest, Mona Mahall (2015)

The introduction of the architectural metaphor in computing was interpreted as a joint development of product and technical design that would facilitate IBM's organisational and business transformations during the late fifties (Halsted, 2018). The 'war-time team' would eventually become a corporate design elite with the central goal of increasing the performance of computers. This was actualised through the merging of previously separate developments of scientific or military into commercial computers, leading to changes in design methods and work organization of commercial manufacturers in the second half of the 1950s.

The architectural metaphor would not only be used to express organisational and economic transformations, but also as a mechanism for the obliteration of a history. While the trope spread quickly throughout the computing community beyond IBM, and was adopted by the Computer Network Community in the late sixties, it helped bury IBM's recent past. During the early twentieth century, the company had become successful with punch card installations which were devices used to process data for census, as well as accounting and inventory control. During the 1930s and 1940s, the so-called Hollerith machines were the best data gathering and processing devices available. With their zero/one logic they were the electromechanical forerunners to the electronic devices that would ultimately replace them. The machines were not just at the heart of the company's monopolisation of the punch card system in the U.S., but also shaped their international business relations. In Germany, IBM was represented by its profitable subsidiary Dehomag. Under Thomas J. Watson, governing IBM until 1956 shortly before his death, IBM actually owned 90 percent of the German subcompanies, was responsible for their equipment, maintenance and repair, as well as the supply of map material. During the Nazi era, the company supplied billions of punch cards,

which were used, among other things, to organise the registration of Jewish citizens, Roma and Sinti, and other minorities in Germany. With the occupation of Europe, data collection continued to multiply as it was used across the conquered countries. Here too, the German IBM branch and new European subsidiaries, which were assigned special tasks from New York, played an important role. Following Edwin Black, each concentration camp had its own Hollerith department to collect and process data on the huge crowds of prisoners (Black, 2011).

IBM has claimed to have no historical documents of its connection with Nazi Germany, as most of them were destroyed or lost during the war. Their focus after the war was in fact on growing a new tradition from a centuries old culture. With a textbook on computer architecture including reprinted pages from the drawings of Andrea Palladio, the company set out to model computer technology on humanist architecture (Brooks and Blaauw, 1997). Also Vitruvius became a reference: 'The thoughts and judgments of Vitruvius (the first book is sufficient) can be translated and abstracted without use of force and very easily to computer architecture, which is what happened when this term, during the preparation and design of the revolutionary IBM computer Series 360, was introduced into our technical language. The authors of the 360 architecture knew Vitruvius directly or indirectly, and they therefore coined a very clear and exemplary term of computer architecture...'(Zemanek, 2004). In his essay on the history of computing, IBM fellow Heinz Zemanek would trace back the architectural metaphor not just to Miesian Modernism but to ancient Roman theory, constituting the fundamental values to refer to, and hold onto. He maintained that a stereo image: building on the left, computer on the right, could inform a treatise for the good design of computer systems, which would thus become abstract architecture. It would follow the Vitruvian principles of order, arrangement, eurythmy, symmetry, appropriateness, moderation, economy, completeness, generality, orthogonality, clarity, safety or efficacy and efficiency. In Zemanek's text, architecture is not only introduced as a metaphor for planning and constructing, but also for interpreting technology: from parts or fragments there could be inferred whole systems, following Baroque architect Fischer von Erlach's approach to ancient ruins –he thereby referred to IBM's Series 360 to which we will return soon. The way in which IBM's computing technology was part of mass murder through data collection and processing was not included in this history.

The architectural metaphor re-positioned computing as a discipline, not just at IBM, within a humanist, user-centered architectural tradition – a hygienic new starting point. Metaphors are drawn from the available cultural vocabulary, as powerful strategic devices that open up new meanings through establishing similarities between alike or unalike things, through comparing, paralleling, and ignoring things and events. They introduce a "metamorphosis of both language and reality" (Ricouer, 1973). Thus, they not only reorganise semantics but also fix or unfix the state of things as well as agential attitudes. Metaphors give a concrete physicality, but more importantly, a different psychic existence. They are a political instrument by means of which history is interpreted, reinterpreted, or obliterated. Ultimately, they are impositions of a foreign name, one definition that Aristotle gave to metaphors in his Poetics. By presenting computing technology as a kind of architecture, the metaphor detached this technology from its past, covering and filling up. It served as a mechanism of flattening, in the sense of creating a platform, where history could be buried underneath.

