A New Imagination

Man's unique ability to create images for himself and for others has been a theme of philosophical and theological speculation at least since Plato. This ability seems truly unique to man, because none of the species preceding him seem to have created anything comparable to images such as the cave paintings in Dordogne. In this tradition, speculative thinking on this human ability has been grouped around the terms *imagination* or *visualization*: it is often taken as a given, as a fact. One assumes that something like "powers of imagination" actually exists, and then one attempts to come to terms with its existence. Since Husserl, we have learned to bracket off these sorts of assumptions and to allow the phenomenon to express itself. If we do this here, then the imagination appears to be a complex, purposive ("intentional") gesture. With it, the human being adjusts to his life-world. If one examines this gesture more precisely, one realizes that images owe their existence to two diametrically opposed gestures rather than one singular gesture. The philosophical and theological tradition privileges one of these two gestures, and for good reason: the second gesture of image production has become a functional alternative only in the recent past.

Idolatry and Iconoclasm

Initially, the first gesture of image production will be considered. The pony's image on the walls of the Pech-Merle cave will serve as an example. One could say that it suffices to take a couple steps away from the pony and then to climb somewhere in the distance (for example, up a hill). However, experience tells us that this description does not hit the

mark. To be able to form an image of the pony, one must somehow simultaneously retreat into oneself. The philosophical tradition describes this strange nonplace—into which one enters and out of which one draws images for oneself—with names such as "subjectivity" and "existence." For instance, "imagination" is the unique ability to step back from the objective world into one's own subjectivity, to become the subject of an objective world. It is the unique ability to "ek-sist" rather than "in-sist." In any case, this gesture commences with a movement of abstraction, of pulling out, of retreat.

Tradition (not only the philosophical tradition, but, above all, the theological tradition inspired by Judaism) has raised important objections against this sort of image creation. If one translates these objections into a more contemporary terminology, one is able to group them into three main arguments. First, the perspective from which the images are created is ontologically and epistemologically suspicious: it casts doubt on whether what you see is, in fact, an object. Second, the image codes are connotative out of necessity: they allow for contradictory interpretations, and, therefore, one cannot put much faith in images as models of behavior. Third, images are mediations between the subject and the objective world. As such, they are subject to an internal dialectic: they present themselves before the objects that they should be representing. The third argument in particular plays a central role in the theological tradition.

Images (like all mediation in general) have a tendency to block the path to the objects they mediate. Their ontological position is turned inside out in the following manner: Signposts become obstacles. The result is a pernicious about-face of the human being with respect to images. This about-face of the human being is called "idolatry," and the resulting behavior is called "magical." Images are to be prohibited, because they alienate the human being out of necessity, driving him into the madness of idolatry and magical behavior.

Considering these three arguments—especially the third one—we are able to represent a view that avoids the prohibition of images. One can say the following: we cannot orient ourselves in the world without first creating an image of it. (Imagination is imperative for comprehending and dealing with the world.) Nevertheless, the arguments against images are correct. Thus, it makes no sense to prohibit image creation. Instead, the created images should be critiqued. This sort of critique should enlighten us about the ontologically and epistemologically suspicious perspective of imagination (argument 1); it should transcode the image codes into denotative codes (argument 2); and, it should make images

transparent for what they represent (argument 3). To do this, a critique of images must distance itself from images (thus removing itself one step further from the objective world).

The position that I have outlined has been held at least for the last 3,500 years in the West. Taken as a whole, Western civilization can be considered a progressive attempt to enlighten the imagination (to explain images). To do this, linear writing was invented. The rules for writing are relatively clear and definite, and the alphabet is relatively denotative, so that the objective world, taken as a bundle of processes, is relatively manageable by method: which is to say, the scientific and technical method. In essence, it is necessary to explain the images causally and logically, to be able to deal with the world methodically, using images that have been made transparent in this way.

