E - Motive Architecture : a conversation with Michael Bittermann

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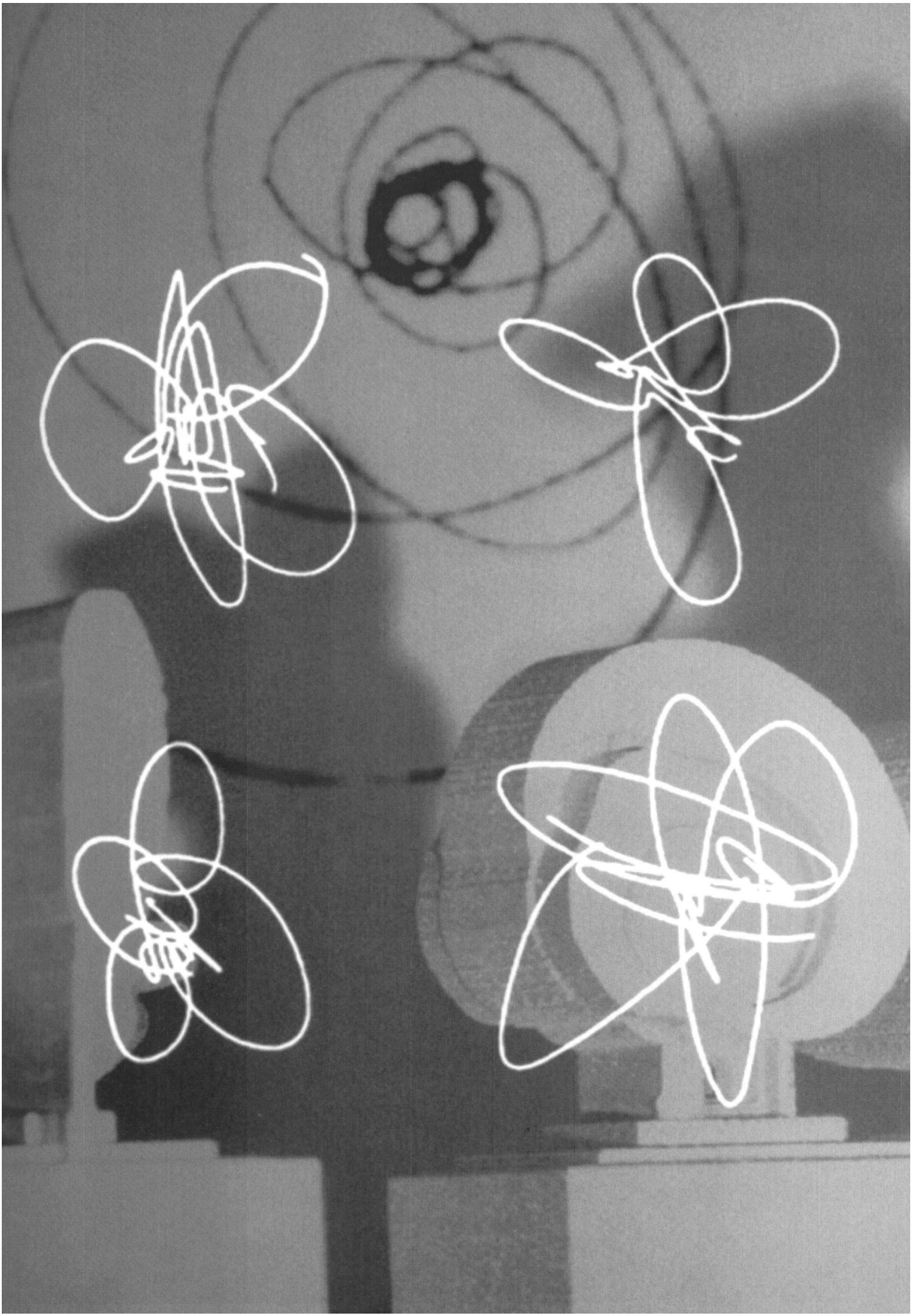

E - Motive Architecture

A Conversation With Michael Bittermann

Aurel von Richthofen

E - Motive Architecture is a term introduced by Kas Oosterhuis in the current hyperbody research group at TU Delft. To him, buildings are data processing machines. Buildings absorb the incoming information, process that given information and deliver it in another form. A building has its own form of metabolism; it is a (hyper-) body. The term E - Motive describes a way of thinking and designing. It contains motion as well as emotion. Michael Bittermann is a member of that research group This conversation took place via email between Michael Bittermann and Aurel von Richthofen, who was at the time studying architecture as an exchange student from ETH Zurich at TU Delft.

trans: How can E-Motive Architecture - the term has been coined by Kas Oosterhuis - be architecture in the proper sense?