At IBM the architectural metaphor helped create and, at the same time, conceal the history on which 'computer architecture' could be symbolically engineered. This was not an accident, but a structural condition for all metaphors to come, from windows, to desktops, to platforms.

Even after the American entry into the war, IBM and Speer's ministry of armaments concluded a whole series of regular contracts. These dealt with leasing fees for accounting machines and alphabetical punchers as well as payments for technical spare parts (Aly, Roth, 1984). The architectural metaphor performed a disentanglement from the company's techno-historical involvement in crime and enabled it to start anew. It was translated into a strategy that supported the innocent return of IBM as an international business with a spectacular increase in company size during the sixties and seventies. The computer designers became 'system architects', illustrating a heightened sense of design and advocating user interests, but more eminently, turning the computer into a modern product system. IBM's mainframe System/360 was paradigmatic: a family of computers that spanned a wide range of performance characteristics while sharing hardware compatibility and software portability. Actually, the number 360 – a metaphorical 360-degree view – originated in the idea that a single computer with different configurations could serve a whole spectrum of customers. The System/360 was also highly upgradable. Customers could replace older modules with newer ones while keeping the same machine. Over a few years, integration and productisation was complete. There could thus occur a range of external complementors around what can be called the first computing platform –in its now obscured technical meaning, as an infrastructure upon which other tools and extensions could be built and run. The origin of this infrastructure in a techno-economic context indifferent to the violation of civil and human rights, has since been hidden behind the analogy to a flat architecture from which to speak, share, and play. It is clear by now that on the internet, the platform is not a platform, but a metaphor giving symbolic power, that is, communicative flatness, to data infrastructures that go deep and far.

Since 2007, Google has provided literal 360-degree views from a street perspective. In 2018, it wanted to build a city up from the internet. Today, Google street view images have been used to study the distribution of car types in the U.S., gathering information about the demographic structure of the country; cars on the sidewalk indicate income level, education, occupation, and even votes in elections (Emerging Technology from the arXiv archive page, 2019).
Also in 2018, Google Street View added two offshore gas-extraction platforms° in the North Sea to the service. In the same year, it quietly started an oil, gas, and energy division, planning to become the partner of choice for the energy industry (Fuscaldo, 2018).
In July 2020, Google Loon sent a fleet of high-altitude balloons, carrying solar-powered mobile networking equipment, to start delivering internet to Kenya's most inaccessible regions as a commercial project in collaboration with Telkom Kenya. Google maintains: "Loon is building a new layer of the connectivity ecosystem^ in the stratosphere." It is a new metaphor to deal with (Moore, 1993)…

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… In fact, ‘ecosystem’ could even send platform to second place as the Internet industry’s favourite metaphor. It seems to have it all, a global networked structure with natural properties, the digital ecosystem exhibits self-organisation, evolutionary competition, collaboration, growth, scalability, and the multiplier effects of chain reactions. It is phenotype-d in ‘Natural Wifi,’ the particular places where the Internet dissolves into the environment.

Ecosystem’s borders are not limited to regional clusters, nation-states, contractual relations, or complementary providers, but to its product system. Any imbalance or asymmetry will resolve itself in time, either through adaption processes, or through ‘making tough choices when it comes to innovations, business alliances, and leadership of customers and suppliers. Anthropologist Gregory Bateson’s definition of coevolution in both natural and social systems provides a useful starting place. In his book Mind and Nature, Bateson describes co-evolution as a process in which interdependent species evolve in an endless reciprocal cycle — in which: 'changes in species A set the stage for the natural selection of changes in species B — and vice versa. Consider predators and their prey, for instance, or flowering plants and their pollinators.’ (J. F. Moore)
While the ecosystem metaphor might be stimulated by biological ecosystem studies, anthropology, or (again) coronavirus, the term operates as a symbolic force to depict the Internet’s development as organic, naturalising the digital divide.

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With the support of Art Center Los Angeles / MDP.

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