

On *Formal Optimization* in art

Transcription and translation from the French of an Interview with Jean-Luc Moulène

Paris, January 30th, 2019

Miguel Abreu — My dear Jean-Luc.

Jean-Luc Moulène — My dear Miguel.

MA — So, here we are.

JLM — It's nice out...

MA — We started talking about *formal optimization*, so we should continue that discussion in light of your exhibition happening at SculptureCenter in New York at the end of April.

JLM — I'd very much like to take up the issue of formal optimization. The first thing we need to resolve, in my opinion, is the formal question. What is the purpose of form? Moulène becoming a formalist?

MA — You're talking about a monumental work that's over eight meters long.

JLM — Yes, I'm talking about that piece, and the set of ideas underlying it in general.

MA — This very strange looking monumental object you're creating with the help of sophisticated aeronautic software tools.

JLM — With the help of GDTEch, a European consulting, research and development firm in engineering, analysis and digital modeling.

MA — Let's discuss the fact that the object is in three parts. You can describe them.

JLM — Yes, but you're returning to the piece too quickly. Before I speak about it, I'd first like to discuss the formal question behind it in general terms. Because we know that form, essentially—and this is why certain sculptors have been accused of being formalists—is not self-sustaining. There you have it. Simply put, this means that a formal argument is not sufficient when it comes to making a work. On the other hand, completely eliminating form, as many contemporary experiences have done, eliminating form in favor processes—the proverbial

dematerialization... I'm not sure offers a viable alternative for art either. Form helps me to establish either a decriptive rhetoric of the experience, or to produce the experience itself for the viewer. To produce an experience, when it comes to objects like this, is simply to produce a relation of consciousness. That's something I've always taken advantage of. This is to say, I create forms that either render or that produce experiences. I'm not interested in figuring out whether squares are stronger than circles or triangles. I'm not interested in that kind of thing. It so happens that as technologies progress today, in a way for the first time, they are beginning to take an interest in form. These technologies are becoming concerned with form with the not so experimental goal of profitability. The story of the profitability of forms is one that came out long ago in the United States. Minimalism is the minimum of form for maximum effect. Except that the maximization of effect isn't my problem at all. I'm not here to make experiences profitable. So this maximization of effect makes us forget, as I told you, that forms produce experiences, not effects. If I were a producer of effects, I'd be a manufacturer of cosmetics, like many artists are today. This is to say, they fabricate surface effects. There you have it. Human experience is quite simply fixed in these surface effects. And so, to return to the object you mentioned, technology has enabled methods of formal optimization which allows for the creation of affordable objects, as of now quite often mechanical works, structural works. These objects respond to a demand; they are extremely light, often made with some fibered material; they are no longer machine made, but printed. Their atomic composition can be examined with precision. There is complete control over the quantities of materials needed, etc... Why? Because it costs a lot to send satellites into space. So ultimately, formal optimization, as the name suggests—exactly like tax optimization—is in the service of profitability. (And profit is in the end no longer discussed as an issue by anyone.) Everyone is supposed to profit. In principle, profit is nothing but the rate of return on capital. So today we find ourselves within a system of capitalism that produces technologies that are themselves concerned with form. And they even take an experimental approach. In due time, all the objects that surround us will be produced in this way. Evidently it pays off. We are at the dawn, in a way, of inventing a new style; just as we had the Louis XVI style, we'll have the optimization style.

MA — Just like there was functionalism?

JLM — Just like we had functionalism. And as optimization is very expensive, as the necessary tools aren't readily accessible, it seemed to me important to show in which direction these technologies are pointing. The first time I saw an optimized piece, I burst into laughter, because optimization tends to produce things that resemble a bone.

MA — Hence the title of the piece, *Plus ou moins d'os / More or Less a Bone*.

JLM — It resembles a mechanical work, a mechanical structure that possesses bone-like features as well as classic mechanical elements. And that's what's beautiful at the same time. We

can almost say that the formal ideal of capital is death! Because a bone is never seen other than when someone is either cut open as the result of an accident, or when someone is dead. Our bones will outlive us!

MA — In a material sense.

JLM — Exactly. The bones, though dead, endure.

MA — A skeleton.

JLM — This said, it's quite beautiful that the technologies we're discussing allow us today to place our head, if you will, our skull as a bronze on our mantelpiece, because we're capable of precisely examining with a medical scanner all of our minute bone networks. With an MRI, we're perfectly able to print these bone structures, so that one's collector vanitas can be displayed on the mantelpiece. That's what's interesting. Indeed, what needs to be shown and rendered palpable is that the aims of profitability are actually related to decreasing levels of life. Who or what overflows? Life, everything surrounding the bone, everything that revolves around profitability, but isn't taken into account by profitability. And here we have, in my opinion, a real political problem.

