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The Manifold fragment, a survival theory as manifold of concerns.

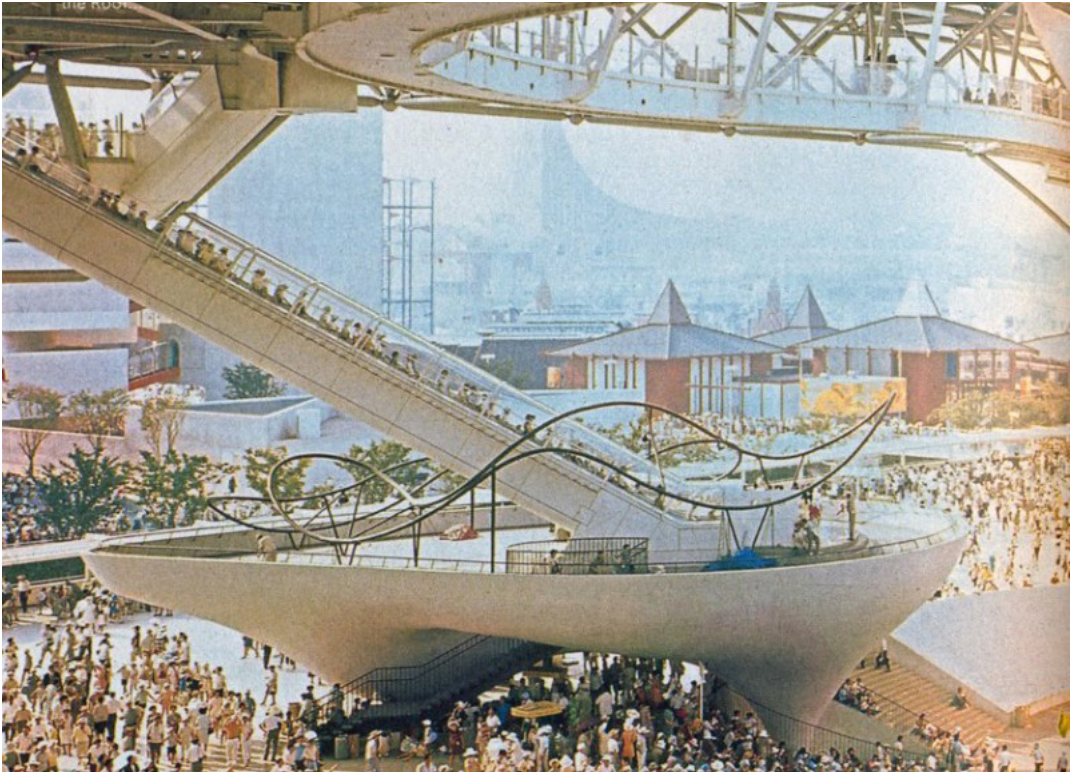## Dimension (1); design from Alberti in the ivory tower to the outside Dasein

In the last wing of this altarpiece will be experimented the *Manifold* as a principle to do a project of life support while assessing the performance of the whole.

The modern event —arguably one of its founding— in the theory of Leon Battista Alberti on the account of architectural design as a separation between design and making the architect in full control —and authorship— by loosing control on the making . When Alberti was designing its own algorithms to ensure that the mere non-architects could reproduce perfectly his designs he was still designing the tool to make. It is not hard to imagine that with the technological liftoff in printed reproductions the architects couldn't cope anymore with the actual design of those technologies. After Alberti's writings, "a second wave of identical copies in architecture came with the industrial revolution, and the mass production of identical copies from mechanical master models, matrixes, imprints, or molds."[1] The architect, just as the modern that he is, at the same time divine and doomed because so different from all the rest of the world, has no other option than to loose ground on how to make things. Of course this idea of architecture as a science holds strong ground since the miracle recovery of Vitruvius fragments. To atone this Albertian idea that lead us to the Beaux-arts idea of the project —but still as opposed to what Le Corbusier argues, a very good knowledge of the technologies of the time— and finally to the incredible modern gods of total design:

1.

Carpo, Mario.
The Alphabet and
the Algorithm.

