

ON TECHNO-AESTHETICS

Gilbert Simondon, translated by Arne De Boever¹

“On Techno-Aesthetics” is a letter by Gilbert Simondon to Jacques Derrida about the foundation of the Collège International de Philosophie (CIPH). It is dated July 3rd, 1982, and it is handwritten on letterhead paper from the Université René Descartes. The letter was published in Issue 12 of Papiers, a collection directed by CIPH’s program directors.² The issue also features a typewritten text by Simondon on educational reform, which is not included here.

The letter begins with a one-paragraph introduction in which Simondon addresses Derrida (“Cher Camarade”) and states his support for the foundation of CIPH. The following translation starts with the second paragraph of the letter, where Simondon launches into a reflection on techno-aesthetics.
—Translator’s introduction

This letter is not finished and has never been sent. When it was discovered after Gilbert Simondon’s death in 1989, Simondon’s wife Michelle kindly sent it to Jacques Derrida, who published it in a special issue of the Papiers du Collège Internationale de Philosophie dedicated to Simondon. It is important to remember that Simondon did not want this letter to be published as such.
—Nathalie Simondon

If our fundamental aim is to revitalize contemporary philosophy, we should first of all think of interfaces, and nothing should be excluded *a priori*. There is no reference to religious thought and practice in your project. Why?

We should also take into account aesthetic thought and practice, regardless of whether the latter has a reflexive component. Why not think about founding and perhaps even provisionally axiomatizing an aesthetico-technics or techno-aesthetics? In Valéry’s version of Socrates’ dialogue with Phaedrus, the architect Eupaulinos says the following: “Whereas passersby merely see an elegant chapel, I see the exact proportions of a girl from Corinth whom I happily loved.”

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Marinetti's futurism made the race-car possible. And Fernand Léger: the red tractor, the workers. And the Centre Pompidou. Le Corbusier, with his preference for the incomplete: respect the materials--avoid roughcasting. The traces left by the formwork in the cement of the chimney of the Dominican convent of Arbresle near Lyon have purposefully been left visible—one can see them particularly well in the morning and the evening, when the light is low-angled. For the same convent, Xenakis mathematically calculated the proportions of the windows of the monks' promenade. Le Corbusier used cement roughcasting in each of the cells with a loggia. But that was no longer done with the trowel, whose entelechy is an optically smooth surface. It's a projection that was done with a cement canon, covering the walls with a kind of cresting on which the light can play. In this way, one achieves interference between art and nature.

In Firminy-Le-Vert, near Saint-Étienne, Le Corbusier's building is constructed on columns, which makes it possible for the horizon to appear underneath the opaque building, which is no longer a wall. I don't know if it's the same in Chandigar or in Marseille. The chapel of Notre-Dame du Haut in Ronchamp isn't built on columns, but the roof, which is in the form of a wing or a sail, decorates the landscape and it is decorated by it in turn: it's the symbol of nature. To return to the Dominican convent in Arbresle, in the long corridors there are inverted Ts that, in the center of the ceiling, support pipes and cables. The long series of inverted Ts, very straight, explode because of the colors of the industrial codes applied to the pipes and the cables. What others try to hide behind paneling or in broom closets, or in the corners of rooms with fake paneling (as in the amphitheatres of the Sorbonne), is exposed by Le Corbusier's phanero-technical attitude.

Phanero-technics is itself already aesthetic: the Eiffel Tower (the tower of the World's Fair) and the Garabit viaduct on the Truyère river have an undeniable aesthetic power. When it was created, the Eiffel Tower didn't have a single function that would justify its erection. It was merely an elevated vista point. Soon, however, it became the best emission antenna in France. It still is, and more and more so: TV antennas rise up from its last floor and make the tower even taller.

The Garabit viaduct, on the Truyère, is perhaps even more remarkable, due to the inversed catenary curve of its main arc and how it's embedded in the rocks of its bases. It's beautiful also because it's in the middle of nature. The viaduct traverses nature and is traversed by it. Finally, and perhaps even more so perhaps, it's beautiful due to the conditions of its construction: first the two parallel half-bridges set up against the two hills; had there been wind on the day they were joined, it could have been catastrophic. "But there will be no wind," Eiffel said. And indeed, there was no wind. The two half-bridges turned slowly and simultaneously under the traction of the cables, at a 90-degree angle. They ended up settling, at their outer ends, against each other, and were bolted. And since then the viaduct has existed as a unity, as something that's completely perfect. This is an example of a techno-aesthetic work: perfectly functional, successful, and beautiful. It's technical and aesthetic at the same time: aesthetic because it's technical, and technical because it's aesthetic. There is intercategory fusion.