MA — So based on these elements, let's discuss now how you began making this specific sculpture.

JLM — Very well, if you wish... I first met through the University of Toulouse people who are developing modeling software... it's really interesting, they're brilliant. Clearly, as they're located in Toulouse, they're not far from the aerospace industry, in fact from Airbus. It's not that they're being directly financed by the aerospace industry, but they are in proximity and supported by it. So first they invited me. It happened in the following way. I was invited to speak at a professional conference about new printing technologies. A conference that was of course essentially comprised of software manufacturers, mechanical manufacturers, control systems manufacturers for production lines. As we were obviously plunged in the midst of the aerospace, of the military worlds, etc., there was a great deal of confidential material under consideration that never leaves the labs.

MA — They're engineers...

JLM — They're engineers... But they're research engineers; not necessarily applied engineers. Some work on the digital printing of living things, of cells. So they invited me there. I gave my cultural presentation in front of fifty people in business suits: marketing executives, sales executives. And I reminded them of a number of fundamentals principles regarding new

inventions; that if they don't get the public on their side, these new inventions won't work. It's like with mathematical or other theories. With every new invention, there is a need to invent a corresponding representation and to get the public on your side. You must invent your own popularization method. I told them very clearly: if I accepted the invitation to give this so-called cultural talk to a group of technical engineers, it's because I need these machines. I don't have access to these machines. No researcher in the plastic arts field has access to these machines. It's too expensive. The machines and software are simply too expensive. And I told them "I need machines." So three teams approached me, including this person who specializes in biological morphogenesis; a team of European engineers from a consulting agency called GDTech; and a small company from Toulouse. Ultimately, the GDTech team expressed an interest in working on a project. At that moment, I started to...

MA — To imagine the piece.

JLM — To imagine the project we have before us now. Why? Because, from my point of view as an artist, I've always maintained that no works of art exist without conditions, without constraints, that is without material conditions, economic conditions, historic conditions. The artist is of a certain time. He or she is born in an optimal period or not with respect to history. So, again, there is no work of art without conditions. And it's an extremely significant question in my opinion, because many people still believe that art is free, because the artist is free. But not at all. The artist is no more free than any other citizen. Like everyone, the artist is corporally conditioned. This alleged freedom tale must end... Art is not free; neither is the artist. Artworks, however, are systematically liberations. They are concrete acts in the real. There is no liberty; there are only acts of liberations. It's quite important with a work such as this one to return to the question of conditions because, in the end, optimization machines take nothing into consideration apart from conditions. And so I tried to make a piece that is nothing but the result of its own conditions of existence. Calculators and optimization software designed the piece. I provided the conditions. I provided the conditions, which, by the way, at the end of the experiment were withdrawn and made invisible.

MA — What are those conditions or constraints?

JLM — The first condition is to define the volume the machine is going to work with, which is 8 meters 50 in length, I believe, by a height of 1 meter 60, and a width of 4 meters 50. Within that volume or work space, I placed at three specific points a sphere (which is an abstraction), a spiral staircase (which is a construction), and a bone (that is something from the organic realm), in effect three types of objects, to be clear, that taken together might form a world. I input these three conditions. We then gave these generic objects a weight—a weight that was, by the way, related to the objects' respective volume. The sphere is a weightless bubble, the staircase weighs 128 kilos, and the bone 80 kilos. We input the conditions of gravity, terrestrial gravity—

alternatively, we could have used lunar gravity—then added wind conditions, seismic conditions, all of the conditions we were told were legally required to install a public work in the United States. What else did we introduce? The length of the fiberglass structure, its weight, its point of rupture, its elasticity factor.

MA — Was the fiberglass a condition in and of itself?

JLM — Yes, it was input as a condition.

MA — Right, so there's a kind of stabilization of these three objects, which must remain in place, and the machine will link them, in a sense fuse them without moving them.

JLM — The machine calculates this object of junction. It's pretty funny to see throughout my practice...

MA — So junction is the idea here, not really fusion.

JLM — Absolutely. Discussions concerning my earlier work have revolved around notions of disjunction, discontinuity, heterogeneity, etc. And here, for the first time—because, obviously, one should always try to do what one doesn't know how to do—emerges the question of a work of junction.

MA — I think it's also interesting because one might say that at this point the world is nothing but disjunction.

JLM — That's exactly what I believe. When I made *Disjunctions* in the 80s... I felt then that it was the only way to describe events with intensity, lyrically. It so happens that the world has become today a kind of generalized disjunction, from which the commons has been excluded; every citizen has turned into a pure vector. So the question of junction returns. It has come back...