"Venturi's projected City Hall for North Canton, Ohio, shows how his architecture also has a connection with the late work of Sullivan and so with the deepest untapped force of American vernacular experience as a whole. This is surely Venturi's largest achievement in American terms, that he opens our eyes again to the nature of things as they are in the United States-in the small town no less than in New York-and that out of our common, confused, mass- produced fabric he makes a solid architecture; he makes an art. In so doing he revives the popular

traditions, and the particularized methodology, of the pre-Beaux Arts, pre-International Style, period. He thus completes that renewed connection with the whole of our past which Kahn's mature work had begun."[2]

"The (..) decisive advantage of the concept of design is that it necessarily involves an ethical dimension which is tied into the obvious question of good versus bad design. In the modernist style, this goodness and badness were qualities that matters of fact could not possibly possess. They were supposed to sit there, undisputable, and removed from any normative judgment. This was so much so that their entire purpose was to make the fact/value distinction possible. "We are there whether you like it or not". But it is easy to understand that when you say that something has been "designed", you are not only authorized but forced to ask whether it has been well or badly designed."[3]

Dimension (2); the reality of divide; from paradigm…

The argument voiced for the neutral as a mediation between things in 'Case for Thirds' and the naively realist attempt to place the stories we told ourselves about architecture in the context of history in 'Figures as ancestors' are crack where we can start from. If our neutral —and more largely the semiologists of the last century— described our lives in a long autonomous sentence forgetting not Being (as Heidegger is grieving) but the Things let's dive into that breach. What brought us here so far is division, purification, exclusion through the resources of critique but it is this very power of division that provide the divide, 'namely the sharing of same territory'[4]. The paradigm is what makes us assemble, under

2.

Geers Kersten, Pančevac Jelena, and Zanderigo Andrea in the preface of The Difficult Whole.

3.

Latour, Bruno. "A Cautious Prometheus? A Few Steps toward a Philosophy of Design (with Special Attention to Peter Sloterdijk)."

4.

Latour, Bruno. From Realpolitik to Dingpolitik - or How to Make Things Public.

the flag of division. In that sense meaning is to assemble that is in turn what gave us the things. It's because we are so divided by contradictory attachments that there is a need to assemble, to gather as Heidegger is reminding as in many parliaments nordic and Saxon nations that still use this old root of etymology:

> "Norwegian congressmen assemble in the Storting; Icelandic deputies called the equivalent of "thing-men" gather in the Althing; Isle of Man seniors used to gather around the Ting; the German landscape is dot- ted with Thingstätten and you can see in many places the circles of stones where the Thing used to stand. Thus, long before designating an object thrown out of the political sphere and standing there objectively and independently, the Ding or Thing has for many centuries meant the issue that brings people together because it divides them."[5]

 The idiorythmy[6] within architecture collectivity lies in the fact that "there is always something slightly superficial in design, something clearly and explicitly transitory, something linked to fashion and thus to shifts in fashions, something tied to tastes and therefore somewhat relative."[7]

…to pragmatism.

Things are gathering us around assemblies, among those Things architecture is a subdomain of choice since it is the very things that we use to gather and bring together our disunion, not only in the field of politics but on any conflict of rhythm. . In itself the small collective of architects is a gathering of discourse. Escaping discourse our neutral, a 'philosophy on applied mediations or lack thereof'[8] —with Things in mind this time— becomes an assembly of Things. This in turn is calling for what is it to be pragmatic? Using our best worldly trick so far; under 'pragmatism' is defined 'an approach that assesses the truth of meaning of theories or beliefs in terms of the success of their practical application.'[9] The American philos-

5.

Ibid.

6.

Here I use the bad side of the Idiorytmy medal where individuals are living without consideration for the collective agenda. For the good batrhian side of the medal see the course on How to live together: Comment vivre ensemble. Paris: Seuil traces écrites, 2002.

7.

Latour, Bruno. "A Cautious Prometheus? A Few Steps toward a Philosophy of Design (with Special Attention to Peter Sloterdijk)."

8.

This essay, 'The third turn'

9.

Oxford dictionnary.

ophers of pragmatism were "meaning by this word not the cheap realism often associated with being "pragmatic" but the costly realism requested by making politics turn toward *pragmata* – the Greek name for Things."[10] Just alike the Neutral pragmatism is a posture to which is allowed the conjunction of a theme or better *topic*, meaning 'matters concerning commonplaces' [11]

10.

Latour, Bruno. From Realpolitik to Dingpolitik - or How to Make Things Public.

11.

Oxford dictionnary.