Michael Bittermann: I wonder what you mean by the proper sense. A de(con)structivist would have an easy answer saying there is no proper sense for architecture anyway. I would say, yes, there is a proper sense, but that proper sense maybe neither implies that architecture is purely what you can see with your eyes and must be immobile, static nor that it be pure or boring. It is perhaps a properness that refers more to a certain way of composing experience. But it goes beyond a situationistic point of view and incorporates the autonomy of the building itself. By the way, you can find e - motive interactivity in any building. Interactivity basically describes a certain kind of relationship between several agents, for instance the building and the user, which is characterized as a permanent feedback condition: any action of one affects the other. You move and you are being moved and vice versa. You are not the master of the space but you are like a friend to it. Proper architecture establishes beautiful experiences and interesting interaction between the functional setup with the spatial, with the material, with the structure, with the users etc. Proper architecture incorporates the mental space. It balances the user beautifully in between comfort and curiosity, complexity and order. So, any proper architecture is naturally and purely interactive and e-motive architecture.

trans: Kas Oosterhuis and you use wildness as a term to describe the way you understand architecture. Could you specify what this means to you and explain how this has to do with E-Motive Architecture?

MB: If someone were to ask: "What can I do to effectively hinder the process of evolution?" I would say: "Be too clumsy, be too literal, be afraid." If something goes wild it no longer maintains a passive state. It starts to (inter-)act. When we think of the cultural phenomenon "architecture" there are moments in which good old architecture appears to be more a seismograph for cultural developments rather than an active agent within culture. It seems to be one step behind, kind of submissively and too directly giving form to a paradigm. It is afraid to act. It becomes a kind of dead representational activity. But there are members of the architectural swarm, who are more aware and who consider part of their cultural responsibility, their life, to be (inter-)active. They want to revitalize architecture. This activity can be quite liberating and energizing. Architecture is in fact much more diverse than to merely function as a symbolization and stardom machine. Architecture welcomes real freshness, and would provide rewards, if those elements of "the discourse" that have more interest in entertainment than true interest in generating knowledge, would only identify themselves. In fact, good (and I am not afraid to use this term) architecture has always been wild. Regarding a certain dimensional mapping, like the morphology of architecture, it may appear that those things stop changing, but then in fact much is happening in the background. Some parts of architecture are being invaded and transformed by species of designers which used to be underrepresented, even suppressed in the practice of cultural technology architecture. There are ideas to personalize and render architecture e-motive and to reveal its capacity to create something as ephemeral and as solid as experience. If we look at a city you can see

Image taken from *sculpture city*, by Ilona Lénard, Kas Oosterhuis and Menno Rubbens

very clearly how a building is born, lives and is digested by the city. The building, its geometrical contribution to the cityscape, its emotional relationship to people, its functional contribution to the city organism, etc. presents various types of interaction. Today, we consider it wild to apply this principle to other aspects of the architectural metabolism, the transformation of information. We want to speed that up and create not mere superficial morphological smoothness, but much deeper behavioral smoothness. It will be highly personalized and at the same time not disconnected from the realm of "the other(s)".

trans: Following your description of interactive architecture, there is one immanent question: Where do you see the human being as user and therefore interagent, and where the architect as designer?

MB: It still seems to me that an individual human brain is insufficient for the description of an architect. And even if we would, in our imagination, equip that brain with a body and a representational system like a cad-system, we still would not have described the whole architect. The architect is a distributed being and part of that being is the client. Other parts are parts of the knowledgebase: internet, culture, fashion, lifestyle; other parts are other human experts, still other parts could be an artificially intelligent collaborative design environment. Ideally I imagine a very fluent process between all parts of the distributed architects' body. The client, in the body of the architect, rates a design/building condition. You may like it or not. It may feel good or not. It may be good for my purposes or not. As a specific proto-tester, the client is part of the architect. The architect is the device that transforms desire for a building into the building, a distributed being itself, more of a cloud than a cube.

trans: To you, the designer, the user and the built environment merge to form a new whole. Could you describe this increase of interaction?