Such a meditation, which is oriented towards the discovery of an intercategory axiology, can be extended through the contemplation and handling of tools. Let's compare, for instance, a crocodile clip by Peugeot France to a circular cutting shear by Facom (I'm thinking of the so-called "crow's beak model"). Both tools are red—though the red is not exactly the same in both cases. They have more or less the same size and their handles are slightly bent at the end to improve one's grip. And yet, the Facom cutting shear has something extra that exceeds mere functionality. It shines. When it is used, it gives a sense of well-being that is not too different from sensorimotoric pleasure.

In certain cases, techno-aesthetics can stray from a norm, or more precisely from the analogue of a conflict between different requirements: cyclists, for example, need graduated wrenches, ranging approximately from eight to twenty millimeters. Because of the weight, they cannot carry eight open-ended wrenches or pipe wrenches. But there exists a kind of wrench that, as a single wrench, has eight different diameters: it's made of two perforated heads, each with four hexagonal wholes. The two heads are linked by a straight piece of metal with ribs running along it that increase the resistance to torsion. The tool is ten to twelve centimeters long: it fits

perfectly in a handbag. What's remarkable about this tool is that the two heads allow for an easy grip. One holds the head that's not being used in one's closed fist. If the tool were merely a straight piece of metal, it would hurt to hold it. The head that's not being used is like a compact and resistant handle. As a whole, it's a very nice object weighing approximately one hundred grams. It's a tool that answers very well to what it is required to do. Made in bronze, it gives aesthetic pleasure when one contemplates it.

That said, contemplation is not techno-aesthetics' primary category. It's in usage, in action, that it becomes something orgasmic, a tactile means and motor of stimulation. When a nut that is stuck becomes unstuck, one experiences a motoric pleasure, a certain instrumentalized joy, a communication--mediated by the tool--with the thing on which the tool is working. It's like forging: with each bang of the hammer, one experiences the state of the forged metal that stretches and deforms between the hammer and the anvil. It's the same with a wood plane. The person using it can feel the top lifting, and coiling up. The grip of a wood- or metal file, the bite of a saw with clean teeth, are a joy for the hands and the forearms, a pleasure of action. In the same way, the dynamic regime of the axe or the adze gives a very particular pleasure of sensation. It's a type of intuition that's perceptive-motoric and sensorial. The body of the operator gives and receives. Even a machine like the lathe or the milling machine produces this particular sensation. There exists an entire sensorial array of tools of all kinds. Even the rarest carpenter's tool like the "tarabiscot" has its very own array of sensations.

One could continue like this almost indefinitely, moving more or less continuously to the sensation that artistic instruments give to those who play them: the touch of a piano, feeling the vibration and tension of the strings of a harp, the snapping of the strings of the hurdy-gurdy on the cylinder covered with rosin--it's a register that's almost inexhaustible. Art is not only the object of contemplation; for those who practice it, it's a form of action that is a little like practicing sports. Painters feel the stickiness of the paint they are mixing on the palette or spreading on the canvas. Paint can be more or less unctuous, and this tactile, vibratory sensibility comes into play for the active artist, especially when the paintbrush or the knife comes into contact with the canvas that is elastic, and stretched out over the frame. In the case of water painting, the sensation is different: it requires pushing more or less hard on the paintbrush to manage the transparencies that together make up the tones of the painting. It's the same in music: one can think, for example, of the weight of a piano dampener and the kinetic energy of the playing that orders a horizontal displacement of the dampener by using the "piano" pedal; when the felt silencers are removed, they set the strings free and enable them to mix sounds through a vibration that slowly grows smaller, and that is produced by hammers.

Aesthetics is not only, nor first and foremost, the sensation of the "consumer" of the work of art. It is also, and more originally so, the set of sensations, more or less rich, of the artists themselves: it's about a certain contact with matter that is being transformed through work. One experiences something aesthetic when one is doing a soldering or driving in a long screw.