"The error the moderns make about themselves is easy enough to understand, once symmetry has been reestablished and once both the work of purification and the work of translation have been taken into account. The moderns confused products with processes. They believed that the production of bureaucratic rationalization presupposed rational bureaucrats; that the production of universal science depended on universalist scientists; that the production of effective technologies led to the effectiveness of engineers; that the production of abstraction was itself abstract; that the production of formalism was itself formal. We might just as well say that a refinery produces oil in a re ned manner, or that a dairy produces butter in a butterly way! The words 'science', 'technology', 'organization', 'economy', 'abstraction', 'formalism', and 'universality' designate many real effects that we must indeed respect and for which we have to account. But in no case do they designate the causes of these same effects. These words are good nouns, but they make lousy adjectives and terrible adverbs. Science does not produce itself scientifically any more than technology produces itself technologically or economy economically. Scientists in the lab, Boyle's descendants, know this perfectly well, but as soon as they set out to reflect on what they do, they pronounce the words that sociologists and epistemologists, Hobbes's descendants, put in their mouths."[12]

12.

Latour, Bruno. We Have Never Been Modern.

The semiologists had the good idea to throw words

at everything in the world and to thoroughly do the check and balance on the feedback. Where we leave them is to oversimplification. In architecture words entered for discourse and marketing.

The danger of semiology was to oversimplify and shut down any bridge with something else than discourse the pragmatism of the Neutral was to assess word as 'each figure is a word' —or better now, a word thrown onto a thing— through nothing else than words 'hence the frequent recourse to etymology.'

"The Difficult Whole is thus a self—sustaining idea of context: an architectonic composition where each element depends on the other through inflection. a universe on itself. potent enough to survive as an independent settlement. Thus The Difficult Whole elevates the architectonic idea into an urban design tool. It is a strategy to make architecture so manifestly self-defensive that it is able to survive."[13]

Dimension (3); Manifold, an assembly of concerns into wilderness.

"The paradox of the moderns (and the antimoderns) is that from the outset they have accepted massive cognitive or psychological explanations in order to explain equally massive effects, whereas in all other scientific domains they seek small causes for large effects. Reductionism has never been applied to the modern world, whereas it was supposed to have been applied to everything!"[14]

Two sidenotes before attacking the most technical part of this essay: Science is indeed now more than ever interested in "cheap knowledge"[15]; and the organism is good inspiration when it comes to economy of mean, body intelligence allows us for instance to walk and think at the same time while to reproduce the same effects artificially is to use a gigantic amount of resources.[16]

13.

Geers Kersten, Pančevac Jelena, and Zanderigo Andrea in the preface of The Difficult Whole.

14.

Latour, Bruno. We Have Never Been Modern.

15.

Why does deep and cheap learning work so well? Henry W. Lin (Harvard), Max Tegmark (MIT) [https://arxiv.org/abs/1608.08225] Accessed December 29, 2016.

The problem with putting a word on a metaphorical shapes is that either the collection is entitled to be part of the mother shape family or if we want to expend that family the metaphor is becoming more and more loose and looking at the collection it is harder to see a filiation. Here we will try to avoid the salable idea of a metaphorical shape because this is not where pragmatism will lay but in the posture of doing and comparing projects. The use of "hard" sciences as metaphors for the other "softer" ones has continuously failed to explain our intuitions on how we, political humans, behave. Sciences are no longer unified enough to provide us with a stabilized pattern of how the large scale of things work. But if we acknowledge that science is not the grand framework of Universalism, locally we can try at finding a good one, a localized hard science for a local soft one. If there is one thing reassuring about architecture is that in the end we are all working within Euclidean space. Architecture if an assembly isn't politics and its final product, even the result of political shenanigans, is the tangible matter of a building, a quasi-objects. We might have transformed politics into a "monstrous activity because we have tried to make it exist in a form, borrowed from nature, that it could not possibly take."[17] Good news is architecture can exist in a…form. In other words if such metaphors can't operate well in politics they are still good in architecture and if the propositions of architects for assemblies such as parliaments and courts are weak it is because of bad neo-something metaphors from the past. This short detour into some of current science will I hope clarify what is meant by Manifold and give a good clue at what is our life support architecture.

The fact that naked humans can't cope with more than three dimensions, or four including time, render some mathematical problems impossible to resolve alone. Fundamentally these problems are simple but trying to resolve directly "high dimensional spaces is just short of hopeless."[18]"As is often the case when humans can't directly do something, we've built tools to help us. There is an entire, well-developed field, called dimensional-

16.

Pfeifer Rolf and Pitti Alexandre.
La révolution de l'intelligence du corps.
Paris: Manuella Editions, 2012.

17.

Latour, Bruno.
We Have Never Been Modern.

18.