Critique of Image Criticism

It has become apparent that an image criticism established by linear writing is not radical enough. Which is to say that linear rules of writing (especially causal explanations and logical thought processes) cannot always be used as models for a methodical treatment of the world. This "crisis of science," this critique of science, is essentially a critique of the Enlightenment. It does not begin with Hume and Kant but accompanies, sotto voce, the entire discourse of the West. Viewed from the perspective of the thoughts on imagination proposed here, the critique of image criticism can be formulated in the following manner: The linear gesture of writing tears the pixels from the image surface, but it then threads these selected points (bits) torn from the image into lines. This threading phase of the linear gesture negates its critical intention, in that it accepts the linear structure uncritically. This is probably a very old cultural technique that has been accepted uncritically: mussels have always been threaded together in chains. If one wants a radical critique of images, one must analyze them. Which is to say, processing the selected bits formally, instead of ordering them into preordained linear structures. One must "calculate" them. Only an imagination that has been thoroughly calculated can be considered explained.

For a long time now, we have had a useful code at our disposal, the numeric code. However, as long as the numeric code was tangled in the alphabetical code—which is to say, throughout almost the entire history of the West— its denotative power (the clarity and distinctness of its symbols) curiously made for unbridgeable difficulties. The numeric code is "empty," and the thought that is keyed into this numeric code must

necessarily lose sight of the subject matter of thought. Using analytic geometry, Descartes attempted to remove this difficulty. Moreover, Newton and Leibniz attempted this task using the integration of differentials. With the benefit of their ever more complex techniques, they hoped to force the numeric code into the structure of the linear code and differential equations, to describe all processes. In spite of the abstractions attained by numerical thought, one hoped to adhere to linear and procedural ("historical") thinking.

Recently, the entire situation was radically changed. The numeric code broke out of the alphabetical code, freed itself from the pressure of linearity, and switched over from numeric to digital. In this manner, all the artificial techniques that were once considered necessities, such as differential calculus, have become superfluous: it is now possible to count with fingers, even if this means using superhuman, speedy, automatic calculating machines. The breakthrough in thinking (and acting) that comes about in this manner can still not be fully predicted. Viewed from the perspective of the thoughts on the imagination proposed here: Owing to the currently available speed of finger counting, images can now be completely and thoroughly analyzed. As a result, all of the objections that the philosophical and theological traditions have raised against images have now become groundless. We are now able to step backward from our imagination into an unsurpassable abstraction. Having arrived, we can deal with objects in a new way. We are finally able to hunt for ponies in a methodical and correct manner.

Calculated Images

The numeric code's retreat from the alphabetical code (and thus the retreat of calculating thought from linear, historical thought) has had consequences that were not foreseen by tradition. It made possible a new gesture of image creation that is diametrically opposed to the old gesture. A new imagination diametrically opposed to the old imagination was created, and the result is images that cannot be opposed by the objections of philosophy and theology. If one allows this new gesture of image creation to be expressed phenomenologically, then it reveals itself as a gesture of the gathering together of dot elements (of calculated subject matter) into images. It reveals itself as a computation. One might think that the philosophical and theological objections are groundless in the case of these images, because the imagination has been thoroughly critiqued and analyzed in advance. Even the most orthodox Talmudist could not object to these images, because they do not lend themselves to the ontological

error of confusing representation with the thing represented. And even the most orthodox epistemologist could not object to these images, because they do not disguise their identity as simulacra. Even Plato could not object to these images, because they are "pure ideas." Contemplating them leads to wisdom rather than opinion. But if this is one's intention, then one has not yet given due respect to the radical nature of the reversal of imagination established in these images. It is therefore necessary that we examine this new gesture of image creation more closely.

It is a concretizing gesture: it collects zero-dimensional elements, to spread them out in a surface, thus bridging the intervals. In this manner, this gesture differentiates itself from the other gesture of image creation mentioned earlier: it neither abstracts, nor steps backwards; just the opposite, it concretizes, it projects. Certainly, both gestures lead to the creation of images (and both can therefore be called "imagination"), but then one is really dealing with a different sort of images. The images created by the traditional imagination are two-dimensional, because they have been abstracted from a four-dimensional life-world. In comparison, the images of the new imagination are two-dimensional, because they have been projected from zero-dimensional calculations. The first type of images signifies the life-world; the second type signifies calculations. The first type of images represents the life-world; the second type represents calculations. The vectors of meaning of both types of imagination point in opposite directions, so that the first type of images must be interpreted differently than the second type. This is the real reason why traditional image criticism misinterprets the new images.