MB: I would rather talk about increasing entropy meaning complexity and chaos of the buildings and the city. I would certainly see an increasing entropy in the city regarding different dimensional mappings. If we have an increasing birth of highly sensitive, truly intelligent and interactive buildings, the city experience will be directly affected. The city, in my view, is not the mere result of accumulated physical buildings, not mere accumulated matter, but an active device for transforming relational behavior, a behavioral landscape, a continuous experience, both personal and communal. The city becomes more and more aware of these dimensions. It increases its sensitivity for itself; its self-healing capacity, its awareness. At the moment we use the analytical, interpretational and creative capacity of human urban planners and architects relying on still relatively static and passive diagrams. Since I foresee an increase of available real-time data about individual urban conditions, plus an emergence of relative ease for incorporating this data into intelligent decision-making devices, using a smooth collaboration between human brains and a computer hive, there is an increase of intelligence and potential activity in the city. There will be a speeding-up of "real-time", of refreshing timeframes. Just as there was a speed-up of refreshing timeframe in the body of economy (stock market), simply by introducing online trade, so we can experience a speeding-up of "real-time" with our own physical body via improved scanning technology, like we experience daily a speed up of "real-time" of the information body able to share different interactive information over the web and via email. The relative exchange of information of data and people between different places of the world will continue to increase. This way what ever I said about the city will in the long run account for the continuous behavioral landscape of the world. But continuity in this case does not defy difference. On the contrary, you can get an even greater amount of privacy and individuality in the scenario I have in mind, because you will negotiate your personalized relations at every time step. This is true for a person, for a building as well as for a city as well as for a nation. However, these filters will probably not be statically established forever. They will exist within a constant natural flow of interests; inner and outer forces; which will, more or less fast, more or less firmly, modify the properties of the relationships. I see a relative increase of entropy in certain areas of the

city and the world, but I do not see an absolute increase of entropy for either the city or the world as a whole. It seems plausible to me that if some members of the body are becoming more complex, other members of this body will become simpler. They will solidify more and become smoother. We will feel more "free" to act, to be the way we really are, getting a direct feedback through the city in our interaction. So, a certain behavioral tension will be released and will establish itself as a different tension in different dimensions. We will witness a new spiritual playground for a natural progression of evolution.

trans: According to your description of technology and its influence on architecture it seems that you have a holistic vision of architecture.

MB: Holism, the whole is greater than the sum of the parts, *Gary William Flake*, as a credible basis of "emergence" explains the phenomenon that in complex systems, higher level patterns emerge as a result of local interaction of relatively simpler agents. The higher level pattern, though always considered relatively unpredictable, is generally referred to as top-down: Deducting from the whole how the parts must have interacted. Reductionism, being the opposite of holism, believes that you can understand and possibly predict the world, knowing the behavior of the smallest elements, similar to the strings in mass-theory. In that case you are actually looking bottom-up, trying to explain the higher-level phenomenon as a consequence of the agents' behavior. I would speak of a constant feedback/feedforward/feedover condition between the elements that make up the whole: The decisions of the "whole" as an agent in another swarm feeding to and from that even "higher" level pattern, and at the same time feeding back into the "lower" level behavior of the agents. In my view it is impossible to make a model in which an element is clearly definable as always feeding forward and another one as exclusively feeding back without describing certain external conditions which inverse the whole setup. This shows, that in fact the sender is also a receiver and vice versa, unless that model is the thing itself and "complete" and then ceases to be a model but becomes the actual. Good sex is so great because it specifically involves at least a bi-directional interaction, where feedforward and feedback, not only regarding the literal motion but also mental motion, occur in every time step.

trans: Do you think that we as designers need to bridge a gap that is more and more apparent since classical models fail to describe and can't even explain complex interference that characterize architecture nowadays?