Olah, Christopher.
Visualizing MNIST: An Exploration of Dimensionality Reduction. [http://colah.github.io/posts/2014-10-Visualizing-MNIST] Accessed December 30, 2016.

ity reduction, which explores techniques for translating high-dimensional data into lower dimensional data."[19] Dimension reduction, without being reductionism, allows for some current fields of science such as neural networks that often demands to work with thousands or millions of dimensions of data to be reduced to two or three. At that point Euclidian mathematics can take over to resolve the problem. The mesmerizing thing about it is that although scientists can asses the performance of this method they are not sure exactly what is going on and how it is that it works so well?

To make meaning of the reduction algorithms the hypothesis are needed as without them there would be no scientific explanation of the valid experiments. One of the most interesting and promising theory among the researchers in the neurobiological field—as any other theory this one hasn't been proven yet— is the manifold hypothesis.

The neuroscientist Vittorio Gallese is introducing it a (1) "a new conceptual tool able to capture the richness of the experiences we share with others (…) I will posit that it is through this shared manifold that it is possible for us to recognize other human beings as similar to us. It is just because of this shared manifold that intersubjective communication and ascription of intentionality become possible. It will be argued that the same neural structures that are involved in processing and controlling executed actions, felt sensations and emotions are also active when the same actions, sensations and emotions are to be detected in others. It therefore appears that a whole range of different 'mirror matching mechanisms' may be present in our brain. "[20]
Loosely taken from Kantian philosophy as (1')"the sum of the particulars furnished by sense before they have been unified by the synthesis of the understanding"[21], this definition adds up to the first one in the dictionnary that states (2) "a pipe or chamber branching into several openings"[22] and the second (3)"a collection of points forming a certain kind of set, (…) in three or more dimensions."[23] or "a manifold locally resembles Euclid-

19.

Ibid.

20.

The Roots of Empathy: The Shared Manifold Hypothesis and the Neural Basis of Intersubjectivity.

21.

Oxford Dictionary, for the entry 'Manifold'.

22.

ibid.

ean space, globally it may not."[24] How good is that, in such a time, that the simulation of artificial brains —a true hybrid in the constitution— gives us better understanding of ourselves through…theories; this is the feedback that provides a realized project to the theory which if studied will in turn dynamically adapt for the next projects of the collectivity. So the Manifold is at the same time the empathy with others (1); a technical artifact or stupid 'pipe' (2);and a topological space (3).

Transposing to architecture the mathematical definition (3) we are confronted with a problem of scale since it is describing a project that has different attributes if we posit ourselves from a local or global standpoint. Gallese is adding that to (1) "the shared manifold is conceived as a multidimensional, 'we-centric' shared space, and can be characterized at the *phenomenological*, *functional* and *subpersonal* level."[25] giving us the shared character of Things as assemblies and the scales of operation for survival of the Manifold: the big scale of the environment (*phenomenological* although we are not reading in its philosophical sense here) , the middle scale or perimeter (*functional*) and the small one of inner parts (subpersonal). From the *needed* shelter to *wanted* promised comfort of modernity, from site situation to detail through project plan. The attitude of design when it comes to survival is reminded in this all too neutral figure of the astronaut in outer space:

> "When you check on your space suit before getting out of the space shuttle, you are radically cautious and cautiously radical... you are painfully aware of how precarious you are, and yet simultaneously, you are completely ready to artificially engineer and to design in obsessive detail what is necessary to survive."[26]