There is a continuous spectrum that connects aesthetics to technics. A simple cadmium nut and bolt offers iridescences and variations that remind one a little of the colors of fluoride lenses: they're the colors of a pigeon's throat, which sparkles. There is an aesthetics to consider in the cables of a radar. No object is indifferent to our aesthetic *need*. It is perhaps not true that every aesthetic object has technical value, but every technical object has, from a certain perspective, an aesthetic tenor. Let's take the example of a Jaguar EV 12. Functionality is not its strength: this enormous engine provides transport for only two people. There is just enough room for a dog behind the front seats. This reveals how the designer sees the couple: as a monogamous unit without children... Considered by itself, the car's bodywork is daring and, from the perspective of functionality, very drawn out so as to guarantee a weak resistance to the air. The underside of the car is much less satisfactory, however. It has ribs running along the bottom that are much less aerodynamic. The fact that it's a convertible makes it even less functional. Even when the hood is in place and closed, there are transversal ribs that obstruct the airflow. When the hood is brought down, the turbulence goes up even more; at high speeds the windshield becomes a true *spoiler*³ (the maximum speed is around 250 km/hour). The *spoiler* can be compared to the airbrake on a plane. In the case of a plane, it enables one to moderate the speed of descent so as to be able to land on the

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runway under the best possible safety conditions. In the case of a car, the resistance of the air can also be used to make the rear wheels stick close to the ground: Matra (for example) uses the rear of the car in this way. It's not horizontal, but elevated by about 30 or 40 degrees. How does the result relate to our aesthetic norms?⁴ The Matra reminds one a little of a monster: it looks like an organism that has barely left the larval stage. Stretched out in the sun, it is not quite developed yet. It's like a butterfly that has reached the imago stage but is resting in the sun on a twig of a tree to dry its wings.

Mutants have their own techno-aesthetic. Some of their organs are hypertelic; others are hypertelic and atrophied. They are typically marginalized by their group of origin, and their being will help found a separate group that's distinct from the group of origin as well as from other neighboring groups.

Certain aesthetic objects call for a technical analysis. The Mona Lisa has generally been enthusiastically received and has provoked passionate responses. This may be due to the fact that this painting is essentially plural: it exists like a superimposition of itself, a bit like a full summary in the so-called exact sciences. On the very same canvas, one encounters the beginning and the end of a smile—but not the exhaustion of a smile, the entelechy of the smile. It's only the two extreme terms of the smile that are painted and revealed. The smile's complete unfolding is read into the painting by those who contemplate it. They constitute this unfolding in their own individual or personal interiority. The smile that begins, and the smile that ends so as to return to the face's mask of seriousness, are the extreme terms of this temporal thickness: the smile will unfold itself, and at the same time it will also already be disappearing. The only thing that exists and is materialized are the outer limits of the moment of exhaustion, of full realization. But the entelechy is not figured as part of the painting. Are there not in this unique image two superimposed techniques, as is the case with palimpsests? Aren't there two messages to decode, in order to infer the source-message (the master-message), which is lacking? It's the original reality that remains mute, non-present, but past and to come in a quasi-immediate but nevertheless mysterious way. What is of central importance is the mystery itself of what is not-figured.

In another more primitive, more fully physical sense, techno-aesthetics intervenes in the conditioning (in the commercial sense of the word) of consumer goods (food) and commodities. In Mysore in India, there exists a "Food Research Institute." This institute wants to find the formula for a "basic food"⁵ that could be produced cheaply, in high quantities, and that could be quickly transported, in a reduced volume, to different places where there are famines. The formula is ready; it's based on soy flour. However, a basic aesthetic intervenes as soon as one asks about the best conditioning, the best presentation of this basic food: how will it be received by diverse populations with different alimentary habits? There are populations in India that eat wheat, rice... These populations accept basic food on the condition that it appears to follow the perceptual aspects approved by the local culture and provokes the basic "aesthèsis"⁶.

In response to this aesthetic demand, the Institute conditions basic food in the form of grains of wheat, rice, etc.

A French industrialist who was traveling in India saw a Belgian truck that was distributing rice. There was a serious famine going on at the time. And yet, very few inhabitants left the truck with a portion of rice. The industrialist walked up to the scene and asked: "How much are you selling for?"; the Belgian responded: "I'm giving it away for free." The reason why nobody was taking the rice is because the truck was in a region where the basic food was wheat. The aesthèsis, the fundamental perceptive intuition, is part of a culture. It acts like a pre-selector, separating the acceptable from the unacceptable, and determining whether one will accept or refuse.

We will not insist [on the importance of the conditioning of a product], that is to say its packaging, its presentation—others have already explored this, or are exploring it. But we must point out, as another example of techno-aesthetics, the value of presentation, for example, of fabrics or suits, with this curious and polymorphous technical instrument: the mannequin. The art of the window dresser is to know how to use this model of an artificial human being to drape the fabric over it, by cutting as little of the material as possible. We

are dealing here with a technique and an art at the same time.

In this purely skeptical argument, we have neglected—because it is less new—industrial aesthetics. There too, however, functionality isn't the only norm.