MB: If one would imagine nested agent systems, where higher level patterns of one system can be another agent in another system, the "vision" becomes interesting, neither purely holistic nor reductionistic, but exists in between. Like an electron between the decision to be a wave or a particle phenomenon, the answer is dependant on how you ask the question. However, with the right technology this statement will seem neither to avoid being clear nor being an obsessive syntheticistic strategy, but rather an intuitively precise way to understand and interact "cooler" with the world we live in. I assume that positions myself a bit different from this "bottom up"-is-always-better attitude. And yes, we should bridge something. It seems to me that the species of architects could be constructively helpful in many areas that rely on short or long real-time models. They relate to different agents in a nested-agent-system in any kind of semantic network, even with geometric physical models about reality and information organization. Finding a good process to model and build a building is to find a real-time process. This might sometimes be asynchronous, sometimes synchronous, but it is never completely frozen. There is this potential in the human architect. We will be aware of the necessity to lose fear, the fear of losing identity and the fear to use thinking together with intuition and not against it. This has been shown in the work of Kas Oosterhuis and Ilona Lénard.

trans: Wildness and smoothness are terms you use. If we understand wildness as an excess or overflow of actions, how can we understand smoothness in the same way, while smoothness comes from the idea of gradients, the diffusion of borders, the absence of dialectics?

MB: "Excess" or "overflow" imply a conceptual container, a limit, a boundary. This container in the case of architecture and interactivity can be considered the government of ratio over intuition. Wildness does not necessarily mean generating resistance of the same sort, since it is not limited to using the same dimensional space, but is transactive. Imagine you have a car accident in slow motion. The kinetic energy of the car is smoothly converted to other energy forms. The architectural container is a multidimensional container. The shell of the container only seems to be a limit but in fact is a portal to a different existence. It actually ceases to be a container, like a 3d-mandelbrot fractal. You fly down a swirl and actually enter another world. E-Motive wildness is highly adaptive so that whatever flows over becomes something else. Every element of the hyperbody is in constant transaction. Some parts have a longer lifecycle than others. Smoothness is not necessarily morphological smoothness. If I have an image of a continuous double-curved surface in mind, it does not necessarily refer directly to a building. It can represent a transaction. Next to being a transformed substance, it can be the generated appearance of a negotiative swarm process. I would identify with the relative staticness of the dimensional mapping the smooth element. The wildness here is to give deeper meaning to the parameters of the generative process and to train the process. The genetic code is not pre-written but to a large extent modifies itself as the process runs, together with human beings, not replacing them.

trans: I am interested in your approach to the creative process. Artificial intelligence, swarm, the consumer and the designer challenge the classical role of the author. Could you specify how you develop this creative process?

MB: We investigate by trying out, using intuition and thinking, synchronous and asynchronous interaction. Our approach is to jump into a process. We integrate ourselves into a possibly existing transactive network. We give autonomy to more or less simple agents and become members of a multidimensional swarm. We participate in the godgame, going for our personal hi-score, feeling the feedback of everyone of our actions, and immersing ourselves in the pleasure of being stimulated, not only to stimulate. What stimulates the human being best generally also stimulates the hyperbodies best. The classical role of the author seems to be that of a solitary human being. Authorship can be shared just like responsibilities. Everyone negotiates and decides together with everything in a sophisticated direct-democratic way forming a multidimensional hyperbody, where the weight of every vote is modified along with its use, where voting happens almost unnoticed.

trans: Your work is recognized among artists as well as architects. Where do you position yourself in this field? Are you the author, the curator, avantgardist or consumer and who is responsible for the essential creative process that finally results in E-Motive Architecture?

MB: Maybe you can say that we are architects, who happen to do stuff that is affecting many dimensions which are usually considered to be influenced by artists. Or you can say that we are artists who appear knowledgeable enough for clients to actually want to build their stuff and market it in the real world. I would not mind if that means this month making an interactive high-rise which is at the same time a programmable sculpture, or next month making an interactive cityprocessor or a spatial information browser or developing an artificially intelligent direct-democracy engine, or writing a text for a magazine. I like to immerse myself as a "consumer" in this E-Motive Architecture as well. Because it trains my knowledge of what is cool. Architectural education helps to an extent but even more it helps to free yourself from certain categories which impose actions you do not want to take, at the same time making sure you can offer your expertise on the market. If you like, take this as a resistance against any position in the artist/architect space. Assuming that our ideas on multidimensional realtime-interactivity come true, then being a consumer would actually not prevent you from being a creator at the same time and may not prevent you from being avantgardist either. The distributed being "architect" is responsible for the E-Motive Architecture.

trans: Thank you for this conversation.

Michael Bittermann is an architect in Rotterdam and a member of Kas Oosterhuis' hyperbody research group at TU Delft.

Aurel von Richthofen, editor of *trans*, is a student of architecture at ETH Zurich. He spent one semester as an exchange student at TU Delft.