"The *phenomenological* level is the one responsible for the sense of similarity, of being individuals within a larger social community of persons like us, which we
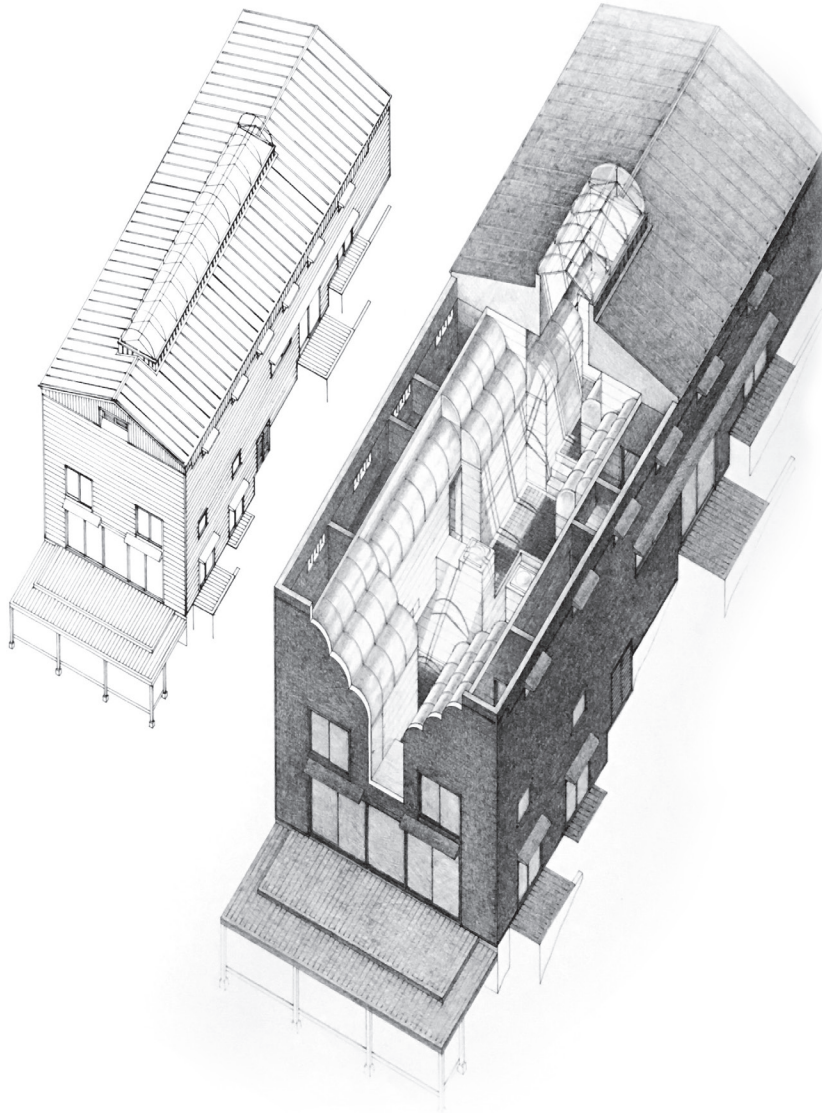
24.

[https://en.wikipedia.org/wiki/Manifold] Accessed 05 January, 2017

25.

Gallese, Vittorio. The Roots of Empathy: The Shared Manifold Hypothesis and the Neural Basis of Intersubjectivity.

26.

Latour, Bruno. A Cautious Prometheus? A Few Steps Toward a Philosophy of Design (with Special Attention to Peter Sloterdijk)

experience any time we confront ourselves with other human beings. "[26] So if we loosely adapt this level into spatial experience it is to assess: where we are and who are the other humans in the area? What are the conflicts that might emerge if we set up here? What are water sources around? At this scale the matter is the environment and how well I can connect to the network of things. "A modernist takes for granted that there will always be air, space, water, heat, for the development of his or her "global view". But there is nothing global in globalization. "[27]An indeed if I don't have a access to the grid I can die next to a telephone line, if I don't have a sink I can't access the water from the pipes underground. Any project of architecture is a local point along the long connecting network.

As an illustration Hiroshi Hara own's house has the amazing attribute to deal consciously (as stated in his anthropological researches) and explicitly with the three scales at once. At the big scale the house is dealing with a really steep topography with the street on one side and the garden on the other. The long plan is developing again the topography in a four-storied box cut in its length by a street-like staircase that goes from the main entrance to the garden.

"The *functional* level can be characterized in terms of 'as if modes' of interaction enabling models of self-other to be created. (…) At the functional level of description of the shared manifold, the relational logic of operation produces the self-other identity by enabling the system to detect coherence, regularity, and predictability, independently from their situated source."[28] At this level of mediation between the perimeter (self-other surface) and the inside parts (rooms) it is asking for: how can I access the bathrooms from here? How many room are on this level? Is this door wide enough?

In Haras's house the rooms are enclosures of enclosures, they have no windows, the light is passing once in the glazed roof and then in cloud shaped glasses.

"The *subpersonal* level is instantiated as the level of

26.

Gallese, Vittorio. The Roots of Empathy: The Shared Manifold Hypothesis and the Neural Basis of Intersubjectivity.

27.

Latour, Bruno. A Cautious Prometheus? A Few Steps Toward a Philosophy of Design (with Special Attention to Peter Sloterdijk)

28.