MA — Because it's absent.

JLM — Because it's absent.

MA — And of course one must work, make a work against the state of things—one must reform...

JLM — With and against the state of things. In fact, art is here to show us the tension between these two states... [Phone rings.] *It's not a good time*. So there you go; that's more or less the

entire story. So then the machine starts working. It works “negatively”. This is to say it doesn’t add material. It assesses the given block, the defined space, to be a block of material. And it will take away from this block of material all the stuff that doesn’t allow for the passage of forces; all the useless stuff for the passage of forces. The machine could then go further into ‘fibering’ it—that is remain and operate for days within the material. In the present case, we had assigned the condition that we would produce an almost classical sculpture, a closed volume that stands alone, one made up of a single material.

MA — And contours...

JLM — With contours, yes... When I say that there are conditions, it’s not completely true, because, for instance, when I decided that the main segment of the object was going to be 80 cm high, it was because I knew that 80 cm was the height of a desk and that, walking around the sculpture, there comes a moment when finally the height of the object resonates as familiar and will thus allow for contact in a sense, for a touch of the hand. “Ah, that’s reassuring, I’m at table height here!” And so, when I introduce the three elements, as I told you, I don’t introduce just any three elements. I introduce three elements that work together and form a world. But as they are eventually withdrawn, since in the completed piece one sees no sphere, no stairs, and no bone, but...

MA — The traces of them.

JLM — The traces—cavities, the locations where the sculpture and the three objects joined. In a certain way, I can say that the piece is the result of nothing but of its own and proper conditions, since I removed my own. But there remains obviously always a certain ambiguity regarding the degree of involvement... it’s always the same thing; it’s like artificial intelligence—there was a person behind the whole enterprise who said: “I want *these* conditions”.

MA — I believe that you’ve described a kind of prototype, a prototype for thinking through a new kind of object.

JLM — In order to intensify all this, the color of the piece will be bone white.

MA — This object will be fabricated in America and shown at SculptureCenter in New York.

JLM — I find it interesting that the piece was designed with a team of engineers who engaged with it pro bono. It’s pretty good that for a demonstration about the future of capitalism, we have people who realize that it will only work if there is energy, if there is desire. Yet this desire is the very contradiction of capital. We see that even engineers, doing this project for free, in a sense are manifesting a form of dissatisfaction with the future of their work, which is heading toward

the military, the aerospace industries, etc. I have to mention that the person I worked with, Michael, practically is the person who invented optimization equations. So we can fully imagine that, for an inventor of technologies, for an engineer, it might be more satisfying to make an artwork than a gun. Their employers are increasingly aware of this. If we don't make people do things that interest them, they won't do them, or they'll do them badly. So obviously, behind all this, there is the concrete production of the piece. The simple fact that a file can cross the Atlantic at will, in terms of mode of production, that constitutes a new solution. It isn't *new-new*, but the processes related to this opportunity remain to be explored. We soon realized, for instance, that the way milling works, object fabricators work in Europe and in the United States is quite different, and that in itself is interesting to experiment with. It's a real experience that's a bit anthropological in nature. And so fabrication, which is local, becomes a condition. I won't be able to say "this isn't what I expected," because I'm not expecting anything. If I expected something, I would be looking for an effect. I'm not looking for anything. I'm involved in a process of fabrication that will gradually incorporate all the conditions that present themselves to it.

MA — And the constraints.

JLM — And the constraints. The conditions and the constraints.

MA — Thank you, Jean-Luc. I think this was a good way to conduct the interview: to speak concretely about a new piece that's in the process of production.

JLM — The first two objects that I wanted to add to the exhibition related only to meat, not to bones. From there came these two objects, side by side—which are to be made in graphite, but maybe they'll end up in concrete, or foam, we'll see—that are three-dimensional representations of a rib cage, a wild boar's belly, completely bare-chested. It's a cavity that has been turned into a volume and milled. We made two. Not exactly the same. There's one in which the rib cage is more developed and the belly is a little more contracted. With the other, it's the inverse. It's a bit like the phenomenon of breathing. But at the same time, these two objects that are black can be considered, in a way, as over the other piece, over the bone. It seems to me that the black, the white, gave volume to the inside, the bone, the absent forms... All this starts to constitute something like a body that functions. It was necessary to add to the bone the dimension of pleasure. Even if in my presentation, this dimension of pleasure wasn't offered. It is even denied, but it is there hidden.

MA — Great. I'll send you this recording and maybe we can use this conversation. Thank you, Jean-Luc.