If one observes the synthesizing of computer images, one will recognize how this new, concretizing, image-creating gesture operates. The computer is a calculating machine equipped with memory. Calculations can be entered into this memory, assuming that they have been translated from the numeric code into the digital code; which is to say, assuming they are taken from the alphanumeric code. One sits in front of a keyboard, taking one dot element after another out of the memory, to fit it into an image on the screen, to compute it. This step-by-step process of extraction can be automated so that it can proceed very quickly. The images appear on the screen one after another in breathtaking speed. One can follow this sequence of images, just as if the imagination had become self-sufficient; or as if it had traveled from inside (let's say from the cranium) to outside (into the computer); or as if one could observe one's own dreams from the outside. In fact, some of the appearing images can be surprising: they are unexpected images. They can be preserved on the

screen (and in the computer's memory). Then, one can modify these preserved images; one can become engaged in a sort of dialogue between one's own imagination and the imagination fed into the computer. Images modified in this manner can be transmitted to other image creators (it does not matter where they live), and these image creators can modify the images further before sending them back to their original senders. Thus, one recognizes: the new image-creating gesture assumes a different structure than the one discovered in Pech-Merle, even if certain elements can be recognized as being similar.

Two Types of Imagination

The real novelty of the situation is this: The purposes (intentionalities) of these two gestures are different. The intention behind Pech-Merle is to produce a copy of the facts. The image is to serve as a model of the future way of dealing with things. The intention behind the synthetic image can be similar: to produce a copy of a calculation (such as the calculation of an airplane). This image may serve as a model of the future way of dealing with things (such as the construction of airplanes by robots). However, if one produces the new images with this sort of intention, then one puts the new imagination into the service of the old, and one has not yet carried out the radical change to come; for it is essential that one create new images, to bring out the unexpected from among the given possibilities (in a dialogue with others). The realization of the unexpected by dealing with the objective world is experienced as nothing more than a side effect. The images of the "fractal equations" offer an impressive example of this new intention: they are copies of calculations that analyze very complex and "self-identical" (let's say chaotic) systems. These calculations produce extraordinarily unexpected (informative, "beautiful") images, and one can play with them almost endlessly. It is true that some of these images look like copies of facts (especially when facts, such as geological formations, clouds, or coastlines, possess a fractal structure); and it is also true that some of these images could serve as models for treatments (for example, for the production of drugs that have the diametrically opposed fractal structure of viruses). Nevertheless, this is a side effect of the production of these sorts of images. The real purpose is to bring out unexpected situations from among a given field of possibilities. The real intentionality behind the new imagination is that which the tradition called "pure aesthetics" *(l'art pour l'art)*. Thus, it is possible to say: that which differentiates the new imagination from the old is the fact that "pure aesthetics," which already belonged to the old imagination,

now finds expression in the new. This is possible, because the new imagination finds itself in an unsurpassable position of abstraction. At this level of abstraction, images can be designed that have been thoroughly critiqued and analyzed. To put it another way: only when one produces images of calculations instead of facts (it does not matter how "abstract" the facts) can "pure aesthetics" (the joy of playing with "pure forms") find its true expression; only then can *Homo ludens* replace *Homo faber.*

In this attempt to differentiate the two types of imagination from each other, a series of gestures has been mentioned. When they are taken in their totality, they offer a complete picture of human development. In this way: First, man took a step back from his life-world, to imagine it. Then, man stepped back from the imagination, to describe it. Then, man took a step back from the linear, written critique, to analyze it. And finally, owing to a new imagination, man projected synthetic images out of analysis. Certainly, this series of gestures should not be considered a linear sequence of events. The individual gestures neither replace each other nor cancel each other out. Instead, they overlap and mesh together. Despite the ongoing synthesis of images, people will continue to paint, write, and analyze. Moreover, these gestures will continue to coexist in unpredictable tension and cross-fertilization. But what concerns us right now in an existential sense is the burdensome, but necessary, leap out of the linear into the zero-dimensional (into the realm of "quanta") and into synthesizing (into computation). We have been challenged to leap into the new imagination.

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