Gallese, Vittorio. The Roots of Empathy: The Shared Manifold Hypothesis and the Neural Basis of Intersubjectivity.

activity of a series of mirror matching neural circuits. The activity of these neural circuits is, in turn, tightly coupled with multilevel changes within body states."[29] On this small level the small things that serves within the body state (building) and changes with the parts (rooms) of the body, ask: where is the food stored? What tools are in the kitchen?
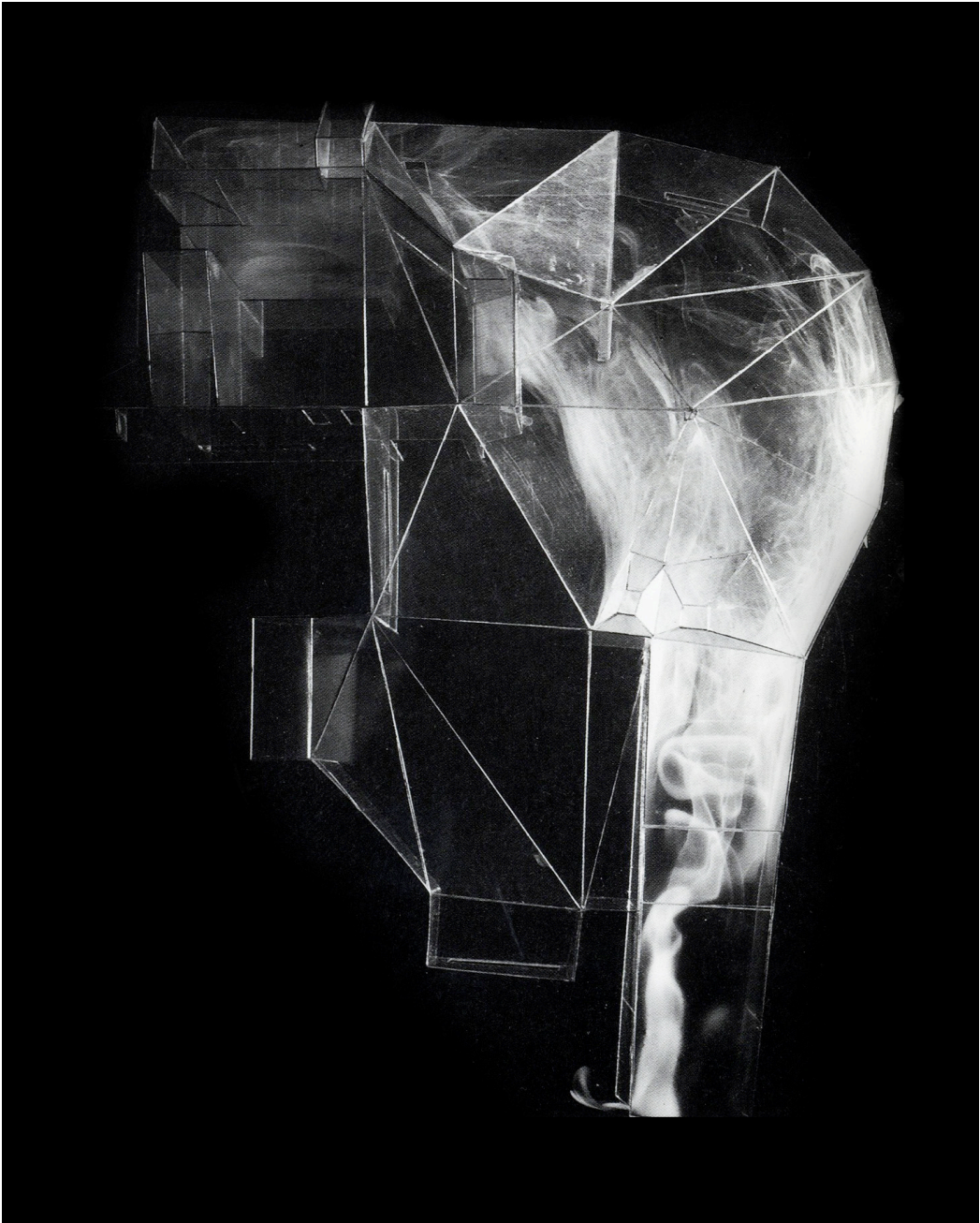
Hara's house has tiny door to take a footbridge above the stairs that joins two opposed rooms. It has small ventilation shaft in the windowless rooms.

Before letting some presumable figures of the Manifold roam I hope I have not been too far off the marks with this neutral attempt, its materialization should be more clear in the collection of fragments to come. It is a *monstration* of nuances arranged in a gradient from the largest of concern to the most domestic activities of naked humans.

From reality to things, from global to locals, it is a difficult neutral exercise but this posture may have the features for the struggles of our time.

29.

Ibid.

The
Neutral