But we must deepen the argument. Industrial aesthetics can be, first of all, the aesthetic of produced objects. But not everything is an object. Electricity is not an object. It can only be detected and manipulated through objects and possibly also through natural environments: lightning passes through and structures itself through corridors of air that have already been ionized. There is a moment when lightning is being prepared, before the discharge that leads to the impact. One can pick up this ionization with an antenna, because it is spread out through minimal discharges and preliminary energizing. The lightning that leads to a proper impact is simply a brutal conclusion, high in energy—a conclusion to the plural melody of the preparatory discharges. The final lightning follows paths that have already been made. And this swelling melody traces paths of weak resistance that become linked to each other at the moment of the final impact. When it's a question of detecting subtle, yet determinant phenomena that escape regular perception, one can only see the aesthetics of nature with the aid of the technical object (in this case, an aperiodical receptor). Electricity is not an object, but it can become a source of "aesthèsis" when mediated by an adequate instrument enabling it to reach the sense organs. The same is true for a galvanometer or an oscilloscope, which are both mediators. Hearing the sequential melody is made possible by an industrial technical object that has been partly diverted from its function. Because around each product, there exists a margin of liberty that enables it to be used for ends that were not foreseen. Inversely, aesthetic sensibility can be used to optimize a machine. To equalize, or balance out, the tensions of the elastic parts of a catapult, the Romans made them vibrate like the cords of a harp, until they all resonated in harmony.

But the true industrial aesthetic is before everything else that of the places of production and emission. Let's take the example of the plateau of Villebon, South-West of Paris.

The plateau of Villebon is constituted and structured on its east side by a field of emission antennas. The highest one is that of France-Culture. Its height was reduced from eighty to forty meters because of the planes passing to land at Orly. But it has preserved a certain majesty. There is also the antenna of the Paris-IV-Villebon emitter, which helps diffuse Radio-Sorbonne. And there are several others. This field of antennas is evidently first of all made up by each antenna by itself, and for itself. They are pylons that are generally propped up several times, with the support structures being cut in several segments by insulators so as to reduce the resonance phenomena that would otherwise absorb part of the radiation. This structure is very remarkable, especially because it cannot be found in nature. It is completely artificial, unless perhaps one would recognize it in the sacred fig tree. This tree has several points of support and subsistence on the ground thanks to the roots that its branches let down, all the way to the ground, where they dig themselves in. This enables them to support their branches.

Before coming to the techno-aesthetics of a set, one must consider the techno-aesthetics of an individual, for example: an engine. The engine of an original 2CV represents a reality that is not without analogy to the engine of a Jaguar. The engine of a 2CV is that of a car at degree zero, where everything is simple and accessible, as long as one takes off the fairing that leads the cooling air to the cylinders. The engine even possesses a heater/cooler for oil, with two tubes that go all the way up to the upper cylinder head, so as to cool the rocker arms. The engine of the Jaguar is on the contrary extremely extended; it is stretched out under a low hood. The water reserve of the cooling circuit is not at the top of the ventilator, so as not to have to make the hood any higher. Lifting it would damage the highly profiled shape of the hood, which is quite low to the front. And this large radiator becomes even more efficient through the presence of two electric ventilators that start working as soon as one turns the ignition key. Belts held by the crankshaft would have been excessively long and impractical. The engine's techno-aesthetic aspect is emphasized by the form of three organs: first, the way in which the engine takes and filters air—through two shiny tubes that are parallel to the road and placed on the side of the engine; then, the four carburetors whose caps are in the form of a dome, and which dominate the engine block. Finally, the enormous distributor from where the twelve cables go to the ignition plugs.

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We are not speaking of engines because they would somehow be unique in possessing a certain level of individuation but because they are consistent and coherent in relation to themselves. From this point of view, the entire automobile would be a sort of compound—think, for example, of a car in most of its pathological conditions (an accident can deform the bodywork without the engine suffering in any way, and the engine can also cease to function without the bodywork being effected). At the moment, the Jaguar's engine is the most advanced gasoline engine for cars built to drive on the road.

Techno-aesthetics can present itself following a pyramidal structure. The components already have their own norms. And so does the compound, the true individual—because where is the limit between the component, which is already part compound, like a thermoswitch, and the set of sets? It's not simply a question of denomination but of point of view and usage. The battery of a car is a component, but it is itself a compound (plates, electrolytes, insulators, terminals, plugs for the release of hydrogen by electrolyzation). A set can also be a crowd or a mass rather than a society. We've already talked about the field of emission antennas in Villebon; here, each antenna is independent from the others. It's only the buildings that contain the emitters that create a link between these antennas because a building can contain several emitters whose output goes to separate antennas. Antennas are compatible rather than associated. Whether we are dealing with compatibility or true association (as for directive antennas), the technicized landscape also takes on the meaning of a work of art.

A group of emission antennas is a kind of set, like a forest of metal, and it can remind one of the rigging of a sailboat. This set has intense semantic power. These wires, these pylons radiate in space, and each leaf of the tree, each blade of grass, even if it's hundreds of kilometers away, receives an infinitesimally small fraction of this radiation. The antenna is immobile, and yet it radiates. It is, as the English word has it, an "aerial," something of the air. And indeed, the antenna plays with the sky into which it cuts. It is a structure that cuts into the clouds or into a light-colored background. It is part of a certain aerial space over which it sometimes fights with airplanes, as the example of France-Culture demonstrates. Even on a car, an antenna—especially if it's an emission antenna—, testifies to the existence of an energetic, non-material world.

To return to the plateau of Villebon that extends on the side of the Ullis (the zone of Courtaboeuf): one finds there two extraordinary water towers in the form of a corolla on which a narrow vertical cabin is mounted. Their light color and fine support structure enables the morning light to play with them and draw out their circular relief. The aesthetics of the water tower has puzzled architects for a long time. To be functional, the water tower must be higher than everything that it serves. As a result, it dominates everything else, for it must be placed on a high location, which makes it visible from everywhere. One can try to resolve this problem of the water tower's rupture with a site by masking it, and camouflaging it, through inessential additions. That's what they did at Culhan. An old castle, close to a bridge, with two round towers next to it with a pointed roof covered with red tiles. The water tower, which one cannot fail to see when one is watching the castle from the bridge, was made to resemble the towers of the castle: it is also covered with a pointed roof with old tiles. But one can see very well that it's a quite recently constructed water tower that tries to pass for a remainder of the castle. This materialized lie really doesn't add any charm to the site. The only thing it shows is how far people are willing to go with architectural mimetism.

On the plateau of Villebon, which extends into the industrial zone of Courtaboeuf, nothing is copied from an old architectural model. The roads are new and perfectly asphalted. Some old farms have remained in the zone's periphery. Their millstone walls and archways contrast with the industrial and commercial installations in the center of the zone. The joy one finds moving through the new constructions is both technical and aesthetic. The techno-aesthetic feeling seems to be a category that is more primitive than the aesthetic feeling alone, or than the technical aspect considered from the angle of functionality alone (which is an impoverishing perspective).

There is a certain way of constructing houses that allows the materials and the structure to appear at the same time, as with the half-timbered house (for example, on Plumereau square in Tours). This is nothing new; it has existed for a long time. The wood is put together in the form of squares and diamonds. In between the wood,

the masonry is done with some stones and a mortar linking the bricks together. The corners are in standing timber and are sometimes covered by slates nailed to it to avoid the effects of rain and dew. And the ensemble forms a relatively closed block that, if the foundations are insufficient, bends without coming apart or breaking. However, if one removes the wood, which is very precisely cut following the direction of the fiber, the materials in themselves are not of a very high quality. If one scratches one of the bricks with one's nails, they disintegrate in fine dust, probably because the temperature wasn't high enough when they were baked. On a brick of the nineteenth-century, one would break one's nails: the carbon age has changed the quality of the materials. One must add that the houses also have adjoining walls, which contributes to stabilizing them through mutual support.

No roughcasting is hiding the structure of the half-timber house. Technics appears geometrically, like a crossing of forces.

GILBERT SIMONDON is a twentieth-century philosopher of technology and ontogenesis. His best-known works are *Du Mode d'existence des objets techniques* [On the Mode of Existence of Technical Objects] and *L'individuation psychique et collective* [Psychic and Collective Individuation], both of which are forthcoming in English.

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NOTES

1. TN: I would like to thank Jean-Hugues Barthélémy, Jon Roffe, and Ashley Woodward for their helpful comments on an early draft of this translation. *Parrhesia* gratefully thanks Nathalie Simondon for her permission to publish this text.
2. TN: Although most of the texts published in this collection are available on the CIPH website as pdf downloads, Simondon's letter is not. *Parrhesia* has done everything in its power to obtain the rights for publishing this translation, but our messages to CIPH have remained unanswered.
3. TN: in English and italicized in the original, as in the following sentence.
4. TN: The sentence in the French original is unclear: "Le résultat est-il réfractable par rapport à des normes esthétiques?"
5. TN: in English in the original, as in all the following cases when the phrase is used.
6. TN: in Greek, as in all the following cases when this word is used.